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Pipelines and politics

The European Union and natural gas: more Norway, less Russia?

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Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
Bcm	Billion cubic metres
EC	European Communities
ECSC	European Coal and Steel Community
EEA	European Economic Area
EEC	European Economic Community
EFTA	European Free Trade Association
EP	European Parliament
EU	European Union
Euratom	European Atomic Energy Community
GFU	Gas Negotiating Committee
Ktoe	Kilotonnes of Oil Equivalent
LNG	Liquefied Natural Gas
Mtoe	Million Tonnes of Oil Equivalent
NATO	North Atlantic Treaty Organization
NCS	Norwegian Continental Shelf
SDFI	State's Direct Financial Interest
SEA	Single European Act
UK	United Kingdom

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1. Introduction

Energy is essential for all countries as it is needed for growth and development. Hereunder, oil and gas are seen as some of the essential resources. However, the reserves of oil and natural gas are not evenly distributed throughout the world. Some countries have vast reserves while most countries are dependent on imports to cover their energy needs. Proedrou (2012) points out that “[d]isruptions in energy supplies inflict grave concerns for growth, development, sustainability and survival” and this is why energy security is central in global politics (p. 3). Energy security for importers entails security of supply, that is, stable and continued access to energy resources. It also includes an aim of having diversified sources of supply, suppliers and routes of supply so as to avoid consequences of being too dependent on one source (Proedrou, 2012, p. 3).

The thesis will deal with natural gas and not oil, as gas is a regional market, while oil is more global. This is because gas trade is mostly bound to pipelines whilst oil is shipped out through tankers across the globe, which creates more limitations on importers’ and exporters’ options in gas trade (Proedrou, 2012, p. 54). Gas can also be transported as Liquefied Natural Gas (LNG). LNG is natural gas which has been cooled and pressurised to a liquid state. It can then be transported on LNG carriers, and is not dependent on pipeline infrastructure. The greatest disadvantage is that for large volumes, it is more expensive to transform the gas to LNG and carry it by ship than it is to transport it through pipelines (Norsk Petroleum, 2015b). Pipeline trade cultivates an environment for mutual dependence, rather than diversification and flexibility. It is therefore harder to achieve diversification of gas rather than oil. If there are any shortages in gas supply, these are difficult to make up for, as there are few alternative sources (Proedrou, 2012, p. 54).

The European Union (EU) is dependent on importing natural gas to cover its consumption, and more than half of its 480 billion cubic meters (bcm)¹ consumption of natural gas per year is imported. Currently, about 66% of the consumption comes from imports (European Commission, 2014b, pp. 5, 37). As the internal production is on the decline, the EU will be even more dependent on imports in the future, though there are vastly diverse states of import dependency among the EU member states and thus, variations in their degree of reliance on suppliers. Therefore, the EU does not want to be too dependent on one

¹ Natural gas is measured in different units in different sources, but in this thesis measures are converted to bcm.

supplier, and as a result, the diversification of gas supplies has risen high up on the EU's agenda.

Russia and Norway are the EU's two biggest suppliers of natural gas. In 2012, 32% of the EU's imports of natural gas came from Russia, and Norwegian gas covered 31% of imports (European Commission, 2014b, p. 44, 2015e). The bilateral relationships between the EU and the two countries are quite different. The EU's relationship with Russia in the gas sector has not been as stable as its partnership with Norway. Russia has proven that it is willing to use its natural gas resources and standing as main supplier of gas to the EU as a tool in its foreign policy. This was seen with the 2006 and 2009 gas crises, when a dispute between Russia and Ukraine led to Russia halting gas supplies that transited the country, an action that had a profound impact on many European countries. Especially the 2009 gas crisis affected most European countries which imported Russian gas, but the damaging effects were more severe in the countries which were heavily, or solely, reliant on Russian imports (Hadfield, 2012, pp. 454-458). The current conflict in Ukraine has further highlighted Russia as an unreliable supplier and Ukraine as a problematic transit state. Norway, on the other hand, is considered by the EU as a safe supplier that does not require much investment (Offerdal, 2010, p. 39).

1.1. Research question

Norway is the second largest supplier of natural gas to the EU. At a time when the EU is looking to diversify its supplies away from Russia to enhance its security of supply, this thesis will examine Norway's role as a supplier of natural gas to the EU. The focus will be on gas as there are vast differences among the EU member states in regards to energy, and especially concerning natural gas. First of all, the member states have very different energy mixes. For some states, natural gas makes up over 30% of their energy mix, while others do not consume any natural gas, like Malta and Cyprus (see Appendix A). The member states also have differing states of import dependency, and degrees of diversification of sources, transit routes, and suppliers. There are vastly varying degrees of import dependence on Russia as a supplier (see Appendix B). Some member states are highly dependent on Russia, and are therefore very vulnerable to supply disruptions. Some, on the other hand, have diversified transit routes and suppliers of natural gas. This has made energy supply policy difficult to agree on, as measures will not fit every member state's interests and needs.

The gas crises of 2006 and 2009, revealed Russia as an unreliable supplier and Ukraine as an unreliable transit state. As the crises had profound implications for several European countries, they exposed the EU's lack of supplier diversification and infrastructure, especially in Central, Southern and Eastern Europe (Hadfield, 2012, p. 457). This has made the EU focus on diversification of supplies and on improving infrastructure so that an eventual future disruption would not have such far-reaching consequences.

The thesis examines how the EU regards Norway as a supplier based on its relationship with Russia in the natural gas field. Thus, it is based on the following research question:

What is Norway's role in reducing European Union dependency on Russian natural gas?

To account for the EU's relationship with Norway, it will be necessary to take a historical look at how this relationship has evolved, and this is examined in chapter three. However, the main focus will be on the situation today and developments in the years to come. To be able to answer the research question, it will be essential to examine the EU's need for gas imports, that is, how much of its consumption it is necessary to import currently and in the years to come. This will be evaluated in chapter two. It will also be necessary to look at how the EU's dependence on Russian gas has influenced its energy policies, and what progress the EU has made in the field of energy policy. The thesis will argue that Russia is a less than reliable supplier, in light of its willingness to use gas supplies for political means. This has affected how the EU regards its suppliers, and caused it to focus on diversification so that it will not be as vulnerable to such changes or external situations that can affect the supply of gas. Norway, contrary to Russia, is considered a reliable supplier of gas, and its relationship with the EU has been predictable and stable.

The analysis will examine three sub-questions to provide answers to the research question. Firstly, it will assess whether it would be in Norway's interests to export more natural gas to the EU. Secondly, it will examine whether Norway could have an increasing role in the EU's imports of gas. Here, Norway's potential for future production and exports are explored. Thirdly, it will be analysed whether it would be in the EU's interests to import more natural gas from Norway, and hereunder, whether it would be along the lines of EU policies in the energy field. Further, the chapter examines what obstacles there are in regards

to policy-making in the natural gas field, and thus what hinders the EU faces in dealing with its suppliers of natural gas.

1.2. Previous research

There is much previous research on the EU and security of gas supply, hereunder much on the EU's relationship with Russia. From the previous research on the EU and energy security two main categories have emerged. The first group is the authors who argue that Russia not only is, but will increasingly be, the dominant supplier of gas to the EU. These authors focus on the differences between the two actors, especially their differing preferences concerning gas pipelines, how to best resolve these issues or work around them, and they conclude that Russia will nonetheless be the dominant supplier. The second category, which also is the group which comprises more of the literature, focuses on the importance of supply diversification. These authors tend to argue that Russia is, and will be, an important supplier of gas, but that it is necessary for the EU to diversify its supply to increase energy security.

Baev (2012) is placed in the first category as he argues that in spite of the EU's focus on liberalization and diversification, Russia will remain locked in the European gas market and will therefore remain its main supplier. He further argues that Russia's share on the market will in all likelihood increase in the future as the EU's need for gas imports is increasing. Noreng (2009) also fits into the first category. He claims that despite substantial investments, nuclear power and new energy sources will only be able to moderate the trend of energy dependence, not change it. He states that the EU needs an independent economic and political strategy towards its energy neighbours, and hereunder Russia, which aims at building interdependence in order to give preferential access to energy supplies.

Paillard (2010) fits into the second category as he argues that the EU must diversify its energy supplies, find new suppliers, develop its own industries, and avoid too much dependence on Russia. For this last point he argues that this can be done through pursuing an alternative supplier, such as further developing the relationship with Norway. He claims that Russia will remain a necessary partner for the EU and that they must rely on each other for several decades, but his main conclusion is on the importance of diversification. He also states that the EU must be able to find some common ground between its member states to enable it to speak in a unified voice so that it can strengthen its position vis-à-vis Russia. Such a

development might currently be underway with the energy union which was proposed this year. This will be presented further in chapter two.

The Congressional Research Service's report by Ratner, Belkin, Nichol and Woehrel (2013) also fits into the second category as it focuses on the different approaches Europe could adopt to achieve greater gas supply diversification. It also looks at Russia's role in Europe's natural gas policies, and aspects that could hinder efforts to develop alternative suppliers of natural gas. The report looks at the potential suppliers of natural gas to the EU and what needs to be overcome in order for them to become long-term suppliers. The authors also point out that the Barents Sea holds potential to become a new European energy region, and that Norway has already started producing natural gas in the region. Bahgat (2006) is another author that can be put in the second category. He discusses the difficulties with the EU's relationship with Russia, and concludes that increased supplies from Russia, the Caspian Sea region, West Africa and especially the Middle East would reduce the EU's vulnerability with being too dependent on one source.

There is a range of previous research which does not fit into these two categories. Hereunder, the article by Söderbergh, Jakobsson and Aleklett (2009) looks at the future of Norwegian natural gas production. They conclude that there is only a limited potential for increased gas exports from Norway to the EU as Norwegian gas production will reach its peak by 2015. The article has valuable insights for this thesis, but it was written before the treaty on maritime delimitation in the Barents Sea between Russia and Norway in 2010, and therefore does not contain the present facts. Thus, according to current estimates for Norwegian natural gas production, these authors are not correct. The article by Kristine Offerdal (2010) has its main focus on whether Norway has been able to have an impact on the EU's processes to develop an Energy Policy for Europe. She offers valuable insights into how the relationship has been between the EU and Norway as she looks at the developments of Norway's High North policy and the EU's energy policy and its mentions of the High North. A reason for the EU's lack of interest, she argues, is that since there have been no problems with Norway, the EU has the impression that it is not necessary to invest a lot as "Norway will make sure that developments go in the desired direction, independent of EU engagement" (Offerdal, 2010, p. 39). She further argues that Norway is an important supplier of gas and a part of the solution to the EU's energy supply challenge, but that on the EU's part it is viewed as an already existing solution and not in need of much investment, and that the High North is not viewed by the EU as an energy region to rely on in the foreseeable future.

Ole Gunnar Austvik (2010) discusses in his chapter to which degree a powerful interventionist policy of a nation-state can be adjusted to the EU's more liberal way of regulating economic activities, while at the same time maintaining nationally defined goals. He uses Norway's integration with the EU and the impacts it had on the strong state policy in the petroleum sector as an illustration. He concludes that the state gained a more regulative than interventionist role caused by the integration, but that it is also owing to industrial and market maturity. In an article, Austvik (2012) discusses the Norwegian state's role in developing and maintaining its national oil and gas industry. He argues that a strong, comprehensive, and dynamic interaction between the state and industry, with the state in a leading role, may be necessary to ensure that the industry is competitively developed and that social goals can be reached.

Tom Casier (2011) is another author that does not fit into either of the categories. He looks at the reasons for why energy has risen to the top of the EU-Russia agenda and is considered a security threat, and thereby offers insight into the development of the energy relationship between Russia and the EU. Youngs (2011) examines what progress the EU has made in establishing a common energy policy, and concludes that the member states at present seem content with the current system. Eikeland (2011) discusses the EU's efforts in establishing the internal energy market. Grätz (2011) examines the EU's external energy policy towards Russia, and concludes that this has failed to a great extent because of the EU member states pursuing different approaches. Alexander Rahr (2007) and Michael Sander (2007) discuss if there is a special relationship between Germany and Russia, and Rahr concludes that "[t]he Russia factor will continue to split the EU" (p. 145). Stefanova (2012) discusses the EU's strategies for achieving greater energy security. She argues that while some efforts might seem contradictory, such as building pipelines for Russian gas to avoid risky transit states versus building pipelines to avoid Russian gas supplies, they contribute to enhance the EU's energy security. The book by Proedrou (2012) examines the EU's energy security in the gas sector and the challenges and opportunities facing it. He also looks at the EU's relationship with producers other than Russia, hereunder Norway as well. Here, he mentions that estimates for future production capacity vary significantly, but that the High North is a very promising region. He also underlines that Norway will continue to be an essential gas supplier for the EU (Proedrou, 2012, pp. 108-109).

There are many authors that focus on the EU and the challenges facing it in its search for supply diversification. However, most authors focus on the Caspian Sea region, the

Middle East and North Africa, and just a few of them mention Norway and the Arctic. The literature concerning Norway mainly deals with other topics, such as Norway's opportunities and challenges in gaining influence in the EU, which is the case with the article by Offerdal (2010) and the same author's report to Europautredningen (2011).

1.3. Justification of the study

Energy security is a very relevant topic today as it is high up on the EU's agenda. Maroš Šefčovič, the vice-president of the European Commission and Commissioner for Energy Union, said in one of his speeches this year that "[t]his topic could not be more pertinent in the current political and geo-political context [...]" (European Commission, 2015d). The EU has set targets for increased use of renewable energy sources. Hereunder, Germany has set more ambitious targets. In its 2010 Energy Concept, it sketches out an 'Energiewende' where it sets the goal of phasing out nuclear power plants and sets ambitious targets for increased use of renewable sources, which entails less use of fossil fuels (Germany, 2010). This does not mean that fossil fuels, and hereunder natural gas, will be redundant. On the contrary, "EU member states increasingly rely on natural gas, particularly to reach ambitious targets to reduce carbon dioxide and greenhouse gas emissions", and analysts expect that policy decisions like that of Germany to phase out nuclear power plants, "could mean a more rapid rise in Europe's dependence on natural gas imports" (Ratner et. al., 2013, p. 5). Therefore, authors such as Proedrou state that fossil fuels will remain the dominant energy source in the mid-term (Proedrou, 2012, p. 1).

The gas crises of 2006 and 2009 illustrated to the EU the degree of dependency they have to Russia, and diversification of sources of supply, suppliers and routes of supply became a priority. This has not been an easy task for the EU, as there is a lack of infrastructure both within the EU and to third states, such as the states in the Caspian Sea region, and as this infrastructure has proven difficult to establish. The ongoing conflict in Ukraine has put further pressure on the EU to take steps to reduce dependency and improve infrastructure. In a communication, the European Commission noted that "[t]his year's Ukraine crisis has put energy security and dependence high on the agenda of the EU again" (European Commission, 2014, p. 5).

The study is grounded on current debates as the EU is currently working on establishing an energy union to strengthen its position in this area and to further its work for

diversification of supply. It is an important policy area which is subject to many changes and threats, and an area which is developing rapidly. In 2014, against the background of the situation in Ukraine, the EU launched a stress-test exercise to assess the resilience of the European gas system to cope with a severe disruption in gas supply that winter. The tests revealed how and where the disruptions would have an impact, and that if the member states acted in a cooperative manner, the implications of the disruption scenarios were spread out instead of a few countries being severely impacted. It was discovered that the two main weaknesses of the system were a lack of infrastructure and that many of the national responses were unilateral in nature (European Commission, 2014b). This highlighted the EU's need for a more comprehensive energy policy, and this year the European Commission made a framework strategy for achieving an energy union (European Commission, 2015a).

The thesis is relevant because previous research has either focused mostly on Russia and its importance as a supplier also in the future, or on the opportunities the EU have for supply diversification. Hereunder the focus has been on connecting pipelines to the Caspian Sea region, the Middle East or possibilities for importing more from North Africa, most notably Algeria, Egypt and Libya. This thesis therefore adds to existing literature as it offers valuable insight into the relationship between the EU and Norway in the gas field. Much of the previous research to some extent looks mostly at other sources for supply diversification, and tends to only discuss Norway briefly as it is considered such a safe, and almost domestic, supplier of gas to the EU. This is seen in the article by Offerdal (2010) and a chapter by Claes (2009), where the authors show that the EU thinks of Norway as a safe supplier of gas because of the perceived economic and political proximity between the two and that, for this reason, is not in need of much investment. On the contrary, it is expected that imports from Norway will increase in the future, as claimed in the press release from the European Commission from 2007 (European Commission, 2007b). Also, in connection with the stress-tests, the EU sent a request to Norway to inform of its ability to respond and to increase its gas supply in the case of such a disruption (European Commission, 2014b). This makes the future position of Norway as a supplier of gas to the EU an interesting subject for further analysis.

1.4. Approach and sources

The thesis offers a qualitative analysis of Norway's role as a supplier in reducing EU dependency on Russian natural gas, and is based on document analysis of primary sources. The thesis will not take the form of a discursive analysis, but since the rhetoric can give insight into relevant changes in the EU's relations with its suppliers of natural gas, it will form a point for discussion. The document analysis will be used to examine the EU's objectives and interests regarding energy policy, and to look at the EU's efforts to establish a common energy policy. Further it will be used to see how the EU's relationship with Russia has affected the EU and its interests, and thus how it regards Norway as a supplier of natural gas. The relations of the EU and Russia as a supplier of natural gas will be used to evaluate the EU's relationship with Norway. It is important to note that the EU does not have a common energy policy, which means that it is up to the individual member states to decide on their energy suppliers. This makes it necessary to look at the varying degree to which the member states are dependent on Russia as a supplier. For example, Germany has established long-term agreements with Russia on gas imports, while some countries, such as Lithuania, are a hundred per cent dependent on Russia, but wish to diversify.

The thesis is based on a broad range of sources, including official documents and reports, speeches and official statements, academic studies, and newspaper articles. It will be necessary to use official documents to look at Norway's current exports of gas to the EU and its projected production in gas fields, including the opening of the South East region of the Barents Sea, to establish whether Norway will be able to be a bigger supplier for the EU in the future. Relevant documents from Norway are white papers and reports, one example of which is the report from the Norwegian Ministry of Petroleum and Energy (2013) to the Storting. It is also advantageous to include Official Norwegian Reports (NOU), as independent committees have been appointed to write these on many different topics, including the report from 2012 which concerns Norway's agreements with the EU (Ministry of Foreign Affairs, 2012). The Norsk Petroleum website has replaced the yearly fact report previously published by the Ministry of Petroleum and Energy and the Norwegian Petroleum Directorate. Therefore, as it is continuously updated with information from the Norwegian Petroleum Directorate databases, it will provide relevant factual information on the petroleum sector in Norway.

To answer the research question, it will be necessary to look at whether the EU would be interested in expanding its partnership with Norway in the gas field, hereunder, building

more infrastructure and importing larger quantities of gas. This will be examined through official documents from the EU, such as a press release from the European Commission (2007b) which reveals that it expects the imports from Norway to increase. Relevant EU material is official documents and reports, communications from the European Commission, green papers and white papers, speeches and official statements from the EU. Documents from the European Commission are especially relevant, as its task is setting the agenda. Documents from the European Council are also relevant, such as the European Security Strategy (European Council, 2003), as the energy field involves external relations which are intergovernmental in nature. The output from these institutions can be contradictory as they can have different interests and aims. The European Parliament largely holds a discursive role in matters of energy security as it has limited powers to influence decisions taken by the European Commission and the member states, and therefore, few documents from this institution are used in the analysis.

It is important to keep in mind that the sources can be biased, depending on the author and the intended audience. The communications from the European Commission have diplomatic language, and often have broad approaches to the issues at hand. They outline goals and objectives for the member states to negotiate and eventually agree on, but they are not adopted policy. A concern about speeches, is that they are directed at a certain audience, and are a part of diplomacy as they are used to highlight certain topics or emphasize the good relations between countries. It would have been advantageous to interview an EU or Norwegian official, as the thesis studies Norway as a supplier of natural gas to the EU. Interviews would provide a more direct source for views on the questions at hand, rather than European Commission documents and speeches. However, there is considerable material on Norway's relations with the EU, so the need for an interview is reduced.

1.5. Thesis outline

The thesis is divided into five chapters. Chapter two will explore the EU, and look at its relationship with Russia and how this has impacted the EU's pursuit of supply diversification. It will further examine the EU's energy policies and what difficulties lie in establishing a common energy policy, and also what challenges the EU faces in its efforts for supply diversification. Chapter three will examine Norway, its reserves and production of natural gas, along with an assessment of estimates for future production. Also, the chapter will review its

relationship with the EU. Chapter four will provide an analysis of Norway's role as a supplier in reducing EU dependency on Russian natural gas, and will do so by examining three sub-questions as outlined above. Chapter five will summarize the arguments and conclude the thesis.

2. Energy policy in the European Union

Energy security is currently high up on the political agenda in the EU. Earlier the focus within energy policy at the EU's community level has been on liberalization of the electricity and gas markets. This focus shifted more towards energy security following the gas crisis of 2006, and more so after the gas crisis of 2009, when Russia proved itself to be an unreliable supplier of natural gas. Today, with the ongoing conflict in Ukraine, efforts to improve energy security is at the forefront of the EU agenda.

This chapter focuses on describing the evolution of energy policy in the EU, from its origins in the first European communities to the current efforts of establishing an energy union. It then provides a more detailed overview of the recent developments in energy policy within the EU, which serves as impetus for this thesis. Further, it will take a look at the relationship between the EU and Russia in the energy field, and how the relationships between Russia and the EU member states have affected energy policy within the EU.

2.1. Evolution of energy policy in the European Union

The origin of the European Union that is in existence today was based on energy policy and a common market for coal and steel. At the time of establishment of the European Coal and Steel Community (ECSC) in 1952, coal accounted for more than 80% of the energy consumed in the original six member states. Oil only accounted for 10%, so most observers expected that coal would remain the essential fuel well into the future (Duffield & Birchfield, 2011, p. 2). In 1958, the European Atomic Energy Community (Euratom) was created to complement the ECSC as nuclear energy was expected to become a major additional source of energy. However, the powers of Euratom were much more limited than those of the ECSC. Already at the end of the decade, the ECSC started to become less relevant to the energy needs and concerns of its consumers. This is because it was being increasingly marginalized by the rapidly increasing use of oil. By 1960, coal had declined to covering only 60% of energy consumption, whilst oil had risen to 25%. By 1970 the roles had reversed, with oil covering 60% of consumption and coal only 25%, and natural gas was quickly catching up. However, despite the dramatic changes that came about in such a short time frame, the institutions of the European communities were not updated to reflect this shift in the energy mix. They were not given any authority over oil and natural gas, nor any general competence in the area of energy policy (Duffield & Birchfield, 2011, pp. 2-3). Integration in the energy sector did not come

about, but that was not for a lack of trying from the European Commission. It has been proposed several times, but none of these efforts had concrete results. For example, when the Treaty on European Union was being negotiated in the early 1990s, it was proposed that it should include a new chapter on energy, though this was not acted upon (Duffield & Birchfield, 2011, pp. 3-4). The member states' diverse energy mixes, and varying degrees of import dependence, especially with regard to Russian natural gas, has made it difficult for the EU to reach agreement on a common energy policy.

As there has been no such energy policy in place, what the EU has been focusing on since 1985 and until recent years in the energy field, has been developing a competition policy in the energy sector (Claes, 2009, p. 42). Following the Single European Act (SEA), where the deadline for completing the single market was set, the Commission tried to get the principles contained in the SEA to apply to the energy market, but it took a decade for the Commission's efforts to lead to the adoption of directives which opened up national electricity and then gas markets, in 1996 and 1998 respectively. These directives are referred to as the first energy package (Duffield & Birchfield, 2011, p. 4). Also in 1998, the Energy Charter Treaty came into force. The purpose of the Treaty is to protect foreign investors against non-commercial risks such as discriminatory treatment, expropriation, or breach of contracts. For the EU, one of the main interests behind this Treaty was to ensure that Russian gas continued to flow to Europe. However, even though Russia signed the Treaty, it failed to ratify it (Claes, 2009, pp. 45-46).

The year 2000 introduced a renewed focus on security of supply with the European Commission Green Paper (European Commission, 2000). Claes (2009) uses the term "renewed focus" because he states that energy security was high on the European agenda after the price increase in the 1970s, and after the dramatic oil price fall of 1986 (p. 48). After that, he claims that the topic disappeared, possibly since it seemed that there was sufficient supply of energy at affordable prices. The European Commission Green Paper from 2000 continued the line of liberalization of the gas and electricity markets, but now there was a more politically oriented approach in the upstream² segments which was based on the increasing dependence of the EU towards external energy suppliers (Claes, 2009, p. 48). In the external

² Upstream is defined as "[a]t a stage in the process of gas or oil extraction and production before the raw material is ready for refining" (OOD, 2015b), that includes extracting the gas and transporting it to the production facility. Downstream, on the other hand, is defined as "[a]t a stage in the process of gas or oil extraction and production after the raw material is ready for refining" (OOD, 2015a). This includes production and transport of the gas to the consumers.

dimension, the year 2000 saw the establishment of the EU-Russia energy dialogue, among the main goals of which are supply and demand security (Romanova, 2009, p. 123). Further, the Energy Community treaty which extended the internal energy market to South-Eastern Europe was established in 2005 and was later expanded. It now includes the EU and eight contracting members, as well as four countries with observer status, including Norway (Duffield & Birchfield, 2011, p. 5).

The European Security Strategy was released in 2003, and mentions that energy dependence is a special concern for Europe, and that imports are set to increase (European Council, 2003). The second energy package came in 2003 and continued efforts to create a single energy market. The package called for full opening of the gas and electricity markets for all customers by 2007 and legal unbundling of supply and transmission functions (Duffield & Birchfield, 2011, p. 5). In 2007, the European Commission released a communication entitled “An Energy Policy for Europe” (European Commission, 2007a). This document set out ambitious goals to reduce greenhouse gas emissions by 20% by 2020 compared to 1990, to improve energy efficiency by reducing its global primary energy use by 20% by 2020, and to increase the level of renewable energy in the EU’s overall energy mix to 20% by 2020. These goals became part of the Europe 2020 strategy which was launched in 2010 as a ten-year growth strategy (European Commission, 2015b). The Europe 2020 strategy has been furthered to a commitment of at least 40% reduction in greenhouse gas emissions by 2030, compared to the level in 1990. Also, the share of renewable energy consumed in the EU is set to reach 27%, as well as a goal of increasing energy efficiency by 27% by 2030 (European Commission, 2015a, p. 14-15).

In 2009, the third energy package was adopted by the European Parliament and the Council of the European Union. It contained new electricity and gas directives, new regulations for harmonization of cross-border trade in electricity and gas, as well as a regulation providing for the establishment of the new regulatory body called Agency for the Cooperation of Energy Regulators (ACER) (Eikeland, 2011, p. 24). What can be considered the most important development in the field of energy policy in the EU in recent years, came with the Lisbon Treaty in 2009. With this Treaty, energy policy was established as a formal competence of the EU. It is a field of shared competence between the EU and the member states, but now initiatives by the European Commission cannot be considered to lack in legal basis (Duffield & Birchfield, 2011, p. 6).

The EU is pursuing a strategy which aims to satisfy all three major goals of energy security, namely security of supply, economic competitiveness and environmental protection. Under security of supply, diversification is the principle upon which energy policy in the EU is based (Proedrou, 2012, p. 45). As mentioned in chapter 1, the Ukrainian gas crises made the EU focus on diversification of supply, and with the ongoing conflict in Ukraine this focus has been amplified. This is shown in a communication by the European Commission in which it states that “[t]he political challenges over the last months have shown that diversification of energy sources, suppliers and routes is crucial for ensuring secure and resilient energy supplies to European citizens and companies [...]” (European Commission, 2015a, p. 4). In this same communication, the European Commission sketched out a framework strategy for an energy union. It stated that “[o]ur vision is of an Energy Union where Member States see that they depend on each other to deliver secure energy to their citizens, based on solidarity and trust, and of an Energy Union that speaks with one voice in global affairs [...]” and where “[...] energy flows freely across borders, based on competition and the best possible use of resources [...]” (European Commission, 2015a, p. 2). The stress tests that the European Commission had the member states run on their systems, showed that solidarity and free flow of gas across borders would greatly reduce the impact of a disruption, and are being emphasized as goals for the energy union.

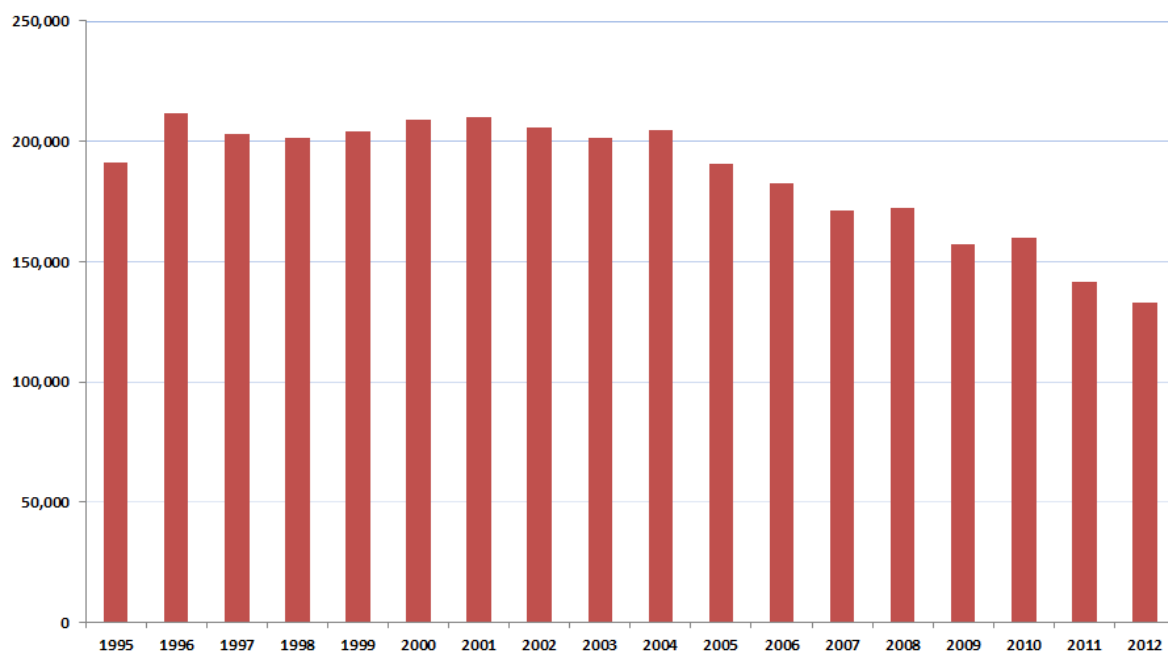
When he was the prime minister of Poland in the spring of 2014, Donald Tusk, now the president of the European Council, proposed that the energy union should include the establishment of a single European body which would buy gas for all the 28 member states as a bloc. He claimed that “[a] dominant supplier has the power to raise prices and reduce supply”, and that creating this European body to buy the EU’s gas imports would confront Russia’s monopolistic position and correct the market distortion it has created (Tusk, 2014). However, this was not included in the final proposal from the European Commission. Rather it stated that “[t]he EU will use all external policy instruments to ensure that a strong, united EU engages constructively with its partners and speaks with one voice on energy and climate” (European Commission, 2015a, p. 21). This means that it will still be up to the individual member states to negotiate contracts with Russia and other suppliers, and to decide on their own energy mix. The fact that Tusk proposed a single European body to buy gas collectively, must be seen in the context that he was prime minister of a country which is heavily reliant on Russian gas imports, and that he made his proposal known through a newspaper article. Further, that the European Commission chose not to include it in its final proposal must be

seen from the perspective that it has to make a proposal which 28 member states with different energy mixes can eventually agree on.

2.2. The European Union's import dependence

The EU is highly dependent on imports of natural gas. This is because it does not have abundant reserves of natural gas, and as the reserves are gradually depleting, the domestic production is on the decline. Despite the number of EU member states almost doubling from 1995 to 2012, the domestic production of natural gas has declined. This decline can be seen in figure 2.1. below.

Figure 2.1. Total production of natural gas in the EU, 1995-2012, ktoe³



Source: ESTAT SIRENE v2, Final data as of 02 May 2014

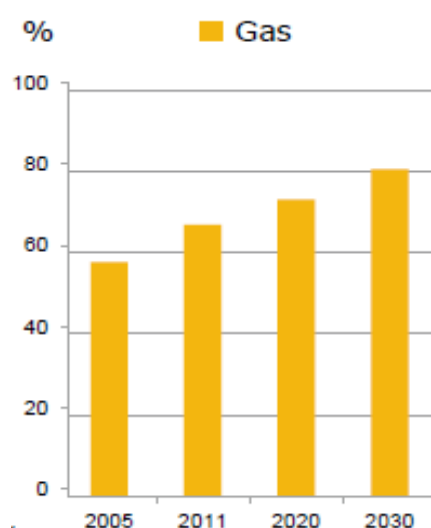
Source: European Commission, 2014b, p. 42.

The Netherlands is the most important producer of natural gas in the EU. The United Kingdom (UK) is also a producer of gas, but declining production has led it to become a net importer of gas as well (Proedrou, 2012, p. 56). With production of natural gas in decline, it has been necessary for the EU to increase imports. The EU has a consumption of natural gas

³ Kilotonnes of Oil Equivalent.

of about 465 billion cubic metres (bcm) per year (390 Mtoe⁴), and has declined somewhat from the level in 2005 of 535 bcm (445 Mtoe) (European Commission, 2014b, p. 37, Appendix A, Appendix C). Less than half of the current consumption can be covered by domestic production. The EU currently imports 66% of its natural gas consumption, and this amounts to about 300 bcm (250 Mtoe) of imported natural gas per year (European Commission, 2014b, pp. 5, 43). The main point here is that since domestic production covers less than half of its consumption, the EU is heavily reliant on foreign suppliers. The two largest exporters of natural gas to the EU are Russia and Norway, both of which have exported natural gas to the EU since the 1970s (Proedrou, 2012, pp. 77, 106). In 2013, the EU imported 126 bcm of natural gas from Russia and 95 bcm from Norway (see Appendix B). The consumption of natural gas is set to increase as it is cleaner and more efficient than oil and coal, and therefore has advantages in regards of cost-effectiveness and environmental sustainability (Stefanova, 2012, p. 52). As the consumption of oil and coal is set to decrease, whilst that of natural gas will increase, and the domestic production of natural gas in the EU is continuing to decline, the import of natural gas is expected to increase further in the years to come.

Figure 1.2. Share of imported natural gas in total EU consumption
 (“business as usual” scenario)



Source: European Commission, 2013a, Annex 5.

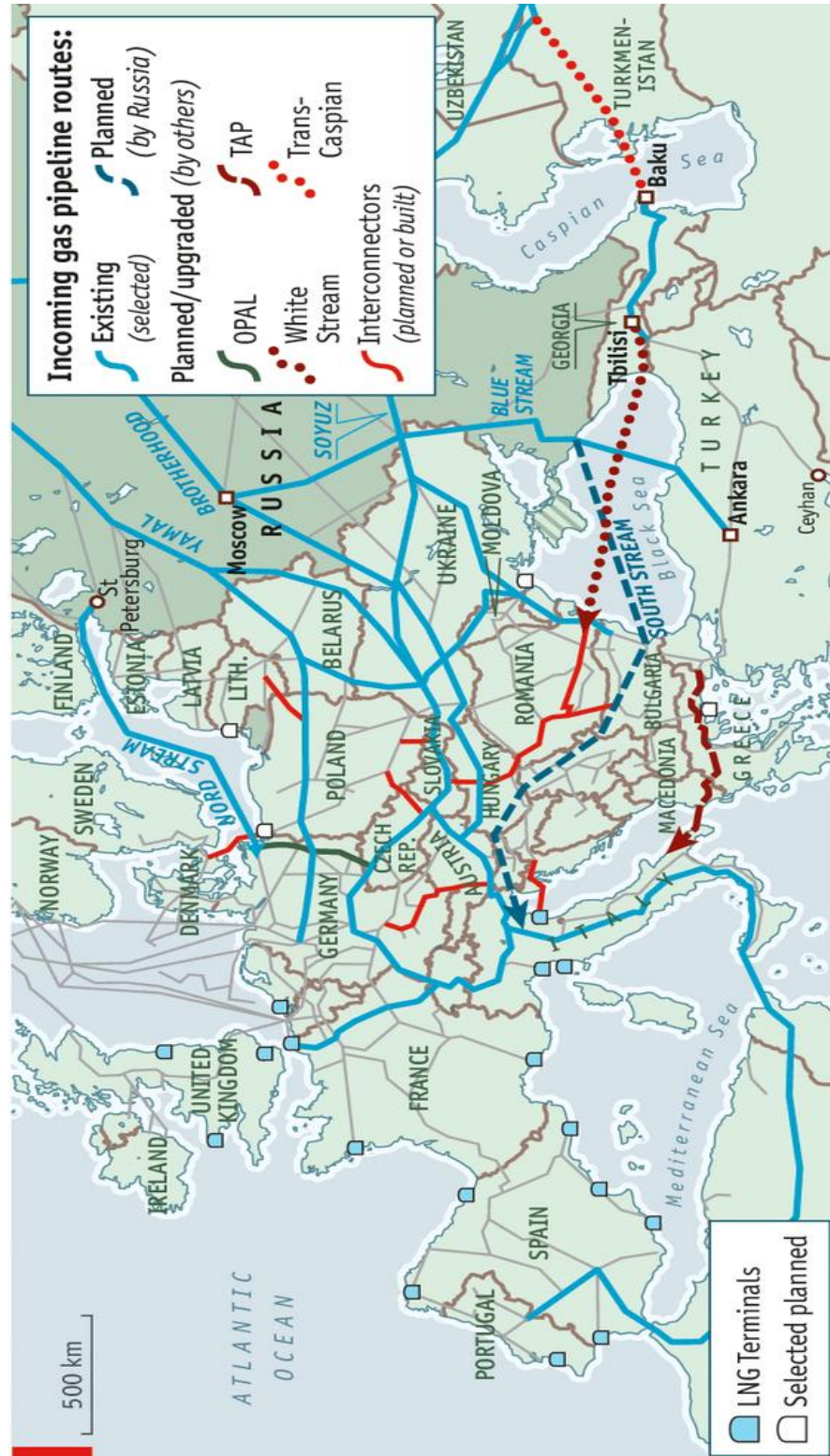
⁴ Million tonnes of Oil Equivalent.

The figure above illustrates how the share of imported gas is expected to increase if the EU does not take any measures to curtail the development. However, the EU aims to slow down this trend and has outlined several goals to be able to do this. Increasing energy efficiency, which is a part of the Europe 2020 strategy, will help to halt the rapidly increasing import dependence. Raising the share of renewable energy in the EU's energy mix will increase the share of domestically produced energy and diversify the sources of energy imports, which will help to limit natural gas import dependency (European Commission, 2007, p. 13). It is necessary to point out that these efforts, however, will only limit the increasing degree of natural gas import dependency to a certain extent, as import dependency is still set to increase in the future.

2.3. The European Union and Russia

The EU has imported gas from Russia (formerly the Soviet Union) since the 1970s. The Soviet Union constructed pipelines to its communist allies in Eastern Europe, namely Poland, Czechoslovakia and Hungary, and these pipelines gradually extended to France and Greece. Most of the Russian gas is transmitted through the Druzhba pipeline, also known as the Brotherhood pipeline, to Europe, as can be seen in map 2.1. below. This pipeline has a capacity of 175 bcm per year, but does not carry gas at full capacity. The Yamal-Europe pipeline was constructed in 1999 and can carry 20 bcm per year. Oil and gas production accounts for more than 20% of Russia's GDP and profits from its energy exports are immensely important for its survival and prosperity (Proedrou, 2012, p. 77-79, Youngs, 2009, p. 91). Gazprom is Russia's gas export monopoly. The state has a 51% share in the company, which means that foreign policy considerations can be incorporated into Gazprom's strategy. Therefore, the company is an important instrument for exerting Russian economic and political influence in the world (Proedrou, 2012, pp. 79-80). Russia, and hereunder Gazprom, has different approaches towards the European states, especially differing between 'Old' and 'New' Europe. Russia considers 'Old,' or Western, Europe to have lucrative markets for its export of natural gas, and wishes to retain friendly trade relations with these states. Hereunder German and Italian markets are considered of great importance (Proedrou, 2012, p. 80). Towards 'New' Europe, Russia tends to use a neo-imperialist approach as it considers it to be in its own sphere of interests. With its vast amounts of energy exports, this offers Russia leverage for punishing these states for anti-Russian stances and to create hurdles for them (Proedrou, 2012, p. 80).

Map.2.1.1. Natural gas pipelines from Russia to Europe



Source: «Conscious uncoupling», 2014.

Russia and the EU established the EU-Russia energy dialogue in 2000, but this remains a largely discursive forum. According to Proedrou (2012, p. 86), this is not only due to the EU, but more crucially due to Russia's unwillingness to deal with the EU multilaterally. Rather, Russia prefers to deal with the EU bilaterally. This way, it can pursue different approaches with the member states, as can be seen with the Nord Stream project. Following a bilateral approach, Russia can pursue a strategy of divide and conquer, that is, it can play the EU member states against each other and make it even harder for the EU to take a common stance against it (Proedrou, 2012, p. 86). Thus, if Russia were to negotiate with the EU as a bloc, and not one by one with the member states, it would give the EU enhanced bargaining power. Russia would not be able to pursue the divide and conquer strategy. Further, joint purchasing of natural gas would reduce procurement costs. Currently, Central and Eastern European member states pay a price premium on gas, which is not found among member states further west, and this despite the fact that transport costs should be higher (Genoese, Dimitrova, & Egenhofer, pp. 1-2).

Despite its vast reserves of natural gas, Russia could be facing a gas deficit of its own. Here it is crucial to distinguish between reserves of natural gas and production capacity. Reserves is the potential for future production, whilst production capacity entails how much natural gas that can be produced on current investments (Proedrou, 2012, p. 86). The reason for this potential gas deficit is a lack of exploration and investments. Russia's main gas deposits are quite mature, and production has therefore started to decline. Therefore, there is a need to explore new fields, and to be able to do this, Russia is in need of investments and expertise as these fields are in difficult locations offshore. This is not the easiest to achieve. As Gazprom has a monopoly in both gas exports and the domestic pipeline system, and a major role in the upstream sector, the Russian gas sector is not adapted for competition. This makes it challenging for new private companies to enter the market and enhance competition. Therefore, the Russian organisation of the sector does not facilitate for innovation. Further, Russia's energy efficiency is not very good. A lot of gas goes to waste in the outdated pipeline network, and the enormous reserves of gas do not encourage saving (Proedrou, 2012, p. 87). Foreign investments could offer big help in this respect, but also this holds some limitations. Russian law forbids foreign firms to acquire a share that surpasses 50 % in any exploration project. Projects are therefore only run by Russian companies, but they have to take on junior partners to be able to let in capital and new know-how (Proedrou, 2012, p. 88).

For example, Statoil, which has years of offshore experience from the NCS, was a part of the development group for the Shtokman field (Helgesen, 2012).

Also Russia has started to follow a policy of diversification. As Russia is a producer and exporter of natural gas, it is in search for alternative markets. Russia shares borders with China, the fastest developing country in the world, which as a result has rapidly increasing energy needs. Japan also has high energy needs, as it has no indigenous energy sources and is completely dependent on energy imports. Most of Russia's new gas fields lie in the Eastern part of the country, which would make gas exports to China and Japan more appealing. Two pipelines for transporting gas from Russia to China are already under construction. These markets, contrary to the EU, set no restrictions or prerequisites for energy trade with Russia, which might make it an appealing option (Proedrou, 2012, pp. 90-91). Despite this appeal, starting up energy trade with a new region takes time and investments, as new infrastructure has to be built.

The EU's relationship with Russia has influenced energy policy in the Union. It has made speaking with a unified voice difficult as the EU member states tend to fend for themselves while Russia follows a bilateral divide and conquer strategy amongst them (Proedrou, 2012, p. 86). Some of the member states have a close relationship with Russia, some are completely dependent on imports of Russian gas and therefore vulnerable, whilst others do not import any Russian gas at all. Table 2.1. below shows imports of natural gas from Russia for the EU27, in percentage of consumption. Cyprus and Malta are not included in the table as they do not consume any natural gas (Proedrou, 2012, p. 49).

Table 2.1. EU27⁵ imports of natural gas from Russia, % of consumption

Austria	49%
Belgium	5%
Bulgaria	92%
Czech Republic	77,6%
Denmark	0%
Estonia	100%
Finland	100%
France	14%
Germany	36%
Greece	76%
Hungary	60%

⁵ At the time when these numbers were published, Croatia was not yet a member of the EU.

Ireland	0%
Italy	27%
Latvia	100%
Lithuania	100%
Luxembourg	0%
Netherlands	0%
Poland	48,15%
Portugal	0%
Romania	27%
Slovakia	98%
Slovenia	52%
Spain	0%
Sweden	0%
United Kingdom	0%

Source: European Commission, 2009, Annex 5.

As the member states have such diverse relationships with Russia and such diverse states of import dependence on Russian gas, they take different approaches towards gaining greater energy security for themselves. One such approach is that of mutual interdependence. This entails pursuing greater security of supply by creating close ties with Russia and thereby making Russia more dependent upon that member state and the EU. Diversification is another approach, and it has two subcategories, namely diversification of routes and diversification of supply. The first involves building new pipelines that carry natural gas from the same supplier, but that takes a new route to bypass tricky transit states, to increase the efficiency of supply and to lower the opportunities for politicization of deliveries (Stefanova, 2012, p. 53). This was the case for the Nord Stream pipeline, though it can be said that it increased the risk of politicization of deliveries for other states. The second, diversification of supply, entails importing natural gas from varying sources and decreasing dependence on one or few suppliers (Yergin, 2006, p. 76). Following this strategy, the EU wishes to establish infrastructure that can carry gas from the Caspian Sea region to the EU. This route has been named the Southern Gas Corridor. The attempt to build the Nabucco pipeline project falls under this category, as it was meant to carry gas from the Caspian Sea region, and not include Russian supplies (Stefanova, 2012, p. 58). Most pipeline projects are constructed by producers to get their gas to export markets, but the Nabucco project was being led by a consortium of consumer-state companies without having guarantees of supplies to fill the pipeline. Thus, it was certainly a political rather than a purely commercial undertaking, designed to vary the sources of natural gas and reduce dependence on Russia (Youngs, 2011, pp. 54-55). It has been proven difficult to build pipelines to carry natural gas to Europe that

circumvent Russia. The Nabucco project, which excluded Russia, led to Russia proposing a competing project, namely the South Stream (Stefanova, 2012, p. 59). The Nabucco project never came to fruition, and in December 2014, it was announced that Gazprom had decided to shut down the South Stream project (Gassmagasinet, 2015).

The Nord Stream pipeline was a controversial project and can illustrate the EU member states' differing approaches towards Russia. It was built as a direct link between Russia and Germany under the Baltic Sea, and started carrying gas in 2011. For Russia, this pipeline gives direct access to a lucrative market. In other words, it means that this pipeline offers Russia security of demand, that is, markets that can absorb its exports. Further, the pipeline allows it to avoid dependency on transit states. Before this pipeline was on stream, Russian natural gas headed for the German market had to cross Poland and Slovakia. (Proedrou, 2012, pp. 81-84). For Germany, the Nord Stream pipeline increases the reliability of gas supplies from Russia as the tricky transit states are avoided. It also helps ensure domestic gas supply when there is growing energy demand and Germany faces declining energy production, especially when it is also phasing out nuclear power stations (Schmidt-Felzmann, 2011, p. 586). Poland was in stark opposition to the project, as it would decrease its standing as a transit state and it would lose transit revenues. Being in a position between Germany to the West and Russia to the East, it has different historical experiences of recurrently being the object of geopolitical power games, and the pipeline is therefore viewed as a way for Russia to exert political pressure (Schmidt-Felzmann, 2011, p. 586). Being a transit state offers some leverage against Russia and its potential for using energy as a political tool, but with the new pipeline in place Russia can take a different approach towards 'New' Europe, and potentially punish the former Eastern bloc countries by cutting off supplies, for pursuing policies that contradict Russian interests, without losing access to the lucrative markets in the West (Proedrou, 2012, p. 81, Schmidt-Felzmann, 2011, p. 587). Germany and Russia's relationship is built on mutual respect and recognition of their political and economic power, whilst Poland's position with Russia is weaker. With regard to the Nord-Stream pipeline, and perhaps towards Russia in general, "[...] all interested parties appear to be predominantly focused on securing their national interests, with little or no regard for other member states' economic, political and security situation" (Schmidt-Felzmann, 2011, p. 589).

The EU has thus far not been successful in establishing a common energy policy. Currently it is a field of shared competence between the EU and its member states, but it is up

to the individual member state to decide on its energy mix and to negotiate contracts with Gazprom and the other suppliers. Energy policy has historically been considered a national prerogative, which has been strongly linked with national security and public service (Grätz, 2011, p. 61). As Boyka Stefanova states, “[u]nequal production, consumption, and import patterns among the EU member states make joint decision-making in the area of energy difficult” (Stefanova, 2012, p. 55). These varying levels of import dependence gives the EU member states different priorities. In the large Western European markets, such as Germany, France and Italy, the main priority is to ensure the availability and sustainability of supply to meet a growing demand. The large number of smaller markets in Central and Eastern Europe are characterized by fragmentation and high dependence on energy imports from Russia. Thus, their main priority is “to minimize the vulnerability of their gas imports by means of diversification of sources of supply and delivery systems through access to EU-based infrastructure and resources” (Stefanova, 2012, p. 56).

The following are illustrations on how national interests have influence in the field of energy policy. The diversity between these countries stems from differences in import dependence and the member states’ relationships with Russia. Firstly, there is Germany. Germany has a history of long-term bilateral deals with Russia. Authors such as Sander (2007), claim that there is a special relationship between Germany and Russia, and that this relationship has been mainly driven by economic interests rather than political concerns, and that it is characterized by mutual dependency (pp.16-17). Germany does not want to take part in projects that could harm its relations with Russia, and has opposed proposals that could be seen to have this effect. However, also Germany has grown sceptical of Russia’s use of natural gas as a geopolitical tool (Rahr, 2007, p. 140). Second is the United Kingdom. The UK does not import any Russian natural gas. Instead, Norwegian gas covers 55% of its total imports of gas, and the rest stems from domestic production and imports from the Netherlands, Belgium and LNG from mainly Qatar (IEA, 2012, p. 67).

Thirdly, there is Poland. 91.6% of Polish gas imports come from Russia or from Central Asian sources through Russian pipelines (Roth, 2011, p. 607). For Poland, diversification of supply is the main priority because of its import dependence on Russia. It wants more EU funding for new infrastructure so that it can build more LNG terminals and pipelines, such as the attempted Skanled pipeline, which was to bring Norwegian gas to Sweden and Denmark, and to which Poland wanted to build a connection (Roth, 2011, p. 607, Schmidt-Felzmann, 2011, p. 588). Poland has strongly criticized the lack of a common EU

energy policy towards Russia, as well as the practice of bilateral energy deals, which it claims is decreasing the security of supply of other member states. Further, it holds that close bilateral energy partnerships and Germany's increasing dependence on Russia is an obstacle for a more assertive EU energy policy towards Russia (Roth, 2011, p. 608). In 2006, Poland proposed the creation of a European Energy Security Treaty to all the NATO and EU countries. This was to include an energy security pact, based on the rule of solidarity, which meant that participating countries would have to provide mutual support to members in the event of an energy crisis, much like NATO's article 5 on mutual security (Geden, Marcelis, & Maurer, 2006, p. 24). As the proposed pact called for the suspension of national interests in critical situations, this was not found acceptable by many of the member states. With the references to NATO and as it quite openly was set out to exclude Russia, it was deemed to be out of touch with the mood of the member states (Roth, 2011, p. 613). Germany was one of the member states which opposed it and did so "[...] in part because it excludes Russia, which Berlin believes would hinder efforts to build greater political and economic interdependence between the EU and Russia" (Geden et al., 2006, p. 24). Even though the Polish proposal for a solidarity clause failed in this case, it was successful in having it included into the Lisbon Treaty (Roth, 2011, p. 616). The then Polish prime minister Donald Tusk's proposal to establish a European body which would buy gas for all the EU member states was an attempt to establish a truly common energy policy in the EU (Tusk, 2012). With this body in place, the EU would negotiate as a bloc with Russia, hindering it from following its divide and conquer tactic among the member states. Though, this Polish proposal was also turned down.

The diverse approaches to energy security taken by the member states, as well as the seemingly conflicting objectives of Nabucco and Nord Stream, illustrate "[...] that there is no single strategy for accomplishing energy security in Western and East-Central Europe" (Stefanova, 2012, p. 63). For member states such as Germany, the strategy has been to develop a relationship of mutual dependency with Russia, achieve diversification of gas transit routes by bypassing transit states, and to separate the political from economic aspects of the gas trade. Further South, the EU-endorsed strategy has been to diversify sources of supply, not routes of supply, as with the Nabucco project which excluded Russia (Stefanova, 2012, p. 63).

This chapter has outlined the evolution of energy policy in the EU, and given an overview of the recent developments, such as the liberalization efforts to create a common energy market, and the new proposal create an energy union. It has further shown the diverse states of natural

gas import dependence and the different relationships with Russia that exist with the member states. It has been shown that this has made it difficult for the EU to develop a common stance and speak with one voice. This is not included in the newly proposed energy union because in practice it is still up to the individual member states to negotiate contracts with Russia. The ongoing conflict in Ukraine has given the EU a scare, as illustrated by the stress tests. One EU policy-maker acknowledged that “there will only be a common energy policy when there is a crisis big enough to create it” (as quoted in Youngs, 2011, p. 58). However, the communication from the European Commission on an energy union seems to demonstrate that this conflict in Ukraine is not that crisis.

3. Norway and the development of its relationship with the EU in the gas field

Norway has been a producer of petroleum for more than 50 years. From the first field was discovered in the 1960s and production started in the 1970s, it has developed into a substantial producer of petroleum. The petroleum industry is Norway's success story. This chapter accounts for how Norway came to be a producer of petroleum, and how the petroleum industry is today. It also provides an assessment of estimates for future production of natural gas. Further, it examines Norway's relations with the EU in the gas sector. Norway has also had a close relationship with the EU for many years, and has applied for membership several times, but the population voted no in the two referenda. Thus, the relationship with the EU first consisted of a bilateral trade agreement, and later, the European Economic Area (EEA) agreement became the main pillar. With this agreement in place, Norway is as close to a membership in the EU as can be without actually being a member. Norway is the EU's second largest supplier of natural gas, and is considered a stable and reliable source.

3.1. How Norway came to be a producer of petroleum

In the late 1950s, it was widely held that there were not any oil and gas resources on the Norwegian continental shelf (NCS). However, the discovery of gas resources in Groningen in the Netherlands gave hope for the discovery of resources in the North Sea. In 1962, Phillips Petroleum contacted the Norwegian government and requested permission to start exploration activities in the North Sea. This was seen as an attempt by the company to obtain exclusive rights, and for the Norwegian government it was not an option to give a single company exclusive right to the NCS. If the area was to be opened for exploration, more companies had to be involved. Thus, in May of 1963, the Norwegian government proclaimed sovereignty over the NCS. A new law stated any natural resources on the shelf belonged to the state, and that only the King, which in practice means the government, has the authority to issue licenses for exploration and production (Norsk Petroleum, 2015d). In 1965, Norway, the United Kingdom and Denmark reached an agreement on the borders at sea, meaning the delimitation of the continental shelf, and this agreement was based on the median line principle (Norsk Petroleum, 2015d).

The first discovery of oil was the Balder field in 1967, though it was not economically viable at the time. Ekofisk was discovered in 1969 and turned out to be one of the largest offshore oil fields ever to be discovered. Production from the field started in 1971 and marked

the start of Norway's success story (Norsk Petroleum, 2015d). Through a report to the Storting in 1970-71, the government endorsed the so-called "ten oil commandments". These state that there has to be a comprehensive petroleum policy in place, and that national control and governance is important to ensure that the profit from these resources would benefit the entire Norwegian society (Ministry of Petroleum and Energy, 2011, p. 5). In 1979, the area north of 62° N, namely the Norwegian Sea and the Barents Sea, was opened for petroleum activities, and exploration started up in the early 1980s.

In the early days of Norwegian petroleum, the government followed a model where exploration was dominated by foreign companies, and these companies were responsible for developing the first oil and gas fields. Norwegian participation increased as Norsk Hydro became involved. Along with Norsk Hydro, several Norwegian companies got involved in this period. Saga Petroleum, a Norwegian private company, was established in 1972 and the state-owned company Statoil was established the same year. Further, a principle was established that the state was to have 50% ownership interest in each production license (Norsk Petroleum, 2015d).

In 1985, the system was reorganised. The state's participation was split in two: one part linked to Statoil and one to the State's Direct Financial Interests (SDFI) in the petroleum industry. SDFI is a system through which the Norwegian state owns holdings in a number of oil and gas fields, pipelines and onshore facilities. The proportion of the state's ownership is determined when production licences are awarded, and it varies from field to field. As one of several owners, the state covers its share of investments and costs, and receives a corresponding share of the income from the production licences. Statoil was made responsible for handling the commercial aspects of SDFI on behalf of the state. In 2001, the government decided to sell 21,5% of the value of the SDFI portfolio. 15% were sold to Statoil, and 6,5% were sold to other licensees. Statoil was listed on the stock exchange the same year, and now operates along the same lines as other companies on the NCS. As Statoil was partly privatised, Petoro, a state-owned enterprise, was established to manage the SDFI on behalf of the state (Norsk Petroleum, 2015d). The maritime boundary between Norway and Russia in the Barents Sea and the Arctic Ocean has been a matter for negotiations for about 40 years. However, in 2010, Norway and Russia were able to reach an agreement on the maritime demarcation line and on cooperation in the region, and the agreement was ratified in 2011 (Ministry of Petroleum and Energy, 2013, pp. 19-20).

3.2. The petroleum industry today

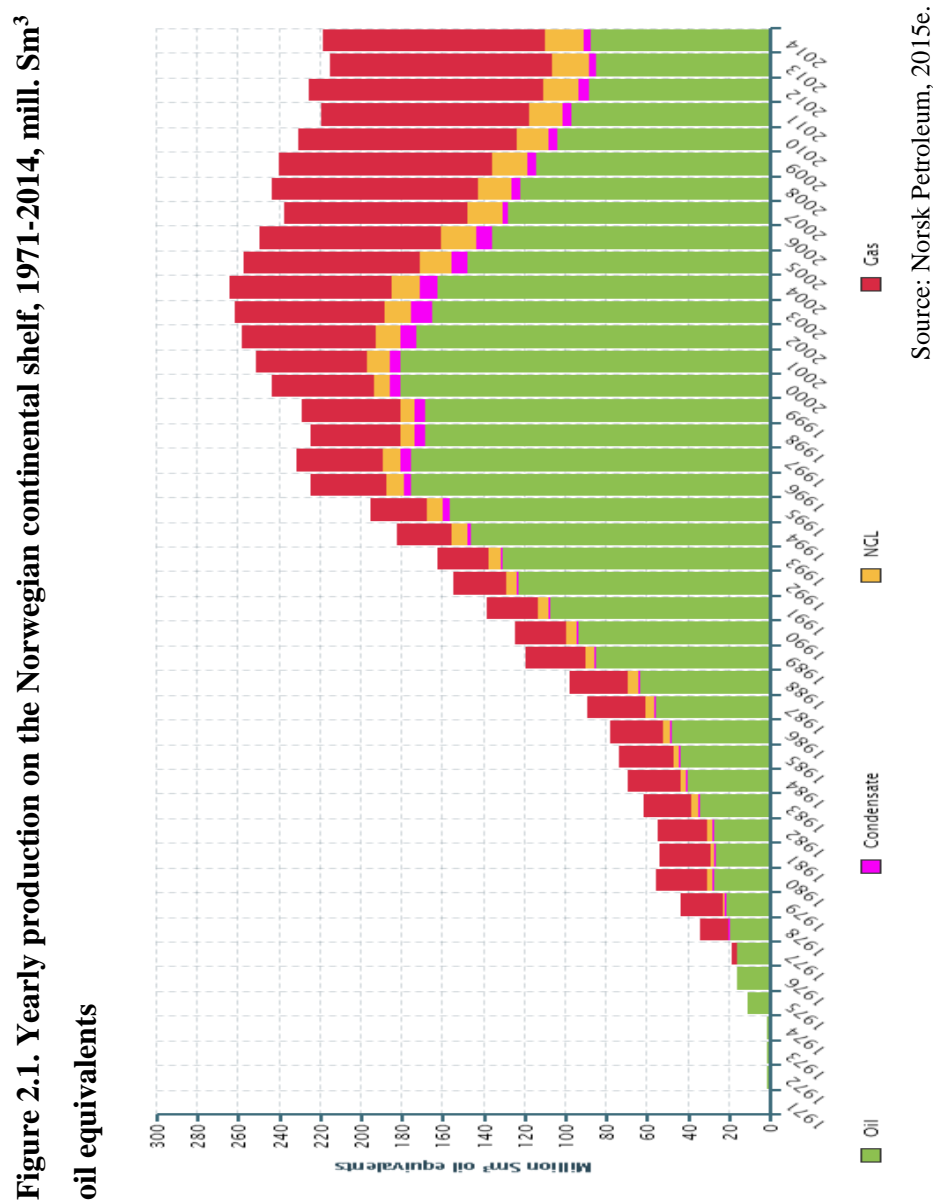
Today there are about 50 active Norwegian and foreign companies on the NCS. The petroleum industry is Norway's largest measured in value added, government revenue, investments and export value. Since production on the NCS started in the 1970s, the industry has contributed with 11.000 billion NOK to Norway's gross domestic product⁶. Thus, the industry has had a large impact on the Norwegian economy and the financing of the Norwegian welfare state. Nevertheless, only about 45% of the estimated recoverable resources on the NCS have been produced and sold (Norsk Petroleum, 2015i). Government revenues from the petroleum industry are transferred to the Government Pension Fund Global, which at the end of 2014 contained more than 6400 billion NOK. The income from the sector make up about ¼ of total government revenues. As first stated in the so-called ten oil commandments, a central point for Norway's management of the petroleum sector is to create profits so that the income can benefit the state and the Norwegian society as a whole (Ministry of Petroleum and Energy, 2014, p. 12).

In 2012, Norway became the third largest exporter of natural gas in the world, as well as the sixth largest producer of natural gas (Ministry of Petroleum and Energy, 2014, p. 13). The petroleum industry in Norway is in a different phase than it was ten years ago. The areas that have been opened for production, and hereunder the producing fields, have become more mature, and exploration activity has increased significantly. Figure 3.1. below shows the historical production from the start-up in 1971 onwards to 2014, divided by product. The figure shows that the production of oil has declined since 2001, and that the production of natural gas is increasing with a record year of 114,72 billion cubic metres (bcm)⁷ in 2012. Currently, natural gas comprises about 50% of the volume of total petroleum production. This is linked with the fact that a larger amount of the oil resources have been produced compared those of gas (Ministry of Petroleum and Energy, 2011, p. 7). To keep up the activity level on the NCS, the Norwegian government has set out three areas where efforts should be concentrated. Firstly, to increase the extraction in existing fields and develop discoveries that can be considered commercially viable. Secondly, to continue active exploration in opened areas, both mature ones and frontier areas. The Johan Sverdrup field was discovered in an area of the North Sea in which exploration has taken place since the mid-1960s. Earlier exploration wells have missed the field with only a few metres. This

⁶ The available numbers were for the petroleum sector in total, not for only natural gas.

⁷ As figure 3.1. contains numbers for production of several petroleum products, they are given in million sm³ oil equivalents. The number given here has been converted into bcm by the author.

illustrates that there can still be large, undiscovered reserves on the NCS. The discovery of the Johan Sverdrup field has contributed to maintaining a high level of interest in the licensing rounds in mature areas (Norsk Petroleum, 2015a). Thirdly, to maintain a high degree of activity on the NCS, the government highlights the need to open up new areas for petroleum activity, such as the south east region of the Barents Sea, which was opened in 2013 (Ministry of Petroleum and Energy, 2011, p. 8). In recent years, the activity on the NCS has reached record levels. Many new discoveries are being developed, and many field developments are either nearing completion or already in the production phase. Meanwhile, there have been made large investments in existing fields with the purpose of increasing the recovery (Norsk Petroleum, 2015a).



3.3. Resources in Norwegian sea areas

Norwegian petroleum resources can be found in three areas, namely the North Sea, the Norwegian Sea, and the Barents Sea. Petroleum activities on the NCS began in the North Sea and have gradually expanded northwards. These areas are shown in the map below.

Map 3.1. Areas on the Norwegian continental shelf



Source: Norsk Petroleum, 2015c.

The North Sea is the motor driving Norwegian petroleum activity as it encompasses 61 producing fields in 2015 (Norsk Petroleum, 2015f). It is divided into three sections, as can be seen in map 3.1. above. The southern section of the North Sea is a mature petroleum province with limited undiscovered resources. It is considered that the prospect of making a larger discovery in this area, which is large enough to generate new infrastructure, is small. Nevertheless, there are large proven resources remaining in the area which has potential for further production for decades to come. New investments are made in the Valhall and Ekofisk fields (see appendix D) which will enable production for the next 40 years (Ministry of Petroleum and Energy, 2011, pp. 32-33). The central section of the North Sea has several existing gas fields (see appendix E), and also here the prospects of making new, large discoveries are considered to be slight. There have been made new discoveries, but these are too small to justify developments on their own and must therefore be connected to existing infrastructure. The northern section has produced oil and natural gas since the late 1970s. The Troll field (see appendix F) is located in this section and is central for the gas supply from the NCS, and will remain the main source of Norwegian natural gas exports also in the future (Ministry of Petroleum and Energy, 2011, pp. 34-36).

There are currently 16 fields in production in the Norwegian Sea. It was opened for exploration in the 1980s and has proven to hold large resources of gas. There are areas in the Norwegian Sea which have not been developed or opened for exploration. This includes areas off the coast of Lofoten and Vesterålen, which have been decided previously to keep closed until 2017, when a new assessment will be made (Lewis, 2012). The Norwegian government has considered opening the areas offshore of Lofoten and Vesterålen, but was met with opposition, especially from nature protectionist groups. They highlight the fragility of fish stocks, such as the haddock which spawns in this area, and that a potential oil spill could severely damage these stocks (Sørhus, Edvardsen, & Meier, 2015). Today, the Halten Bank province, which contains several fields, and the Ormen Lange field (see appendix G) in the Norwegian Sea, are mature areas with large oil and gas production and well-developed infrastructure (Ministry of Petroleum and Energy, 2011, p. 36). Recently, Statoil has made new discoveries in the Aasta Hansteen area and are evaluating the possibility of connecting these to the existing infrastructure. The discoveries are important as they can increase the value of the investments made in the field (Statoil, 2015).

In the Barents Sea there is currently one producing field, namely Snøhvit (see appendix H). The Barents Sea, together with the deep sea areas in the Norwegian Sea, are considered as the area which hold the largest potential for new, large discoveries of oil and

gas. The first exploration well was drilled in 1980, and the first discovery of gas was Askeladd, the following year. The Snøhvit field started production from this discovery in 2007 and produces LNG through an onshore facility. There have been made new discoveries in the Barents Sea, such as Goliat and Johan Castberg (see appendix H), which open up for more activity in the region (Ministry of Petroleum and Energy, 2011, p. 36). However, petroleum activity in the Barents Sea has also met opposition. Nature protectionist groups claim that it would be ‘total madness’ to allow petroleum activity in one of the most vulnerable ocean regions on earth (Haltbrekken & Lerkelund, 2015). The fragility of the fish stocks are also the focus for this area, as fish like cod and haddock spawn there. Nonetheless, with the agreement on the maritime demarcation line with Russia, and the consequent opening of the south eastern region of the Barents Sea, the potential for more activity in this region has gone up. This south eastern region is split into five geographical areas, two of which are considered to be gas provinces, while the remaining three are considered to be combined oil and gas provinces (Ministry of Petroleum and Energy, 2011, pp. 22-24).

Table 3.1. Natural gas resources on the Norwegian continental shelf, as per 31.12.2014, bcm

Produced and sold		1983
	North Sea	1578
	Norwegian Sea	376
	Barents Sea	29
Reserves		1922
	North Sea	1327
	Norwegian Sea	406
	Barents Sea	189
Contingent resources in fields		218
Contingent resources in discoveries		337
Undiscovered resources		1450
	North Sea	245
	Norwegian Sea	465
	Barents Sea	740

Source: Norsk Petroleum, 2015f, Norsk Petroleum, 2015g.

Table 3.1. shows estimates for natural gas resources on the NCS, as well as for each of the three sea areas. Reserves are the remaining recoverable volumes of petroleum that the licensees have decided to develop, and the total reserves on the NCS are estimated to be 1922 bcm. Most of the reserves can be found in the North Sea. Contingent resources include petroleum deposits that are proven but where no decision has been made regarding their production. The table distinguishes between contingent resources in fields, that is, in existing fields, and contingent resources in discoveries. Undiscovered resources consist of gas deposits that are probably present and recoverable, but that have not yet been proven by drilling (Norsk Petroleum, 2015g). As can be seen from the table above, most of these resources are expected to be found in the Norwegian Sea and the Barents Sea.

3.4. Future production

Natural gas is a finite resource, and researchers hold different opinions on when Norwegian gas production will reach its peak. Söderbergh, Jakobsson, and Aleklett (2009, p. 5053) argue that the peak for Norwegian gas production will be reached this year (2015). According to the estimates from the Norsk Petroleum website, these researchers are not correct. The next ten years, a significant amount of the expected production will stem from proven fields and discoveries. To utilise these resources is essential to maintain the activity level in the short and medium term. The production has been dominated by the large fields such as Ekofisk, Statfjord, Oseberg, Gullfaks, and Troll (Ministry of Petroleum and Energy, 2011, p. 50). These fields will continue to hold importance, but production is declining in several of these, at the same time as many new, and smaller fields have appeared. This means that the production is distributed across a larger number of fields than previously (Norsk Petroleum, 2015d). It is possible to increase the extraction in many fields beyond what has been planned. Currently, there are about 160 projects under consideration to increase the output. At the same time, new and commercially viable discoveries must be connected to existing infrastructure to utilise the resource potential in mature areas in the years ahead. Production on the NCS is expected to be relatively stable in the next ten years. This is because new fields coming on stream are compensating for the decline in already producing fields. In the longer term, however, the number and size of new discoveries is crucial for production levels. The overall picture for the years ahead is therefore a combination of beginning production on large new fields and continuation of production on ageing fields. Thus, production is expected to remain relatively stable in the years to come. In addition, there will be a high level of exploration

activity in new interesting areas. New commercially viable discoveries will be necessary to ensure the continuation of regular activities in the years to come. This means that the level of exploration activity must be maintained. Albeit new projects are being postponed in response to high costs and the recent drop in oil prices, there is expected to be a high activity level in the years ahead. Hence, the petroleum industry will continue to be Norway's largest and most important industry for the foreseeable future (Norsk Petroleum, 2015a).

3.5. Norway and the EU's relationship in the gas field

In the period from 1950 to 1973, Norway's foreign policy consisted to a large degree of following in the United Kingdom's (UK) footsteps. In 1956, set up against the background of the members of the ECSC negotiating not only a customs union but a common market, the UK proposed a free trade area for the members of the Organisation for European Economic Cooperation (OEEC). This proposal did not gain support, but the back-up suggestion did. The European Free Trade Association (EFTA) was established in 1960, and Norway was a founding member. Shortly after the establishment of EFTA, the UK decided to apply for membership to the EEC. Thus, in 1962 and in 1967, the UK and Norway applied, but both times the application was vetoed by France. After a change in the French leadership, the UK and Norway renewed their applications in 1971. This led Norway to initiate negotiations with the EEC, but after a referendum in 1972 where the Norwegian population voted against membership, the application was withdrawn. Rather, a bilateral free trade agreement was established in 1973 (Ministry of Foreign Affairs, 2012, pp. 45-47). Between 1990 and 1991, the European Communities (EC) and EFTA were negotiating the EEA agreement. Several EFTA countries, such as Sweden and Finland, and eventually Norway, applied for membership to the EC before negotiations were completed. The EEA agreement came into force in 1992. Sweden and Finland joined the EU in 1995, whilst membership for Norway was voted down in a another referendum in 1994. As Switzerland chose not to be a part of the EEA, it is currently an agreement between the EU and three of the four remaining EFTA countries, namely Norway, Iceland, and Liechtenstein (Ministry of Foreign Affairs, 2012, pp. 53-59).

Currently, Norway has 74 agreements with the EU, relating to a wide range of topics. The agreements are not formally connected, rather they have evolved over time, without there being a clearly stated goal for either of the parties (Ministry of Foreign Affairs, 2012, p. 35). Through the Schengen agreement, Norway is a part of the European cooperation on free movement inside the Schengen area without border checks. Norway also participates in police

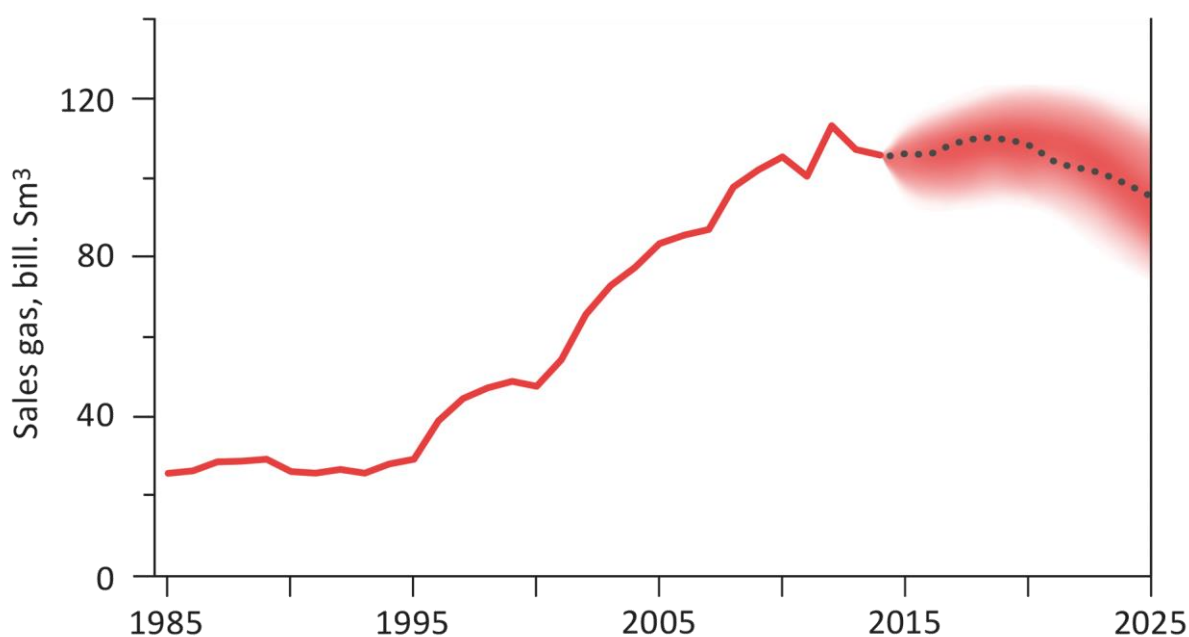
and judicial cooperation with the EU (Ministry of Foreign Affairs, 2014, p. 2). However, the main pillar in Norway's relationship with the EU is the EEA agreement, the purpose of which is to tie the EFTA states to parts of the EU cooperation, primarily the common market (Ministry of Foreign Affairs, 2012, p. 64). The EEA is a dynamic agreement and evolves along with the EU, and Norway and the other EEA members have to adapt. Norway takes on the EUs *acquis*, and adheres to it just as the EU member states. However, Norway does not participate in the EU institutionally. This makes the EU the policy maker and Norway the policy-taker (Austvik, 2010, p. 113). Rather, the EEA agreement set up a comprehensive structure. The developments of the EEA agreement mainly take place on the EU side, within the EU institutions. The EFTA institutions have to adapt to the EU, and have to make sure to have the same level of supervision and control as the EU. In addition to these two structures, there are the EEA institutions, which consist of committees where the EU and EFTA states meet (Ministry of Foreign Affairs, 2012, pp. 37, 69).

Norway is a politically stable and liberalised supplier of gas to the EU. Liberalisation in the gas field has been a global trend, and Norway started the process before the EEA agreement came to be. This does not mean, however, that there have not been conflicts between the EU and Norway in this field. The Gas Negotiating Committee (GFU) is an example of this. The GFU, established in 1986, was directly supervised by the Ministry of Petroleum and Energy, and had the responsibility of selling all Norwegian gas, independently of who owned it. The purpose of centralised gas sales was to maintain a strong market position in relation to the European buyers, as the big transmission companies in Europe collaborated. Foreign companies were not allowed to participate in the GFU, so as to prevent them from being able to sit on both sides of the table during negotiations. Instead, the foreign companies participated in a supply committee which had an advisory function. The three Norwegian companies, Statoil, Hydro, and Saga Petroleum were the ones who participated in the GFU (Austvik, 2010, pp. 115-116). In 1993, the GFU was changed so that foreign companies also could take part in the negotiations. This meant that the GFU was not as discriminatory as it had been, but it could still be viewed as obstructing trade (Ministry of Foreign Affairs, 2012, p. 555). The EEA agreement meant that Norway had to adhere to the gas directive from 1998, which started the unbundling of the transmission systems in the natural gas sector (Eikeland, 2011, p. 19). Norway resisted the move towards a more open and flexible transportation solution on the NCS, and the abolishment of the GFU system. However, Norway had to adhere to the gas directive and therefore change the transportation system, as well as abolish the GFU as it was deemed to be incompatible with EU competition

law. To ensure open access for transportation of gas on the NCS, the state-owned company Gassco was established in 2001. The company is responsible for operating the transmission systems on the NCS, a role previously held by Statoil (Austvik, 2010, pp. 120-121). The gas transmission infrastructure is owned by Gassled, which in turn is owned by Petoro, Statoil, and ConocoPhillips, amongst other companies (Gassco, 2015).

Norway is the third largest exporter of natural gas in the world. In 2014, Norway produced and sold 107,6 bcm of natural gas, and 102,4 bcm of this was exported, mainly to Europe. About 5 bcm were sold as LNG (Norsk Petroleum, 2015e, 2015b). This means that almost all of the gas produced is exported to Europe. Figure 3.2. below shows the historical and expected volumes of sales gas from the NCS in bcm. It indicates that the volumes are set to increase somewhat from today's level over the next few years, before it then starts to gradually decrease.

Figure 3.2. Historical and expected volumes of sales gas from Norwegian fields, 1985-2025

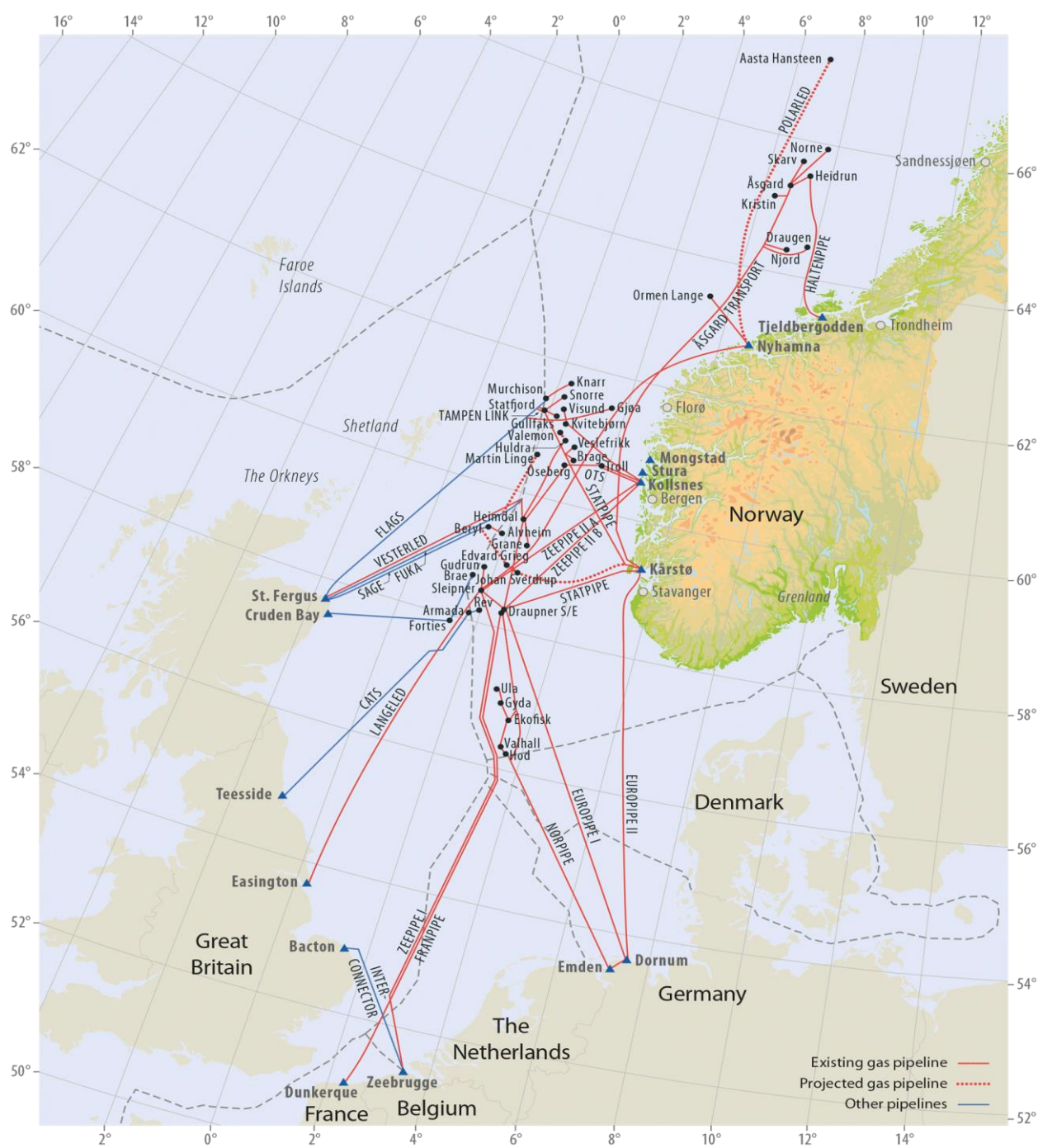


Source: Norsk Petroleum, 2015b.

There is more rigidity in natural gas trade, compared to that of oil, as trade of gas requires considerable infrastructure. As illustrated in map 3.2. below, Norway has an extensive network of pipelines in place which connects to Europe. The Norwegian gas transmission system consists of about 8000 kilometres of pipelines. This is approximately the distance from Oslo to Beijing. Most of the gas which is exported to Europe is delivered to

Germany, the UK, Belgium, and France, and accounts for anything between 20-40% of these countries' consumption (Norsk Petroleum, 2015b). The transport capacity of the Norwegian pipeline system is about 120 bcm per year. As can be seen in map 3.2., there are six terminals for receiving Norwegian gas in Europe; two in Germany, one in Belgium, one in France, and two in the UK.

Map 2.2. Natural gas pipelines on the Norwegian continental shelf



Source: Norsk Petroleum, 2015h.

Norway is, through the EEA agreement, a part of the EU's internal energy market, and follows the same set of rules as the EU member states. This, however, is not the case for other external suppliers of gas to the EU, such as Russia and Algeria. Thus, Norway is in some ways in a weaker position compared to these suppliers, as they can use their monopolies to maintain a strong position. By being actively involved, Norway has been able to achieve solutions when implementing directives from the EU, that suit the preferences of the government, as well as being in line with EU regulations. Consequently, Norway has been able to fulfil its main goals for the energy policy, while complying with the EU regulations (Ministry of Foreign Affairs, 2012, pp. 563-564). Norway has sought to keep energy policy and foreign policy separate. It has been a stated goal for Norway to avoid politicisation of gas deliveries, and to treat Norwegian energy resources, to a great extent, as a regular commodity in a free market. This separates Norway from other countries, seen from a European perspective (Ministry of Foreign Affairs, 2012, p. 550). Norwegian natural gas is essential to cover the European demand, and will, according to the Norwegian Ministry of Petroleum and Energy, continue to be an attractive and valued source of energy for the EU for decades to come. This provides a basis for continued exploration, extraction, and production of the gas resources on the NCS, which in turn will make Norwegian exports possible in the longer term (Ministry of Petroleum and Energy, 2011, p. 49).

The petroleum industry gives Norway more visibility and influence on the international stage than the country's size would indicate. Hereunder, Norway has been given more international attention because of its standing as a large, reliable supplier of natural gas (Tamnes, 2009, pp. 291, 301). This is particularly the case at a time when Russia has proven itself to be an unreliable supplier of gas. Even though Norway does not politicize its deliveries of natural gas, it can still be utilized to create awareness of Norwegian interests and policy, and give Norway more influence in other areas of interest. This is especially advantageous in a system where Norway is the policy-taker and does not participate in the making of the policy at the EU-level. Thus, Norway's only way of influencing policy outcomes, is to make its interests heard by the relevant actors in the policy-making process. The Minister of EEA and EU Affairs, Vidar Helgesen, stated that the goal with the government's European policy is to enforce Norwegian interests and contribute to a positive development both in Norway and other countries. He further states that the cooperation with the EU is decisive to uphold Norwegian interests, and that if their point of view is to be heard, the Norwegian government must engage in an early stage of the conversation at the European level, and not voice its suggestions long after matters already have been negotiated in the EU (Regjeringen,

2015b, para. 2). An example of this could be using the resources in the Barents Sea region to create awareness for Norway's High North policy.

In a letter to the president of the European Council in March of this year (2015), the Norwegian prime minister writes that “[w]e welcome the initiative on the Energy Union and find the comprehensive and broad approach suggested by the Commission to be most appropriate” (Solberg, 2015). The same was highlighted in a non-paper, expressing Norway's preliminary views on the Energy Union. It went on to acknowledge that “[t]he partnership between Norway and the EU in the energy field is of mutual benefit” and that “Norway is a stable key supplier of energy to the EU, and the EU is our largest market” (Regjeringen, 2015a, para. 5). The prime minister highlights natural gas, and that it can be used to replace more CO₂-intensive energy sources to reduce emissions in the short term. This is also underlined in the non-paper, as well as the fact that gas can provide balancing power in a system where the share of renewables is increasing (Regjeringen, 2015a). The prime minister underlines that while understanding that some countries are concerned about relying on a single source of imports, the Norwegian government does not support a joint purchasing mechanism for gas, as this is likely to reduce competition and is contrary to the stated principle of liberalisation of the energy market (Solberg, 2015). The non-paper further adds that it can “create uncertainty about the regulatory climate with companies and investors, resulting in less investment in necessary gas projects” (Regjeringen, 2015a). It goes on to state that:

[f]urther strengthening of energy infrastructure, diversification of routes, and supply sources and continued efforts to make the European energy market more efficient are better ways to improve the situation for countries dependent on a single source of supply, as well as enhancing energy security in general. (Regjeringen, 2015a, Security of Supply section, para. 4).

Thus, Norway is in favour of the energy union, and, even though it was not included in the broad proposal set out by the European Commission, wants to firmly express its sceptical views on a joint purchasing body for gas, as it could have an impact on Norway's gas trade with the EU.

The EU and Norway have a close relationship, not only related to natural gas, but one which spans many subjects. The EU-Norway Energy Dialogue was launched in 2002 and aims to promote cooperation between the EU and Norway on a broad range of energy issues.

Amongst these are international energy issues, global energy supply and demand, policy developments in Norway and in the EU, implementation of EU energy rules in Norway, cooperation on technology, and carbon capture and storage. The recent focus on energy security has further strengthened the EU's energy partnership with Norway. The annual EU-Norway Energy Conference was launched in 2013, and its purpose is to be able to discuss energy cooperation (European Commission, 2015c). Also, the EU and Norway has close cooperation on issues regarding climate change, and the Norwegian government has proposed that Norway should follow the same reduction target for greenhouse gas emissions by 2030 as set by the EU (Council of the European Union, 2014; Ministry of Foreign Affairs, 2015, p. 7).

This chapter has provided an overview of Norway's evolution into becoming a producer of petroleum, and given an account of its production and resources of natural gas. As for the future, it is expected that production will remain relatively stable. It is set to decline, but measures to increase extraction from existing fields, and development of new discoveries, can moderate this trend. Further, the chapter has shown the development of the relationship between Norway and the EU within the gas field, and that this has not been entirely without conflict, as was seen with the GFU case. However, the relationship today is more defined as one of cooperation, as Norway exports nearly all of its produced volumes of natural gas to Europe.

4. The EU's dependence on Russia and Norway as a suppliers of natural gas

This chapter analyses Norway's role in reducing European Union dependency on Russian natural gas. To answer the research question adequately, the chapter is divided into five sections, and will cover three sub-questions: 1) is it in Norwegian interests to export more natural gas to the EU; 2) could Norway have an increasing role in the EU's imports of natural gas; and 3) would it be in the EU's interests to import more from Norway? The first section evaluates whether it would be in Norway's interests to export more gas to the EU, rather than to other markets. This section does not take into account whether production will increase in the years to come so that such a development could be possible. The second section considers Norway's production of natural gas today and estimates for future production, and whether these allow for exporting larger volumes of gas to the EU. The third section concerns whether it would be in the EU's interests to import more natural gas from Norway, and evaluates whether it would be in line with the EU's policies in the energy field. Also, this section will assess the EU's relationship with Norway, and that of the EU and Russia. It will also take into account how recent developments have affected their relations and therefore the interests of the EU. Further, it will assess how the EU's difficulties with 'speaking with one voice' in the energy field impacts how it regards its suppliers. The following section will assess the results of these sub-questions in regard to the research question. Lastly, the chapter will provide an account of the EU's options for diversification in the future.

4.1. Is it in Norwegian interests to export more natural gas to the EU?

Norway exports almost all of its produced natural gas to the EU. This strongly indicates that it is desirable for Norway to sell large quantities to the EU and not divide sales between more buyers. The EU is Norway's closest market. To reach competing markets, which are located further away, the gas has to be sold as LNG. However, most of the gas produced on the Norwegian Continental Shelf (NCS) is exported through pipelines as this is the easiest and cheapest option for large scale transportation (Norsk Petroleum, 2015b). As illustrated in the previous chapter, Norway has a close and stable relationship with the EU. It is a cooperation which spans many areas, through the EEA agreement, the Schengen agreement, and many more. The EU is a stable buyer of natural gas for Norway. As a result of the EU's large gas deficit, Norway has been able to sell almost all of its produced gas to its closest market.

It is not the Norwegian state which is in charge of selling the natural gas produced on the NCS. All licensees on the NCS are responsible for selling the oil and gas they produce. The only exception is Statoil, which in addition to selling its own gas, is responsible for selling the government's share of natural gas production, that is, the SDFI share. This responsibility is set out in governmental instructions to Statoil (Norsk petroleum, 2015b). Nonetheless, the Norwegian state is the largest shareholder in Statoil, with 67% of the shares after the partial privatisation of the company, so the state and its relations with other countries holds influence on exports.

There is a substantial pipeline system in place which connects Norway to its EU market. It started out as dedicated gas transport solutions for individual fields, and it has been transformed into an integrated system serving most of the NCS. This is a cost-effective and reliable way of transporting gas, and gives Norwegian gas a substantial competitive edge in the EU market (Norsk Petroleum, 2015h). As such extensive infrastructure is already in place, it is natural that Norway exports most of its natural gas to the EU. Though, to put it another way, Norway does not have much choice as the export of gas is mostly pipeline bound. However, as the EU is a large market and has proven to be a stable and predictable buyer of natural gas, it has been an advantageous export destination for Norway. This infrastructure, which gives Norway a competitive edge, requires continuous investments to keep it running, and extensions or new stretches of pipelines are costly investments. The Polarled pipeline (which can be seen in map 3.2.) is an example of such an extension. Skanled was a proposal for a new stretch of pipeline which was to run from the NCS to Eastern Norway, Western Sweden, and Denmark. However, it was not built as it was not deemed to be commercially viable during the financial crisis in 2009. It was proposed to keep up with demand, and Poland wanted to build a connection to this pipeline so that they would be able to buy Norwegian gas and reduce their dependence on Russia (Aadland & Sprenger, 2009). The then Minister of Petroleum and Energy, Terje Riis-Johansen, and the director in Gassco, Thor Otto Lohne, both believed that better economic times could lead to the project being revived (Hovland, 2009).

Norway adheres to a large degree to the EU's rules of liberalisation. The third energy package has not yet been implemented, and there have been cases of conflict, such as with the Gas Negotiating Committee (GFU), but because of the EEA agreement, Norway follows the same rules as the EU member states. As new rules relating to the internal market are developed in the EU, they are also introduced in Norway. As stated by the European Commission, "[t]he EU will continue to integrate Norway fully into its internal energy

policies” (European Commission, 2015a). Thus, by following the same rules and standards as the EU, Norwegian exports, such as natural gas, has an advantage over exports from countries that are not adhering to them.

The Norwegian government, led by prime minister Erna Solberg, stated in its current strategy for the cooperation with the EU that Norway cooperates because it is in its national interest (Ministry of Foreign Affairs, 2014, p. 2). The same can be said for Norway’s natural gas trade with the EU. It is in the national interest of Norway to be able to sell its natural gas to a predictable buyer so that profits can be ensured. These profits can then justify further investments in the petroleum sector, and help maintain a high level of activity on the NCS in the future.

The EU offers Norway security of demand for its natural gas, that is, a market that can absorb its exports (Proedrou, 2012, p. 83). Therefore, it has not been necessary for Norway to establish many connections to other markets as the EU market has proven to provide a stable source of income. The EU has set ambitious goals to reduce emissions of greenhouse gases, to increase energy efficiency, and to increase the share of renewables in the energy mix. To reach the target for reduction in greenhouse gas emissions, scaling back the use of fossil fuels is one of the best solutions. However, as has been highlighted by the Norwegian government, natural gas is the ‘cleanest’ fossil fuel, and replacing coal with natural gas will reduce emissions. Natural gas can also provide balance in a system where the share of renewables is increasing (Ministry of Foreign Affairs, 2015, p. 8). On the topic of the German ‘Energiewende’, Martin Bachmann, a member of the board of executive directors of Wintershall, Germany’s largest crude oil and natural gas producer, stated that if one is to develop an economic foundation that is more environmentally friendly and simultaneously competitive, then there is no alternative to natural gas. He further stated that no other technology gives the equivalent environmental gains (Wintershall, 2014, para. 6). Consequently, despite the EU strategy of scaling back the use of fossil fuels, natural gas will continue to be a desired source of energy, and the EU market will therefore continue to absorb Norway’s exports of natural gas. Thus, as Norway offers the EU enhanced security of supply, and the EU offers Norway security of demand, it is a relationship of mutual interdependence.

4.2. Could Norway have an increasing role in the EU’s imports of natural gas?

Norway currently exports almost all of the produced natural gas to the EU. The question is, will it be possible for Norway to export larger quantities of gas to the EU in the future? In the

short term, for instance in the case of a supply disruption, the prospects for increasing supplies to the EU are slight. In his response to the EU's inquiry of Norway's ability to respond to a disruption of Russian gas deliveries in the winter of 2014/2015, the Norwegian Minister of Petroleum and Energy stated that "[d]uring the winter season, utilization of the pipelines is normally close to full capacity. Consequently, only marginal increases of Norwegian exports are technically possible" (Appendix I). With pipelines working at almost full capacity in the winter season, it is not possible to drastically increase exports to the EU in the short term, no matter the production levels.

Researchers are not in agreement on when Norwegian natural gas production will reach its peak. However, according to current estimates, in the medium and long term, Norwegian production of natural gas is still anticipated to have a period in which it is set to increase, before it then gradually decreases. This development was seen in Figure 3.2. in the previous chapter. The Barents Sea is an area on the NCS which is expected to hold large natural gas resources, though these are not yet proven. As can be seen in table 3.1., there are an estimated 740 bcm in undiscovered natural gas resources in the Barents Sea alone. The Norwegian Sea is also expected to hold a great deal of undiscovered resources. These are estimated at about 465 bcm. From the available estimates of resources and future gas production it is indicated that Norway will not be able to significantly increase its role in the EU's imports of natural gas. Many fields have reached maturity, and getting new fields on stream takes time. Thus, new fields and efforts to improve extraction from the existing ones, will mainly be to keep up production, not to increase it. Production levels in the long term will be dependent on the number and size of new discoveries, but for the foreseeable future, production will be relatively stable.

4.3. Would it be in the EU's interests to import more gas from Norway?

Norway is currently the second largest exporter of natural gas to the EU, after Russia. Thus, if the EU were to import larger quantities of gas from Norway, would it still be following along the lines of its diversification strategy? Importing more gas from Norway would still mean that the EU would be highly dependent on only a few suppliers. Nevertheless, it would ensure stable access to affordable gas, as Norway opposes politicisation of energy and rather treats it as a regular commodity. The main point for the EU's diversification strategy, in the short term, seems to be to reduce dependence on Russian deliveries of natural gas, and not deliveries from all suppliers. This is illustrated in the European Energy Security Strategy from

2014, where it is stated that “[t]he Union must reduce its external dependency on *particular* [emphasis added] suppliers by diversifying its energy sources, suppliers and routes” (European Commission, 2014a, p. 20). It is reasonable to assume that this reference to ‘particular suppliers’ is directed at Russia. Further, a reinforced partnership with Norway, as well as acceleration of the Southern Gas Corridor and a gas hub in Southern Europe, is mentioned as efforts which should be pursued to reduce dependency. As Norway is referred to as part of the solution to the diversification strategy, it signifies that it is desirable to import more Norwegian gas, even though this will increase dependency, just on another, more stable supplier. The same document states that Norwegian production of natural gas has the potential to increase, and that the EU must improve its infrastructure to arrange for the gas to reach every region of the EU. This shows that the EU is expecting imports from Norway to increase, which in turn means that it is desirable from the EU’s point of view.

Today, Russia is the largest supplier of natural gas to the EU, but their relationship has encountered some challenges. Firstly, the gas crises of 2006 and 2009 put strains on their relations as Russia proved itself to be an unreliable supplier since it was willing to use gas as a political tool. Secondly, Russia has hindered the EU’s efforts of diversification. This was seen when South Stream was proposed as a competing project to the Nabucco pipeline. With the Nabucco pipeline, the EU sought diversification of supply, namely avoiding Russian gas and importing from a new region. Russia launched South Stream, and as with Nord Stream, offered diversification of routes (Stefanova, 2012, p. 59). Russia prefers to deal with the EU member states bilaterally, and has followed a strategy of divide and conquer among them. This has allowed Russia to keep good relations with some states, while using gas to be able to put pressure on others. This has consequently made it more challenging for the EU to unite and ‘speak with one voice’ on energy matters, and thus hinders the EU in pursuing what they measures they want, as these will not fit every member state’s interests. Nonetheless, with the EU’s increasing gas deficit, Russia’s vast natural gas resources are needed to meet the growing energy demands.

The EU’s diversification strategy is not about halting all imports of natural gas from Russia, but rather to reduce them so that the EU will not have to depend to such a great extent on a supplier which uses gas as a part of its foreign policy. In this respect, Norway stands out as a favourable alternative as it does not politicise its energy exports. Proedrou (2012) states that “[c]ontrary to Russia, however, the Norwegian gas sector adheres to liberal principles. Its function is distinct from political considerations” (p. 108). Proedrou further states that Norway is not viewed as a potential threat by any of the EU member states, a trait which is

very advantageous for a supplier of energy. Further, Norway has a politically stable form of government, even with leadership changing between different political parties. This makes Norway a predictable and reliable partner. Martin Bachmann stated that the North Sea – and especially Norway – will be essential for Europe’s supply of oil and gas in the future. Norway has the necessary resources, is politically stable, and has excellent infrastructure (Wintershall, 2014, para. 1). President Barroso acknowledged Norway’s role as a stable supplier in 2013, when he stated that “[w]e very much value Norway as an energy partner, a reliable partner of the European Union” (European Commission, 2013b, p. 2). The EU pursues several measures to reduce its dependence on Russia. These include the diversification strategy, increasing energy efficiency, and increasing the share of renewables in the energy mix. However, it must be mentioned that these efforts are not pursued solely to reduce dependence on Russia, but that increasing energy efficiency and the share of renewables is also a part of the EU’s climate policy to reduce greenhouse gas emissions.

The ongoing conflict in Ukraine has seriously affected EU-Russia relations. The European Commission stated in a communication that “[...] the Ukraine crisis with all its risks for security of supply demonstrates once more what the EU stands to gain from well-integrated and well-connected energy markets with diversified supplies and solidarity in the face of crises” (European Commission, 2014c, p. 3). The EU has adopted sanctions against Russia, and some of the activities between them have come to a halt due to this conflict (European Union External Action Service, n.d.). The stress-test exercise, carried out in the autumn of 2014, was to assess the resilience of the European gas system in coping with a severe disruption of gas supply to the EU that winter. The scenarios ranged from a halt in all supplies transiting Ukraine to a full disruption of all Russian gas supplies. The EU preparing for such a disruption shows to which extent Russian gas deliveries are considered to be unreliable. The stress-test exercise did not include a scenario of a possible disruption of supplies from Norway. Rather, Norway was asked to inform of its ability to respond to the possible disruption scenarios with increased deliveries (European Commission, 2014d). In other words, in the case of a shortage of supply from Russia, the EU wished to increase their imports of Norwegian natural gas.

Norway and the EU share many similarities. There are shared values, such as democracy, human rights, and within the field of energy policy, liberalisation, as well as a dedication to reducing greenhouse gas emissions. The Ministry of Foreign Affairs (2015) states that Norway cooperates with the EU because they share a common set of values and because they need common solutions to common challenges (p. 2). On the close relationship

between the EU and Norway, Claes states that “Norway seems to be of minor importance if one reads the energy strategy documents of the Commission, but this is probably rather a result of the perceived economic and political proximity between the EU and Norway” (Claes, 2009, p. 49). Shared values have contributed to the two parties having such good relations, which are considered stable and reliable. In fact, Norway can almost be considered a domestic source of natural gas as it is a part of the EU’s internal energy market. The same cannot be said about Russia. As the Ukraine crisis has worsened the relationship between the EU and Russia, these relations are presently not considered stable and reliable.

4.3.1. Changes in how Norway and Russia are mentioned as suppliers of gas

As Claes (2009) stated, mentions of Norway in EU documents have not reflected its importance as a supplier to the EU, though this can be due to their close and predictable relationship. From hardly being mentioned in EU documents, more attention is now being given to Norway as a supplier of natural gas, especially when seen in perspective of the deterioration of EU-Russia relations. The European Security Strategy from 2003 states that energy dependence is a concern for Europe, but when it comes to suppliers, it mentions that most of its energy imports “come from the Gulf, Russia and North Africa” (European Council, 2003, p. 3). Here, Norway is not mentioned at all as a supplier of natural gas to the EU. The worsening state of the EU’s relations with Russia, and the development of its partnership with Norway, can be seen in the communications from the European Commission. In the Green Paper from 2006, the focus is on establishing a new energy partnership with Russia. “A new initiative is particularly opportune with regard to Russia, *the EU’s most important energy supplier* [emphasis added]. The EU, as Russia’s largest energy buyer, is an essential and equal partner in this relationship” (European Commission, 2006, p. 15). Norway is mentioned as being one of the EU’s most important strategic energy partners, and that the EU should focus its attention on facilitating Norway’s efforts to develop resources in the high north in a sustainable manner. In the communication on the Second Strategic Energy Review from 2008, Norway’s role in enhancing the EU’s security of supply is highlighted, and that “maximising the long-term output of the Norwegian continental shelf on a sustainable basis is of equal interest to Norway and the EU” (European Commission, 2008a, p. 7). Here, the EU shows that it is in its interests as an importer of Norwegian gas to maintain the output from the NCS, just as it is in the interest of Norway as the exporter. With regard to Russia in this document, the EU focuses on renewing the agreement already in place between them. It states

that “Russia will remain the EU’s main energy partner far into the future and more needs to be done to ensure that this relationship is based on trust [...]” (European Commission, 2008a, p. 8).

In 2014, after the Ukraine conflict, the rhetoric regarding Russia changed. The communication on the stress-tests showed that the EU regarded Russia as an unreliable partner, and that a disruption of supplies was a very potential threat (European Commission, 2014d). This was further shown in the communication on the energy union, where the Commission states that “[w]hen the conditions are right, the EU will consider reframing the energy relationship with Russia based on a level playing field in terms of market opening, fair competition, environmental protection and safety, for the mutual benefit of both sides” (European Commission, 2015a, p. 7). In the same document, the EU states that it will further develop its partnership with Norway, and continue to integrate Norway fully into its internal energy policies. Russia’s actions in Ukraine, and the subsequent sanctions from the EU, have had drastic consequences for their relationship. The European Commission sets conditions for reframing its energy relationship with Russia. Here, the poor state of their relations is clear to see as there is no mention of Russia’s vital importance as a supplier of natural gas. Rather, Norway is highlighted as a partner and supplier of natural gas. The EU also highlights its efforts to improve its relationship with Ukraine. Clearly, Russia’s actions in the Ukraine have left their mark.

4.3.2. Energy policy-making in the EU

Energy policy has been regarded as a national prerogative, closely linked with national security and public service (Grätz, 2011, p. 61). Energy issues are therefore considered to be strongly interwoven with wider foreign policy considerations (Proedrou, 2012, p. 49). This close connection to national security and foreign policy has led the EU member states to be reluctant to concede their national sovereignty in this field. This reluctance to establish a common energy policy, illustrate that the EU is first and foremost an intergovernmental organisation. The member states’ preference to keep this policy area, which is widely regarded as ‘high politics’, on the intergovernmental level is in line with the ideas of Stanley Hoffmann and Andrew Moravcsik (Cini, 2013). In other fields, such as commercial policy, which is considered to be an area of ‘low politics’, and hereunder competition policy, competence has been given to the European level. Thus, the focus in the energy policy field at the European level, has been on developing a competition policy for this sector. In the communication on security of energy supply and international cooperation, the European

Commission states that “[s]ecure, sustainable and competitive energy is of fundamental importance to the EU's economy, industry and citizens and a core goal of EU policy” (European Commission, 2011, p. 2). It further states that to achieve this goal, “it needs adequate instruments to act within the EU and to promote its interests in relation to third countries” (European Commission, 2011, p. 2). Since the Lisbon treaty in 2009, energy policy has been an area of shared competence between the European Commission and the EU member states. Thus, the European Commission has right of initiative in the energy field, and can propose measures to improve energy security. However, as Youngs (2011) points out, “[o]bjective energy dependencies and mixes still engender very different energy narratives between Member States”, and the proposals from the European Commission have to be approved by the 28 member states (p. 57). It is therefore difficult to get any concrete measures through the policy-making system. The European Commission’s proposal for the energy union only contained vague outlines of the objectives it wished to achieve. Since there are so many differences among the EU member states regarding energy mixes, state of import dependency, and degree of diversification of sources, suppliers and transit routes, any concrete measures to increase energy security will be very difficult to pass as they will hardly fit every member state’s needs and interests.

4.3.2.1. The EU’s difficulties with ‘speaking with one voice’

Joint decision-making, or ‘speaking with one voice’, in the energy field has proven difficult for the EU member states. Several factors affect how the member states shape their energy supply policies. Schmidt-Felzmann identifies four such factors:

First of all, the intensity of bilateral energy supply relations with Russia, second, the geographic location and access to alternative sources of supplies, third, their bargaining position and standing in relation to Russia which is influenced by their size (large markets vs. small markets) and position in the supply chain (strategic transit state vs. destination countries) (Schmidt-Felzmann, 2011, p. 593).

Lastly, she states that how the states assess Russia as an international actor, and its tendency to use energy supplies as a political tool, is the main driver for their policies on natural gas supply (Schmidt-Felzmann, 2011, p. 593). The EU member states have unequal domestic production, consumption, and import patterns, and it is therefore challenging to agree on a common policy that will fit these differing needs (Stefanova, 2012, p. 55). The Eastern

enlargement in 2004 increased the differences in interests among the member states. Many of the new member states were highly sceptical of Russian policies, and thus have a foreign policy priority of eliminating Russian influence (Proedrou, 2012, p. 91). Two main groups emerge in this regard. On the one hand, there are the smaller Central and Eastern European states who want to adopt a more common stance against Russia, and diversify their sources of supply so that they will not be so dependent on Russia as a supplier. Because of their historical experiences as weak states that were greatly influenced by power rivalry on the European continent, the first group tends to regard Russia as a threat (Schmidt-Felzmann, 2011, p. 593). On the other hand, there are many of the larger Western European states which tend to focus on the benefits which can be gained from having a constructive partnership with Russia (Schmidt-Felzmann, 2011, p. 593). This group already have relatively diverse sources, and mostly seek to diversify routes of supply so they will not be too vulnerable in case of a disruption. This conflicts with the interests of the smaller states, as in the case of Poland and the Nord Stream pipeline, as it reduces their importance as transit states and thereby their stance against Russia.

As there currently are few options for diversification away from Russia, for states like Poland, who desperately seek to diversify, Norway is a desirable alternative. Poland is dependent on Russian gas to cover about half of its consumption (see table 2.1.), but 91.6% of its total imports of gas stems from Russian pipelines (Roth, 2011, p. 607). Consequently, Poland wants to import Norwegian gas, as was seen with its efforts to connect to the Skanled pipeline. Since the project was cancelled, Poland has instead been focusing on building an LNG terminal to supply it with natural gas from Qatar (“Weaning Poland off Russian gas”, 2014).

Germany, however, has diversified routes and sources of supply. About 36% of its consumption is covered by imports from Russia, while 27% stems from Norwegian gas imports (European Commission, 2009, Annex 5). Further, Germany and Russia have had a special relationship, which has been characterised by mutual dependency. However, Germany has also been made sceptical of Russia’s willingness to use gas deliveries as a political tool (Sander, 2007, Rahr, 2007, p. 140). Nonetheless, since Germany imports natural gas from both Russia and Norway, it has a constructive relationship with both suppliers as it is not overly dependent on either one. As Casier (2011) mentions, because of the different experiences and perceptions about Russia, “[c]ountries like Poland or Lithuania link energy security more explicitly to reducing dependence on Russia, though they are also concerned about a lack of EU solidarity” (p. 539). Thus, there is no consensus on a comprehensive,

common approach to the diversification strategy (Schmidt-Felzmann, 2011, p. 593). Rather, there are fragmented, and sometimes conflicting, approaches in place, with the EU member states fending for their own national interests. The EU member states' varying degrees of dependency on Russian gas have affected their outlooks on the suppliers of natural gas. As Russia has used natural gas as a foreign policy tool, and follows a divide and conquer strategy among the member states, it has had negative impacts on how it is regarded as a supplier. Norway, on the other hand, as it has been a stable supplier to the EU, is seen in a positive light. Thus, as Norway is a predictable and reliable supplier which does not use energy to achieve political objectives, it is a favourable option, especially for Russia-sceptical states like Poland. Nevertheless, since there is no consensus on a common energy supply policy, there is not consensus on whether or not to increase imports of Norwegian natural gas either.

4.4. How does the EU regard Norway as a supplier to reduce dependence on Russian natural gas?

In the same way that the EU is a stable buyer of gas for Norway, Norway is a stable supplier of gas to the EU. This analysis has shown that it would be in Norway's interests to export more gas to the EU, as well as in the EU's interests to import more from Norway. Despite that it would still mean a high degree of dependency on a few suppliers for the EU, Norway is a preferential supplier as it does not politicise deliveries. This is the case as the main focus of the diversification strategy seems to be to reduce dependence on Russian deliveries of gas. With the recent developments in Ukraine, the EU's relationship with Russia has taken a turn for the worse, and not only in the energy field. It has affected several areas of their cooperation, and left the EU preparing for a possible severe disruption, as was seen with the stress-test exercise. With this worsening of their relations, Norway, which has been a stable and reliable partner, would serve as a better option for the EU. As President Barroso stated in a speech in 2008, "[i]n fact, if all our external suppliers were as sure and reliable as Norway, energy security would be much less of an issue within the EU today" (European Commission, 2008b).

However, the estimates for future production of natural gas, show that Norway cannot significantly increase its deliveries to the EU, neither in the short term or the long term. When the EU carried out the stress-test, Norway made it clear that deliveries were already so close to capacity that it could not significantly increase it in case of a disruption that winter. As production of natural gas in Norway is expected to increase over the next few years, deliveries may increase to a certain extent, but overall they will remain relatively stable. Thus, the EU

regards Norway as a stable and reliable supplier, especially in the context of Russia's actions in Ukraine. Although the EU may regard Norway as a reliable supplier, there is presently not agreement in the form of a common supply policy on whether or not to increase imports of Norwegian natural gas. Nevertheless, Norwegian gas imports cannot be a solution to reduce dependence on Russian gas as Norway does not have the production levels, nor the pipeline capacity, to significantly increase exports.

4.5. The EU's options for diversification

Since Norway is not a good prospect for reducing dependence on Russian gas, not in the case of a disruption nor in the long term, what options does the EU have? The situation as it is today, with little diversification of sources and routes of supply in large parts of the EU, leaves it very vulnerable to disruptions of supply. Changing the energy mix to include a larger amount of renewable energy sources, will increase domestic production of energy, but this is a project that takes time, and fossil fuels are the dominant sources of energy for the time being. Moving away from coal and using more natural gas will help the EU to reach its climate goal of reducing greenhouse gas emissions, but leads to an increase its dependency on external suppliers of gas.

To achieve greater diversification, the EU has a few options. It can increase imports from countries that the EU already imports natural gas from, such as Algeria. It can also import gas from new regions. It has proven difficult to import natural gas from the Middle East, but the EU envisages, in the long term, the possibility for countries such as Iran and Iraq to connect to the Southern Gas Corridor (European Commission, 2014a, p. 16). The area around the Caspian Sea is a region which holds great potential, but there is currently no clear demarcation of exploration rights, which has made production of natural gas a complicated matter. The EU attempted to connect with this region with the Nabucco pipeline, but the member states were too divided on the subject, and some supported the competing Russian project, South Stream, which contributed to the cancellation of the project. If the EU can increase its solidarity and be able to speak with one voice, maybe then such a project could be accomplished. However, with Russia following a strategy of divide and conquer among the member states, and launching competing projects, it will not be an easy task. To further complicate matters, Russia is buying natural gas from the region, transporting it through domestic pipelines, and then sells it to the European market. This development is worrying for the EU as its hopes for true diversification is centered upon this region. Thus, if no energy

corridors connecting this region to the EU are created in the future, gas from the Caspian Sea region will continue to be a supplementary to Gazprom's export potential rather than become an alternative source for the EU (Proedrou, 2012, p. 117).

From these differing approaches it can be seen that there is no consensus on an energy supply policy among the EU member states. This means that there is not agreement on whether or not an increase in Russian gas supplies is desirable, nor on whether or not to increase imports from alternative suppliers in order to reduce dependence on Russian gas (Schmidt-Felzmann, 2011, p. 593). Instead, piecemeal, and sometimes conflicting approaches, are in place, with the member states safeguarding their own national interests rather than acting in solidarity. Some member states mainly wish to diversify their routes of supply, not the suppliers, as was seen with Germany and the Nord Stream pipeline. Others desperately seek to diversify their sources of supply, as they fear Russia's willingness to use natural gas supplies to achieve its political objectives. Thus, for the EU to succeed with its objective of diversification, it must first agree on which approach to take.

5. Conclusion

The main purpose of the thesis has been to examine Norway's role as a supplier in reducing EU dependency on Russian natural gas. In this regard, it has examined how the EU considers Norway as a supplier based on its relationship with Russia in the natural gas field. The research question has been analysed by exploring whether it would be in Norway's interests to export more gas to the EU, whether Norway will have capacity to export larger quantities of gas, and whether it would be in the EU's interests to import more gas from Norway. Hereunder, the thesis has examined whether it would be in line with EU policies in the energy field. Here, it concluded that Norway stands out as a favourable option, as the main point for the diversification strategy seems to be to reduce dependence on Russian deliveries of gas. This is because Russia has proven itself to be an unreliable supplier of natural gas to the EU. The gas crises of 2006/2009, as well as the ongoing conflict in Ukraine, have illustrated its willingness to use gas to achieve its foreign policy objectives. They also revealed the EU's high dependence on a single supplier, and thereby its vulnerability in case of a supply disruption. Russia has pursued a strategy of divide and conquer among the EU member states. This has allowed it to have constructive partnerships with some member states, such as Germany, while at the same time being able to put pressure on others, such as Poland. This has affected the EU's relations with Russia, and it thereby wishes to reduce its dependence on Russia as a supplier of natural gas. It has also affected the EU's ability to agree on what measures to take to increase its energy security. Some member states mainly wish to diversify their routes of supply so they will not be too vulnerable in case of a supply disruption. This was illustrated with the Nord Stream pipeline between Russia and Germany. Other member states desperately wish to diversify their sources of supply. Poland is an example of such a member state, and it voiced its concerns regarding the Nord Stream pipeline, as it would decrease Poland's standing as a transit state and thereby reduce its stance against Russia.

There are massive differences among the EU member states concerning energy, especially in relation to natural gas. There are differences in what share of the energy mix consists of gas, to what extent they are dependent on imports, and to what degree they have diversified sources, transit routes and suppliers of natural gas. Thus, the member states are also very diverse in regards to their vulnerability to a disruption in natural gas supplies. The EU currently imports over half of the gas it consumes. In 2012, 31% of total natural gas imports came from Norway, while 32% stemmed from Russia (European Commission,

2014b, p. 44). The domestic production of natural gas in the EU is declining, and it will therefore become more dependent on imports to cover its consumption.

Norway is considered a favourable alternative in the pursuit of diversification as it does not politicise its natural gas deliveries, and thus, none of the EU member states regard it to be a potential threat. Germany already imports large quantities of natural gas from Norway, and Poland tried to connect to the Skanled pipeline so that it could import Norwegian gas through Denmark. However, since there is no common energy supply policy in place, there is not agreement among the 28 EU member states on whether or not to reduce dependence on Russian gas, nor on whether the EU should import more from alternative suppliers, such as Norway.

The thesis further examined energy policy-making in the EU, and hereunder, it's difficulties with 'speaking with one voice'. The EU member states have diverse energy mixes and varying states of import dependency. Some member states are dependent on Russia as their sole supplier of natural gas, while others have diversified routes and sources of supply. These large differences in interests among the member states, in a policy area that is considered to be at the strongly linked to national security, have made it difficult for them to give up national sovereignty in this area and establish a common EU energy policy (Grätz, 2011, p. 61). Therefore, the member states have preferred to keep energy policy at the intergovernmental level. At the EU level, the focus has instead been on developing a competition policy for the energy sector, since commercial policy falls under the domain of European Commission. However, with the Lisbon treaty, energy policy became a field of shared competence between the European Commission and the member states. Nevertheless, on the European stage, 28 diverse member states have to agree on the measures to take to enhance their energy security. The vast differences among the member states has made joint decision-making and acting as one unit difficult. Thus, there are 28 different, piecemeal approaches in place, in which the member states fend for their own national interests.

The thesis has established that it would be in Norwegian interests to export more natural gas to the EU, as it is Norway's closest market and there is an extensive network of infrastructure in place. The EU is a stable buyer of Norwegian natural gas, and offers Norway security of demand. In connection with the stress test in 2014, the EU requested information on Norway's capability to increase deliveries in the short term. However, export of natural gas in the winter months is currently running at close to full capacity, and therefore, Norway cannot respond with increased exports in case of a supply disruption. The estimates for future

production show that the output from the Norwegian continental shelf is set to remain relatively stable in the future. Thus, exports to the EU in the long-term are not likely to be able to substantially increase.

The analysis has shown that Norway has an important role as a supplier of natural gas to increase the EU's energy security. It is a predictable and reliable supplier, and the close relationship between the EU and Norway is one of mutual dependency. The EU offers Norway security of demand, while Norway increases the EU's security of supply. However, since the EU thus far has been unable to 'speak with one voice' and agree on what measures to pursue to increase energy security, and as production on the Norwegian continental shelf is set to remain relatively stable, Norway does not offer the EU good prospects for diversification and reducing its dependence on Russian gas.

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Appendix A. Natural gas in energy mix in 2013, bcm and % of total energy mix

	Gas in energy mix, bcm	Gas in energy mix, % of total
European Union (EU28)	465,79	23,2%
Austria	8,44	20,8%
Belgium	17,33	25,4%
Bulgaria	2,88	14,2%
Croatia	2,75	29,2%
Cyprus	0,0	0%
Czech Republic	8,36	16,5%
Denmark	4,01	18,4%
Estonia	0,67	8,3%
Finland	3,44	8,4%
France	46,97	15%
Germany	87,75	22,5%
Greece	3,90	13,3%
Hungary	9,28	33,9%
Ireland	4,66	28,2%
Italy	69,09	35,9%
Latvia	1,45	27%
Lithuania	2,61	32,4%
Luxembourg	1,08	20,6%
Malta	0,0	0%
Netherlands	40,14	41,1%
Poland	16,53	13,5%
Portugal	4,52	16,6%
Romania	11,72	30,1%
Slovakia	5,80	27,9%
Slovenia	0,83	10,1%
Spain	31,34	21,9%
Sweden	1,16	1,9%
United Kingdom	79,08	32,7%

Source: Eurostat, 2015a.

Appendix B. Imports of natural gas, 2013, bcm

	Russia	Norway
European Union (EU28)	125,74	95,22
Austria	6,56	1,45
Belgium	0	6,43
Bulgaria	2,70	0
Croatia	0	0
Cyprus	0	0
Czech Republic	8,46	0,004
Denmark	0	0,37
Estonia	0,68	0
Finland	3,50	0
France	9,20	18,59
Germany	39,98	20,26
Greece	2,57	0
Hungary	7,77	0
Ireland	0	0
Italy	28,07	2,00
Latvia	1,70	0
Lithuania	2,66	0
Luxembourg	0,26	0,66
Malta	0	0
Netherlands	4,29	16,15
Poland	0,006	0
Portugal	0	0,25
Romania	1,34	0
Slovakia	5,51	0
Slovenia	0,49	0
Spain	0	1,10
Sweden	0	0
United Kingdom	0	27,96

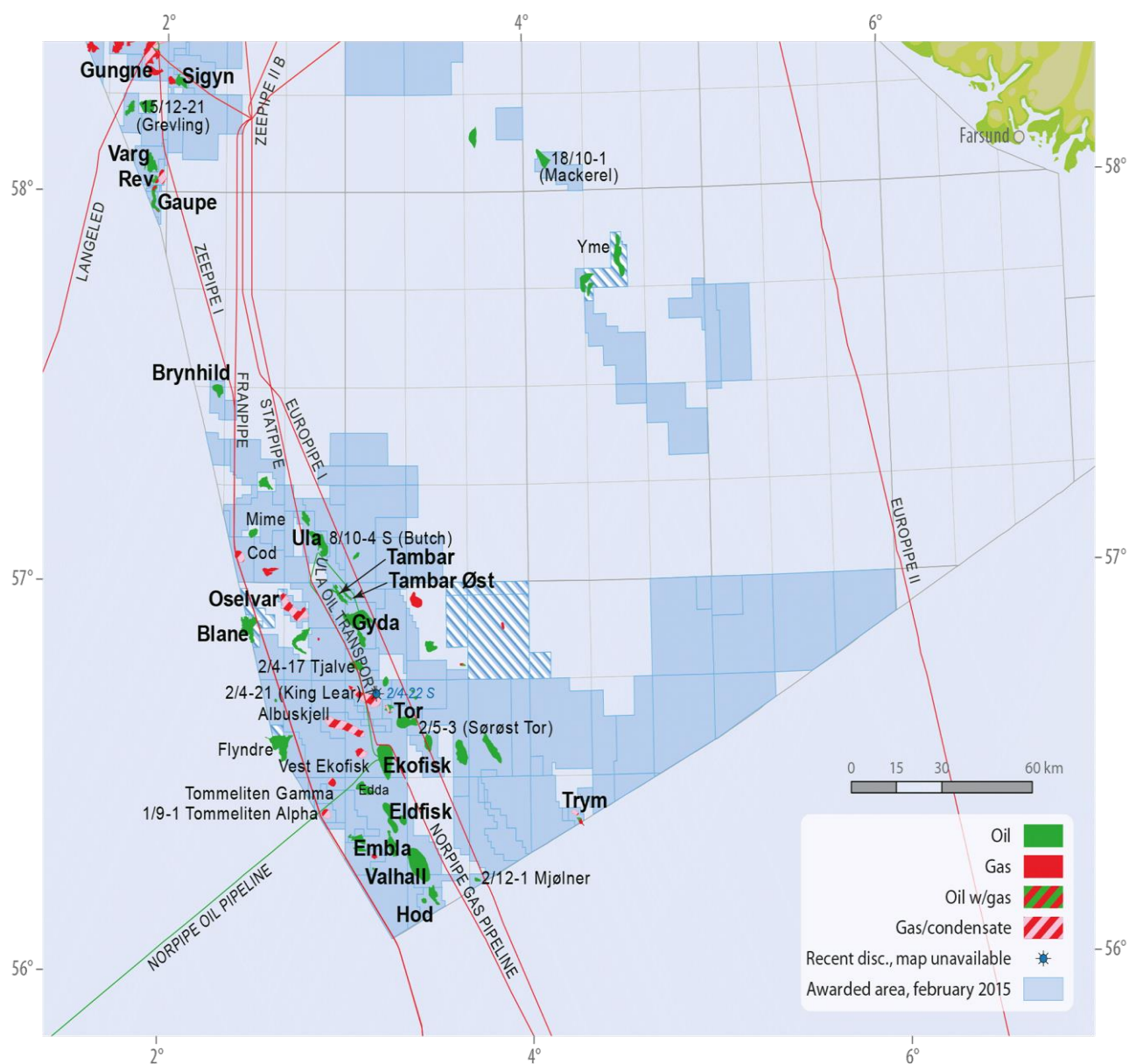
Source: Eurostat, 2015b.

Appendix C. Gross inland consumption of natural gas, 2004-2013, bcm

European Union (EU28)			
2004	452,77	2009	500,58
2005	536,10	2010	538,66
2006	530,18	2011	486,62
2007	523,87	2012	473,69
2008	534,51	2013	465,79

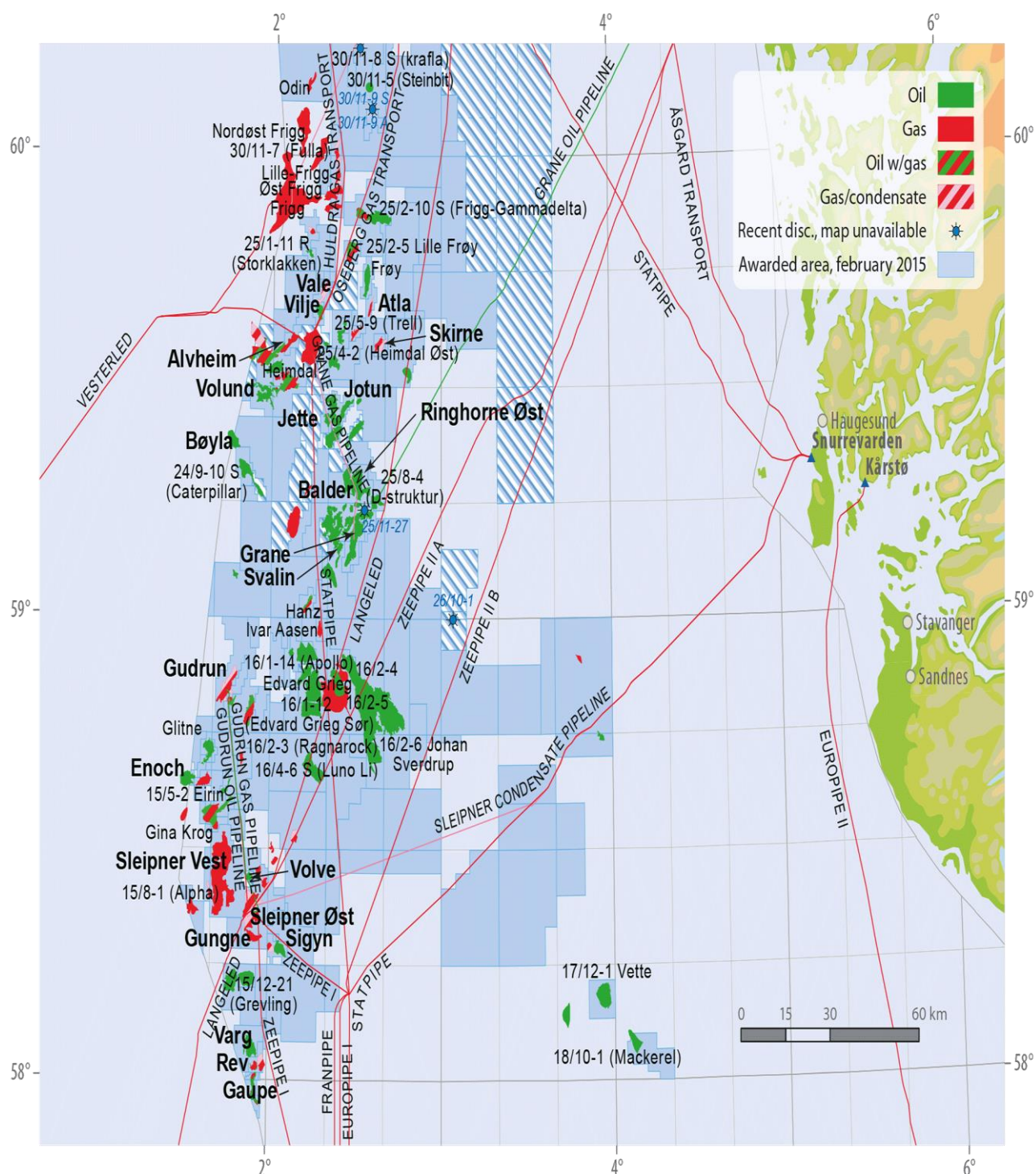
Source: Eurostat, 2015a.

Appendix D. Fields and discoveries in the southern North Sea



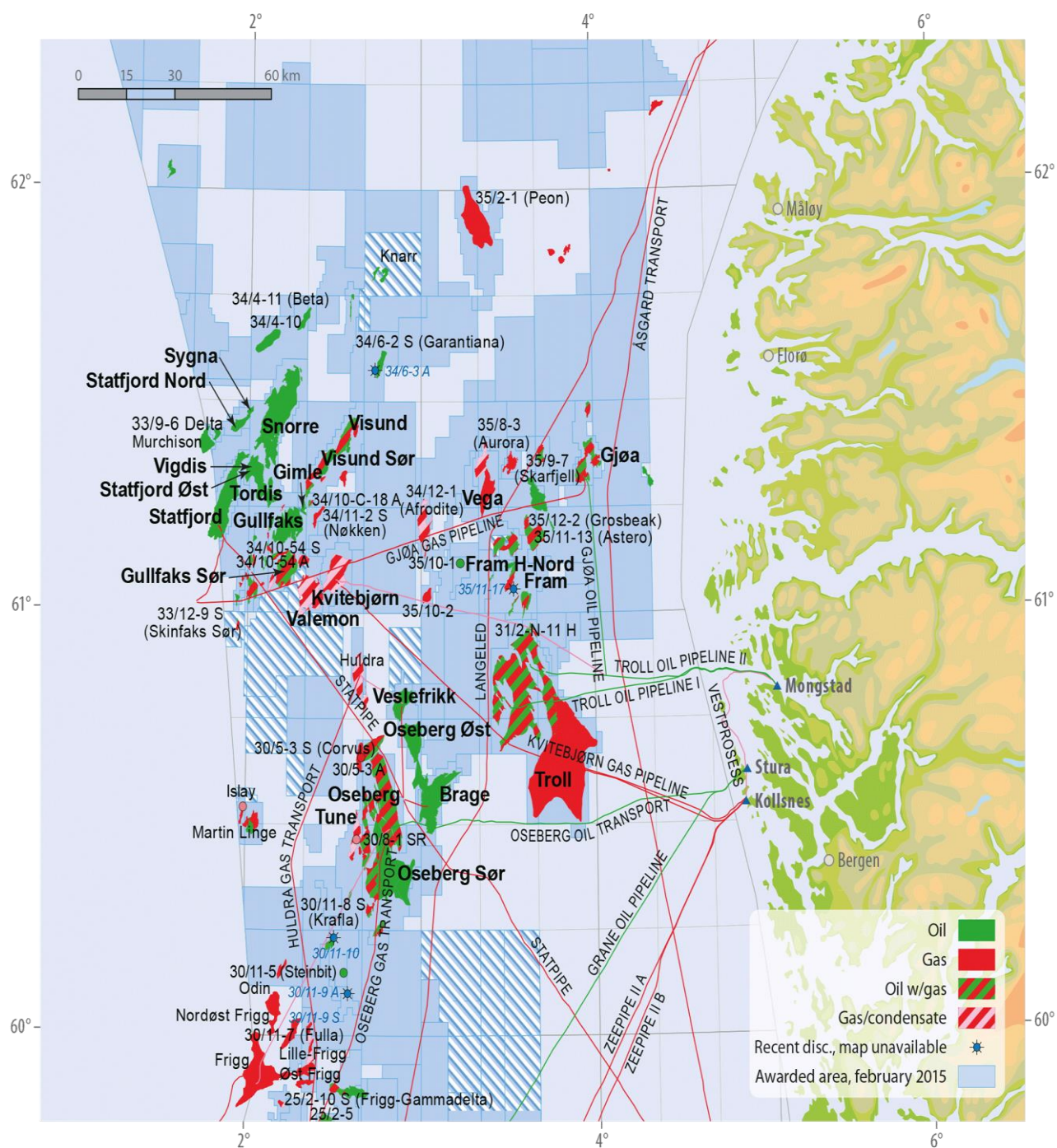
Source: Norsk Petroleum, 2015c.

Appendix E. Fields and discoveries in the central North Sea



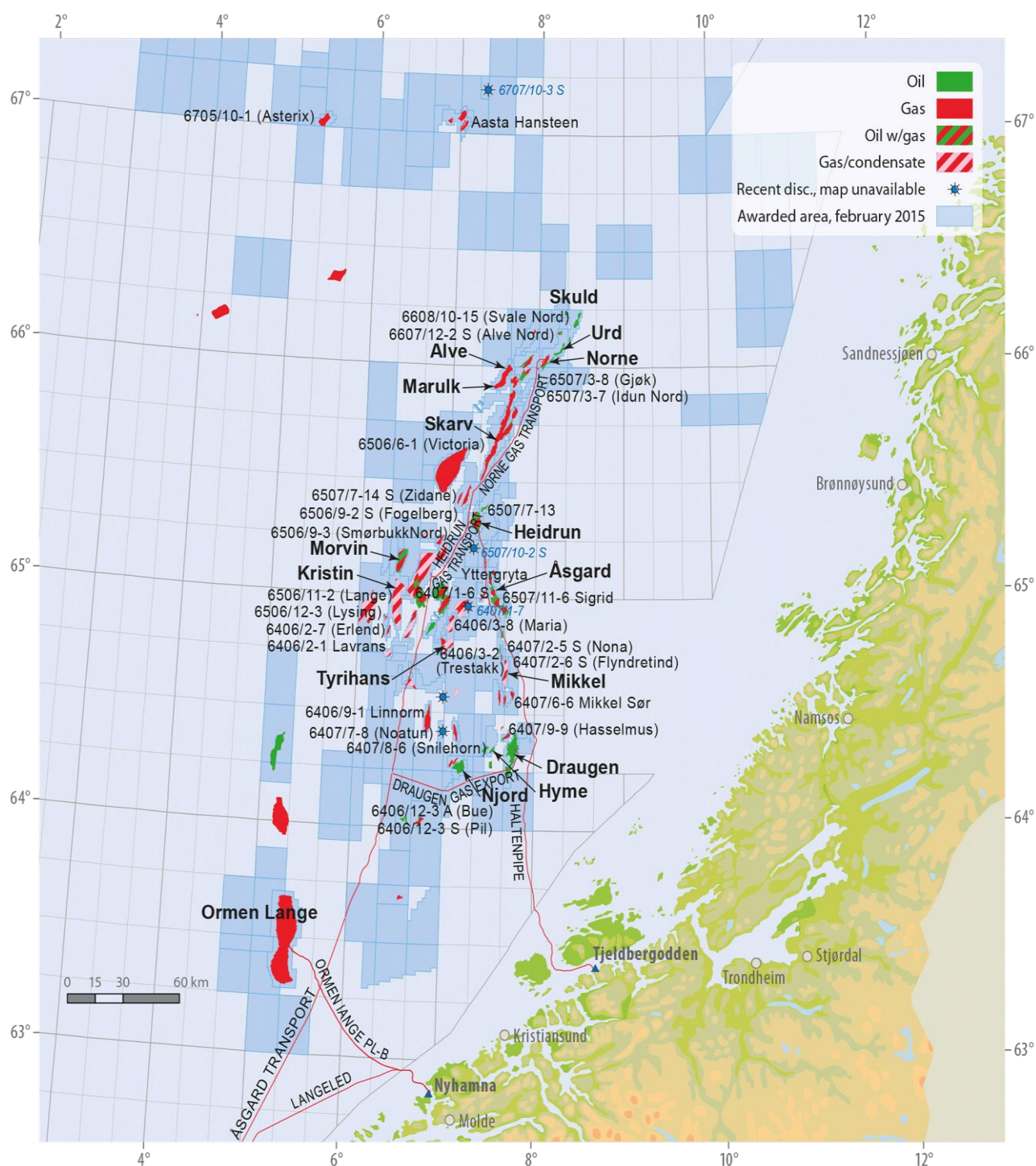
Source: Norsk Petroleum, 2015c.

Appendix F. Fields and discoveries in the northern North Sea



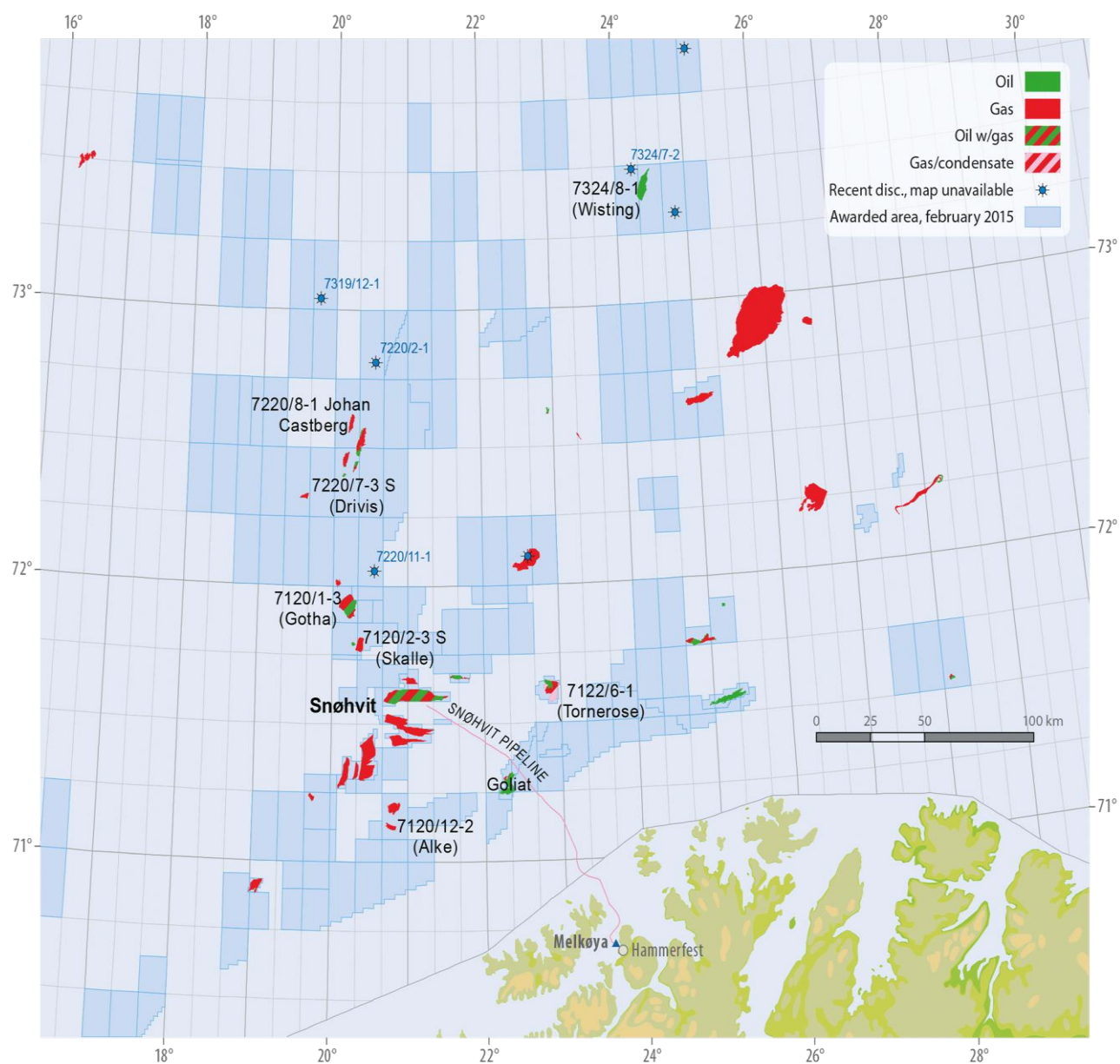
Source: Norsk Petroleum, 2015c.

Appendix G. Fields and discoveries in the Norwegian Sea



Source: Norsk Petroleum, 2015c.

Appendix H. Fields and discoveries in the Barents Sea



Source: Norsk Petroleum, 2015c.

Appendix I. Letter from the Minister of Petroleum and Energy to the Vice President of the European Commission in charge of energy



ROYAL NORWEGIAN MINISTRY OF PETROLEUM AND ENERGY

The Minister

H.E. Mr Günther OETTINGER
Vice President of the European Commission in charge of
Energy
BERL9/24
B-1049 Brussel

Your ref
EM/ds, Ares(2014)2392136

Our ref
08/1309

Date
2 SEPT 2014

Dear Vice President,

I refer to your letter dated 16.07.2014 regarding European Energy Security.

As a large exporter of natural gas and oil to Europe and part of the internal energy market under the EEA agreement, Norway supports the goal of high energy security in Europe. Natural gas is an important part of this and will remain important for decades to come.

In May 2014 the Commission published a Strategy on European Energy Security. In relation to the implementation of measures to address the risk of supply disruptions, you have requested Norway to answer a set of questions aimed at identifying any measures Norway can apply in case of supply disruptions of gas from Russia to the EU or Contracting Parties and candidates of the Energy Community.

Norway welcomes the opportunity clarify important issues related to these questions.

Gas

The Norwegian model

The management of Norwegian oil and gas resources is founded on a market based approach and a firm separation between government administration and commercial activities. This model ensures a competitive and efficient gas sector based on commercial considerations, lower costs, increased gas supply security and a predictable framework for both sellers and buyers.

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The Norwegian government maintains a political and legal framework that renders efficient management of our oil and gas resources. Within this framework, the companies involved are responsible for commercial issues, including the marketing of their gas.

Importance of a well-functioning European gas market

A well-functioning market, with diversified supply sources, well-developed gas infrastructure and effective price signals, is a prerequisite for ensuring gas flows where it is most needed, depending on supply/demand balances at any given time.

Short-term perspective on Norwegian gas production

At the beginning of 2014 The Norwegian Petroleum Directorate (NPD) estimated a gas production of approximately 106 billion cubic meters (bcm) in 2014 and 105 bcm in 2015. These estimates are based on provisional estimates of planned production from the companies. There is a number of uncertainties attached to these numbers. Actual production a given year will depend on a variety of factors such as marketing decisions of producing companies and planned and unplanned maintenance at different fields and installations.

Most of the producing fields on the Norwegian Continental Shelf contain both oil and gas. This means that gas cannot be produced independently from oil to secure sound resource management. The Ministry of Petroleum and Energy award production permits for both oil and gas. The production permits for gas can be annual or given for a multi-year period. The permits are based on geological aspects and other reservoir management considerations to ensure efficient and optimal resource management over the lifetime of the reservoir. Where relevant, the Ministry take oil recovery into account when awarding gas production permits.

Within the limits of the gas production permits, producing companies optimise their daily/monthly production according to their operational and commercial assessments. Therefore, it is not possible for Norwegian authorities to give an assessment of gas production on any given day.

Transport capacity

Total capacity in the transportation system bringing gas from the fields and processing facilities to the European market is about 358 million cubic meter (mcm) per day. Technical capacity on the different exit points is

- UK (St Fergus and Easington): 111 mcm/day
- France (Dunkerque): 55 mcm/day
- Belgium (Zeebrugge): 42 mcm/day
- Germany (Emden and Dornum): 150 mcm/day

In addition, Melkøya LNG facility has an annual capacity of approximately 5 bcm.

During the winter season, utilization of the pipelines is normally close to full capacity. Consequently, only marginal increases of Norwegian exports are technically possible.

Electricity

Total electricity interconnection capacity between Norway and the European Union is approximately 5.4 GW. The capacity is mainly between Norway and Sweden. There are also interconnectors to Denmark and the Netherlands, as well as some capacity to Finland. By 2015 the total capacity is expected to increase to approximately 6 GW due to a new interconnector to Denmark being commissioned towards the end of this year.,

The trade over the interconnectors is organised such that in general electricity flows from low-price areas to high-price areas. The prices are determined through European market coupling. The Norwegian electricity generation is mainly based on hydro power. Total electricity generation thus varies according to precipitation. Norway is a net exporter in most years, but is also a net importer in some years. Over the last 10 years the average net export has been nearly 7 TWh per year from Norway to the European Union.

The Norwegian Ministry of Petroleum and Energy is now assessing license applications for interconnectors to Germany in 2018 and the UK in 2020. Both of the interconnectors are planned with a capacity of 1400 MW and would, in sum, increase the total interconnector capacity from Norway with 2800 MW. Both the license and the investment decisions rely on the projects' socio-economic profitability. The Ministry is therefore conducting a thorough assessment of the application before concluding on the issue.

If you see a need for further expansions on these issues, this could be catered for in a meeting between representatives from our two organizations.

Yours sincerely,



Tord Lien