

NORTH OR EAST?
GERMANY'S CRUDE OIL AND NATURAL GAS SUPPLY FROM
NORWAY AND RUSSIA

Mattias Spies 144 108
University of Joensuu
Department of Geography
Master's thesis
February 2004

This work examines the crude oil and natural gas trade from Norway and Russia to Germany. There is a considerable need for energy import in Germany because only a small part of the national consumption can be met with domestic productions. This applies especially to crude oil and natural gas. Norway and Russia are among the leading crude oil and natural gas producers and exporters in the world. The geographical vicinity of these significant demand and supply potentials leads to extensive energy based relations between Germany and Norway respectively Russia.

The focus of this work is on the perception of and attitudes towards Norway and Russia as crude oil and natural gas suppliers for the domestic markets in Germany. Reporting from two leading German newspapers, Frankfurter Allgemeine Zeitung and Süddeutsche Zeitung, are regarded to be a valid source for detecting these attitudes and perceptions. Relevant articles are analysed with content analysis and further multi-methodological approaches. For this reasons the work provides at the beginning full description of the Norwegian and Russian crude oil and natural gas sector as well as detailed information on the German energy markets and policy.

It can be shown that differences in dealing with Norway and Russia in the articles exist. Accordingly, different perceptions and attitudes are detectable as well. This work shows where these differences can be found and examines their quality. It is argued that the reporting and the attitudes are not only based on economical facts but also on 'imagined space'. The need for impartial relations with both supplying countries is stressed.

Author: Mattias Spies

Student number: 144 108

The title of the research: North or East? Germany's crude oil and natural gas supply from Norway and Russia

Faculty/Subject: Faculty of Social Sciences/Human Geography

Pages: 127

Work: Master's Thesis

Time: February 2004

Key words: Energy, crude oil, natural gas, Germany, Norway, Russia

Table of contents

List of figures	v
List of tables	v
List of appendices	vi
List of abbreviations	vii
Preface	viii
1 Introduction	9
1.1 Aims and new economic geography	9
1.2 Basic concepts in the hydrocarbon sector	13
1.3 Structure of the study	13
2 Theoretical background	15
2.1 The Norwegian petroleum sector	15
2.1.1 History and development.....	15
2.1.2 The present situation of the Norwegian oil and gas sector.....	17
2.1.3 Major oil and gas fields and transportation facilities.....	21
2.1.4 Position of the oil and gas industry in the Norwegian economy	29
2.2 The Russian petroleum sector	31
2.2.1 History.....	31
2.2.2 Present situation of the Russian oil and gas sector	33
2.2.3 Major Russian oil and gas regions and transportation facilities.....	38
2.2.4 The oil and gas industry in Russia	43
2.3 German energy market and policy.....	46
2.3.1 Present situation of the German energy market.....	46
2.3.2 German energy policy	51
3 Method and research material	56
3.1 Content analysis in general	56
3.2 Research material: Newspaper articles from Frankfurter Allgemeine Zeitung and Süddeutsche Zeitung.....	60
3.3 Content analysis in this work	63

4 Analysis of the newspaper articles	65
4.1 Analysis instrument	65
4.1.1 Concrete central questions and categories of analysis	65
4.1.2 System of categories and analysis sheet.....	67
4.1.3 Codification instructions	79
4.2 Results of the content analysis	81
4.2.1 General assessment of the articles	81
4.2.2 Codifications of the content analysis' categories	84
4.2.3 Qualitative assessment of catchphrases and judging statements	90
4.3 Interpretation of the results	94
4.3.1 General assessment	94
4.3.2 Codifications.....	96
4.3.3 Qualitative assessment of catchphrases and judging statements	98
4.3.4 Linking approach	100
4.3.5 Concluding comments – answers to the research questions.....	102
5 Conclusions and discussion	105
References.....	113
Appendices.....	117

List of figures

Figure 1: Oil and gas production in Norway from 1971 to 2002.....	18
Figure 2: Recipients' shares on shipments of Norwegian crude oil in 2002.....	19
Figure 3: Recipients' shares on Norwegian natural gas export in 2002.....	20
Figure 4: Oil and gas transportation systems off Norway.....	28
Figure 5: Macroeconomic indicators of the petroleum sector.....	30
Figure 6: Russian oil and gas production 1991-2002.....	34
Figure 7: Non-FSU recipients' share of Russian natural gas export in 2002.....	38
Figure 8: Major oil producing and prospective regions and pipelines.....	39
Figure 9: Major natural gas producing and prospective regions and pipelines.....	40
Figure 10: Energy consumption by sectors in 2000.....	47
Figure 11: Shares of different energy sources of the total energy consumption in Germany 1990, 2001 and 2020.....	48
Figure 12: Import dependency of the energy supply in 2001.....	49
Figure 13: Oil imports by origin in 2000.....	50
Figure 14: Natural gas imports by origin in 2000.....	51
Figure 15: Goals of a sustainable energy policy.....	52
Figure 16: Framework for energy policy.....	55

List of tables

Table 1: Reserves in producing fields or fields with approved development plans.....	22
Table 2: Resources in discovered fields.....	23
Table 3: Articles on non-political and non-economical topics.....	82
Table 4: Articles with focus on non-energy topics.....	83
Table 5: Results of the general assessment of the articles.....	84
Table 6: Category 1, catchphrases and judging statements.....	85
Table 7: Subcategory 21, supply security.....	86
Table 8: Subcategory 22, argumentation on supply security.....	86
Table 9: Subcategory 23, development of supply security.....	87
Table 10: Subcategory 24, supply dependency.....	87
Table 11: Subcategory 25, dependency and bilateral relations.....	88

Table 12: Subcategory 26, future of dependency.....	88
Table 13: Subcategory 31, classification of attendant circumstances.....	89
Table 14: Subcategory 32, judging on attendant circumstances.....	89

List of appendices

Appendix 1: List of newspaper articles.....	117
Appendix 2: Analysis sheet.....	119
Appendix 3: List of catchphrase.....	122
Appendix 4: Matrix of the result of the content analysis.....	127

List of abbreviations

b/d	Barrels per day
BPS	Baltic Pipeline System
EU	European Union
FAZ	Frankfurter Allgemeine Zeitung
FSU	Former Soviet Union
GDP	Gross domestic product
LNG	Liquefied natural gas
N	Norway
NCS	Norwegian continental shelf
NGL	Natural gas liquids
NOK	Norwegian Crown
oe	Oil equivalents
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of Petroleum Exporting Countries
PJ	Petajoule
PSA	Production-sharing agreements
Rus	Russia
scm	Standard cubic metre
scm/d	Standard cubic metre per day
SDFI	State's direct financial interests
SZ	Süddeutsche Zeitung

Preface

Germany represents the fifth biggest energy market in the world and meets its significant needs for crude oil and natural gas consumption mainly by imports. Norway and Russia are on the other hand two of the leading oil and gas producers and exporters in the world. What would happen in Germany if these two countries would unexpectedly stop their crude oil and natural gas supply? Or, the other way around, what would cause a German decision to turn down Norwegian and/or Russian oil and gas deliveries from these both countries? And, could all three countries act in this way without harming their own interests? Admittedly, these scenarios are rather unlikely to become true. Nevertheless, they show the relevance of energy trade and energy-based relations between Germany and Norway as well as Russia.

These thoughts led me to the question how the supply of the two most important energy sources in Germany, oil and gas, from the two major suppliers, Norway and Russia, is perceived and dealt with. Are there any significant differences in dealing with Norway and Russia? Can a mutual dependency of suppliers and buyer on each other be detected? And, are oil and gas related aspects influencing the relations between these three countries? After dealing with the Norwegian oil and gas sector during previous studies these questions appear to me as an important and interesting enhancement of my former work. Furthermore, I aim to deal with energy, which is certainly one key issue in our industrial society, with an all-embracing approach rather than limiting it to economical viewpoints. In this way I want to contribute to a possible answering of the above-mentioned questions.

At this place I want to express my gratefulness for the help I received from different persons during doing this research. At first I want to mention my parents Christa and Paulfried who did not only helped me in financing my livelihood but also always supported me in going my way. For professional support and for sharing some of his views with me I want to thank my supervisor Dr. Markku Tykkyläinen. For practical and motivational help Torsten, Matthew and Kaisa acquire my thankfulness. Finally, I want to mention Urho Rantalainen who was responsible for many special moments and contributed to my good time in Finland.

Reprint of figure four with permission of the Norwegian Petroleum Directorate and of figure eight and nine with permission of the IEA/OECD.

1 Introduction

“Öl ist das größte,
das alles durchdringende ‘Business’ der Welt,
die größte der großen Industrien...”¹
(Yergin 1991, 11)

“Oil means trouble”
(Hagland 2000)

1.1 Aims and new economic geography

Crude oil and natural gas are two of the main powers of our present industrialised society. They are directly connected with the economic viability of all Western countries and the individual well being of billion of human beings, or as Smil (1994, 157) expresses it: “...modern civilization depends on extracting prodigious energy stores and is depleting finite fossil energy that could not be replenished even in one hundred million years”. These statements are not supposed to be judging in any respect, they are, to put in plainly, at present an unquestionable reality. The dependency on these fossil fuel sources can be rejected or welcomed, however, it cannot and should not be ignored. Its meaning for and affects on the society are too comprehensive and demand an intensive thematic debate.

Starting from these preconditions the purpose of this work is to examine the “energy relations” between Germany and Norway, Germany and Russia and to contribute its share to the above-mentioned debate. All three countries represent major actors in the European energy market and the world market, too. This applies in particular to the crude oil and natural gas trade. Hence, it is highly probable that an extensive network of oil and gas related actors and trade connections exist between the three countries. The situation of Germany on one side and Norway and Russia on the other differs significantly within this setting. Germany represents one of the leading economies in the world with a substantial need for energy. These demands cannot be met by the domestic energy sources and the requirement for imports is accordingly high. Norway and Russia, as different as they may be in other respects, are at

¹ Own translation: Oil is the biggest and most penetrating ‘business’ in the world, the biggest of the big industries.

present leading energy producers and exporters. The differences between both countries are indeed profound and include several categories. A look at these categories, starting from historical aspects, then the present political situation and ending up with the prospects for future developments will illustrate the differences. The same applies to the size and extent of their oil and gas deposits.

The geographic vicinity of supply and demand and the close relations between all three countries during past and present led indeed to the development of the above-mentioned energy-network. This network has a very varied and extensive structure and an all-embracing examination would certainly go beyond the scope of this work. The main focus is instead orientated to the attitudes in Germany towards Norway and Russia as energy supplying countries. It is expected that the extensive energy trade influences the mutual perception. Furthermore, these perceptions are likely to have an influence on the relations between Germany and Norway and Germany and Russia as well.

Attitudes are not easy to name or measure and their handling is hence more complicated than with other factors. This work's approach towards this challenge is a content analysis (according to Früh 2001) of 103 articles from two leading German newspapers. The categories of the content analysis are designed to expose statements and opinions on attitudes towards Norway and Russia in the reporting. According to Früh (2001) it is possible to achieve valid results with this method, even though they are based on summarised and implicit experts' opinions rather than on mathematical proof. The approach of this work is strengthened by the use of additional methods and data material. The preconditions for energy trade on the demand side (Germany) and on the supply side (Norway and Russia) are examined with an empirical overview of geo-economic structures and the present situation of the energy sectors in all three countries. Furthermore, striking catchphrases within the reporting of the newspapers are dealt with in a separated qualitative examination.

Within the outlined framework and methodological apparatus two general categories of research problems will be handled. The first category deals with the underlying preconditions in Germany, Norway and Russia and is connected to the empirical overview of the geo-economic structures and the present situation of all three countries' energy sectors. The questions related to these aspects ask for concrete figures on the actual present situation, the preconditions and organisation of the Norwegian and Russian oil and gas sector or for the principles of the German energy supply and policy. These questions will not be answered explicitly because they are regarded as a basis for answering the second category of the

research problem and are not part of the core of this work. Nevertheless, all necessary information for answering them is provided with the theoretical background knowledge.

The second category of the research problem concerns the aspects of attitudes and has a look at Norway's and Russia's reputation or image as oil and gas suppliers; or, to be precise, how they are described in the newspaper articles. These aspects represent the core of the research and several sub-questions appear in this context:

- Can different approaches or attitudes towards Norway and Russia be found in the articles?
- Is the aspect of supply security handled equally for Norway and Russia?
- How is the future of both countries as energy suppliers described?
- Are political aspects in Norway and Russia important for the energy sector?

Due to the small amount of articles and the limitations for the statistical treatment of the acquired data, which derive from that precondition, it is not possible to claim representativeness from the results in a strict sense. Only the reporting of the two newspapers is represented verifiably with the results. Nevertheless, the results can describe the context (about the role of context compare Yeung 2003, 445 and Bathelt and Glückler 2003) of the oil and gas business in Germany, Norway and Russia, based on the experts' opinions expressed in the articles. As mentioned above, the results are supported by the outcome of additional examinations, based on different methodological approaches. With this multi-methodological stance this work follows the ideas of Yeung (2003) for methods in new economic geographies. He proposes a broad approach towards the subject under investigation with different methods and data materials. The total of acquired information can lead to valid results through a process called triangulation which brings all separated results together under the scope of the research problem. Further conceptional closeness of this work to Yeung's ideas, at least to a certain extent, can be seen in the process-based character of the analysis and in tracing the main involved actors in the energy sector of the three countries under investigation.

The above outlined importance of fossil fuels and the extensive 'energy-relations' between Germany and Norway, and Germany and Russia indicate the relevance of the research problem and, in particular, from a geographical perspective. Soddy (quoted in Smil 1994, 203) demands that "the flow of energy should be the primary concern of economics". Continuing from this viewpoint to the idea that economic geography aims to find out where

economic activity takes place and hence tries to bring the aspects of space to the economic theories (Rautio 2003, 73) leads to the conclusion that energy should be in the focus of economic geography (Guyol 1971, vii). The approach of this study follows the principles of new economic geographies (compare for example Barnes and Sheppard 2000) which stress the importance of cultural, political and institutional circumstances rather than conventional economic factors. This leads to the social embeddedness of economic actions and to the importance of context for understanding the processes (Yeung 2003).

Bathelt and Glückler (2003) deal in their conceptualisation of economic geography with the same subject. They recognise a pragmatic shift in economic geography towards a relational economic geography and criticise a false separation of economical and cultural aspects in traditional economic geography (2003, 118). They state that “economic action is embedded in structures of ongoing social relations” (2003, 126) and, hence, it is not separable from its context. Bathelt’s and Glückler’s concept of a relational economic geography is based on three main propositions (contextuality, path-dependence, contingency), which define economic action as an open-ended subject with unforeseeable changes and not suitable for universal laws (2003, 128-129). For them organisation, evolution, innovation and interaction are the most important and interrelated processes that matter in economic geography (for more details compare Bathelt and Glückler 2003, 131-137).

Aside from the economical aspects, politics also influence the geographical perspective on energy. Energy interests influence geopolitics profoundly, as Tykkyläinen (2003b) shows for Russia (and the same applies also to Norway and Germany). Hence, geopolitics is an integrated component of this study of energy related inter-state relations. Again, the headword ‘new’ (compare for example Agnew 1998) or ‘critical’ (compare Ó Tuathail 1996) geopolitics is appropriate here. This new tradition in geopolitics views geographical space as a product of political and cultural influences, rather than a neutral or objective entity (Tsygankov 2003, 102-103).

According to the previous paragraphs this study is very much influenced by the ideas of the new economic geographies and new geopolitics. These theoretical approaches lay the foundation for the interpretation of the results from the content analysis. The strong emphasis on cultural, political and other contextual aspects form an integrated whole with the applied methodological approaches and enable the achievement of valid answers to the research questions.

1.2 Basic concepts in the hydrocarbon sector

Within the bounds of this work the terms oil, crude oil, gas, natural gas, hydrocarbons and petroleum are frequently used. Petroleum is a generic term that includes all of the others being defined, except for hydrocarbons which is the chemical name for fossil energy sources like oil and gas and is based on their two main comprehending elements (hydrogen and carbon). The definition of petroleum in this work follows the Norwegian petroleum act and includes all liquid and gaseous hydrocarbons which can be found in natural condition in subsoil deposits, including other substances that are produced connected with the hydrocarbons (Wismeth 2000, 13). In this sense, all of the above-mentioned terms are used in this study synonymously. For example, the term oil always refers to crude oil and never any other kind of oil.

Analogous to the use of the above-mentioned terms are the expressions ‘oil and/or gas industry’, ‘petroleum sector’, ‘energy sector’ or (in the case of Norway) ‘offshore sector’ applied. They are meant to describe all of the mentioned aspects, depending on the actual context. Less frequently used are the terms condensates, natural gas liquids (NGL) and liquefied natural gas (LNG). The first term means hydrocarbons that are gaseous under deposit conditions but condensate into liquid state at the surface. Natural gas liquids are components of natural gas which are in liquid state in the deposits. Finally, liquefied natural gas is also a component of natural gas. It remains also at the surface in a gaseous state, but can be transformed, with little effort, into liquid form (all explanations of this paragraph are based on Bundesanstalt für Geowissenschaften und Rohstoffe 1998).

Further lack of clarity is connected with the terms reserve and resource. Petroleum resource is a collective term which embraces technically recoverable volumes of oil and gas. Reserves can be regarded as the economically recoverable part of the petroleum in a field, taking into account the present technological means. (Olje- og Energidepartementet 2003, 203)

1.3 Structure of the study

This study is organised into three major parts. After these introducing words a chapter on the theoretical background knowledge follows. It is also divided into three parts, dealing with the Norwegian and Russian oil and gas sector as well as the German energy market and policies.

Its purpose is to provide profound knowledge about these aspects to the reader. Furthermore, this part of the work is an important component of the above-mentioned broad methodological approach. The present situation of the German energy market and its political framework are introduced. The examination of the Norwegian and Russian oil and gas sector includes a look at the historical developments, the present situation and at the position of the sector in both countries. Unfortunately, it was impossible to carry out this presentation of facts in a standardised structure. Only the most important Norwegian oil and gas deposits are introduced in detail, due to missing information on and the vast amount of Russian oil and gas fields. Furthermore, the Russian oil and gas sectors are handled separately whereas the Norwegian's are introduced together. The reason is the different character of available data for Norway and Russia.

The second major part deals with the main method of this work and the research material. Content analysis is introduced in detail here. Its strengths and weaknesses are mentioned and also its concrete application under this study's preconditions. In this way it is ensured that the method is assessed correctly and that the gained results can be interpreted in an appropriate way. The newspaper articles are introduced afterwards as the research material. The method for their selection, as well as the description of the two newspapers (Frankfurter Allgemeine Zeitung and Süddeutsche Zeitung), is important here. It will be shown that both newspapers represent an expert elite within the German media sector. That is an important premise for the validity of the results from the content analysis.

The last major part includes the content analysis of the articles. It is divided into three sections. In the first part the development of the analysis instrument takes place. Thus, the process of designing analysis categories on the basis of the research question is described and instructions for the codification are provided. In the second part the presentation of the results of the content analysis follows. Finally, results are interpreted in the third part. This separated handling of the results and their interpretation can be explained with the methodological definition of content analysis. According to Früh (2001) the interpretation of the results is not part of the content analysis itself. Furthermore, he states that content analysis is not judging in its results but only reveals common patterns within an amount of texts. That is why the interpretation follows separately.

At the end of this study a discussion of the results and the presentation of final conclusions are presented.

2 Theoretical background

2.1 The Norwegian petroleum sector

2.1.1 History and development

The initial stage

After a huge gas deposit was found close to Groningen in the Netherlands in 1958 other abutters of the North Sea hoped for hydrocarbon deposits in their territories. The geological structures of the North Sea fortified this hope because of their similarities to the zone of natural gas accumulation in Groningen.

At the same time the western world was confronted with an increasing dependency on energy from Arabic countries in the Middle East. Little by little this dependency became too strong for many decision makers of the West. A worldwide crisis occurred when Egypt claimed its power over the Suez Canal in 1956 and cut off the shipping route of many oil tankers. The dependency on “black gold” became recognisable immediately. This intensified the search for alternative oil provinces around the world.

The Norwegians started to care about petroleum during these times and under the described preconditions. They followed the developments rather calmly because only few believed in a possible hydrocarbon wealth from the sea (Holt-Jensen 1996, 213). Nevertheless, Norway claimed its rights on the surrounding sea territories and in 1963 it proclaimed its sovereignty over these areas, according to the Geneva Convention from 1958 (OLF 1993, 6).

The Norwegian government was forced into this action because already two years earlier the American petroleum company Phillips Petroleum Company had asked for the exclusive rights for exploration and exploitation of hydrocarbon deposits in Norwegian territories. But it was not the time for negotiations on licences yet. It took until 1965 before the first licences were distributed and the Norwegian government did not follow the wishes of Phillips for exclusive rights. In fact, the Norwegian continental shelf (NCS) was opened for all interested companies. Amoco, Esso, Amerada, Elf, Shell and Total were the other bidders along with Phillips and some 22 licences for the southern North Sea were offered in total (Olje- og Energidepartementet 2001, 15). In 1966 the first exploration wells were drilled. It

took three more years before any profitable deposit was found. Many of the competitors had already stopped their efforts in searching for hydrocarbons before Phillips found the huge and promising oilfield *Ekofisk* in the end of 1969. In 1971 production started and the “oil age” in Norway began.

From the beginning the Norwegian legislators paid considerable attention to their role in the petroleum business. Its impact on Norwegian society was regarded as too important for giving it only to private companies (Holt-Jensen 1996, 213). Due to these reasons the state owned Petroleum Company “*Den norske stats oljeselskap*” (Statoil) and a state-run regulatory authority for the day-to-day petroleum business (Norwegian Petroleum Directorate) were founded in 1972. Furthermore, the parliament decided to give Statoil at least a share of 50 per cent of all future licences. In these ways the public authorities ensured their strong influence on the Norwegian petroleum sector.

The development phase

Political events in the Middle East, which had a strong influence on the oil price, stimulated the development of the Norwegian petroleum sector once more. The two oil crises in 1973/74 and 1978 raised the oil price from initially three American Dollars per barrel up to 34 Dollar within a few years (Gibbs 1999, chapter 2). Strong economical incentives for intensified exploration and exploitation in the North Sea were the result and the investments in this expensive petroleum province seemed to be profitable with these high oil prices. As a result the Norwegian petroleum sector started to grow rapidly.

The 1970s and 1980s were characterised by numerous findings and development of huge oil and gas fields like *Statfjord*, *Frigg*, *Oseberg* and *Gullfaks*. Some of these were among the biggest in the world (Holt-Jensen 1996, 214 and Hagland 2000). The first pipelines to the outlet areas started operation during this period as well. The investments in the development of the Norwegian offshore sector were way higher than the revenues, even though Norway earned an export surplus in oil and gas from 1975 on (Gibbs 1999, chapter 2 and Gläßer 1993, 102).

The legislators stressed their active role in the petroleum business during this important stage of the development again. The Norwegian parliament made some very detailed rules for all actors in the business. For example, a maximum yearly production rate for the whole industrial sector was established. The arrangements were very carefully set and they led to a positive development of the Norwegian society and economy. Special attention

was paid to the involvement of the Norwegian supply industry to enlarge the range of participants in the promising business and on the wealth (Witthöft 1981, 159).

In 1985 an even more intense direct participation of the state in the business was created. This objective was achieved with the help of the new founded “*Statens direkte økonomiske engasjement i peroleumsvirksomheten*” (State’s direct financial interest, SDFI) system which organises the participation of the state in investments and revenues. Statoil ran the SDFI’s shares in licences.

The 1990s: Increasing revenues

The 1990s were characterised by increased revenues from the oil and gas business, both on public and private sides. With the exceptions of *Sleipner* and *Troll*, all big fields were producing during this stage of development and the necessary investments started to decline. For the first time during the Norwegian hydrocarbon era the revenues rose above the investments (Gläßer et al. 1996, 313). At the same time many fields reached their production peak, so that the fields *Ekofisk*, *Statfjord*, *Gullfaks* and *Oseberg* contributed approximately 80 per cent to the Norwegian production (Helle 1995).

The most important newly developed field in the 1990s was *Troll*. Its size of deposit and production facilities is unique but at the same time it marked a turning point in the development of the offshore sector in Norway. *Troll* was the last of the giant fields which stood in the centre of interest. Afterwards some smaller fields and their technical more efficient exploitation became stressed.

The Norwegian economy was in very good condition in the 1990s due to the minor dependence of the whole oil and gas industry on loans. Seeing that, the government proposed and decided to establish the “Petroleum Fund” and started to collect the surplus of the national budget into this account. Since then huge sums were invested for the prosperity of future generations.

2.1.2 The present situation of the Norwegian oil and gas sector

In 2002 there were a total of 45 producing oil and gas fields in the Norwegian Sea territories (40 in the North Sea and five in the Norwegian Sea). Additionally, there are nine fields with approved development plans but not producing yet. All fields together enabled the all time

maximum production of hydrocarbons (258 million scm oe², of which 193 million scm were crude oil and NGL³/condensate and 65 billion scm natural gas). The production of oil decreased in 2002 slightly, but gas sales increased by 22 per cent. Norway is at the moment in seventh position among the world's leading oil producers (4.3 per cent of global production) and it is the third biggest export nation (after Saudi Arabia and Russia). The gas exports equals approximately two per cent of global consumption (ten per cent of West European demands) and gives Norway the fourth position among the biggest gas exporting countries. Furthermore, Norway is the third largest exporter of pipeline gas. (Olje- og Energidepartementet 2002 and NPD 2001)

Oil production is expected to be stable over the next years and start to decline gradually afterwards. Gas output has the potential to increase substantially over the coming decades and will play a major role in future Norwegian petroleum output. Its share on total production is estimated to increase from 25 per cent to 42 per cent by 2010 (Olje- og Energidepartementet 2002, 11 and Olje- og Energidepartementet 2003, 39).

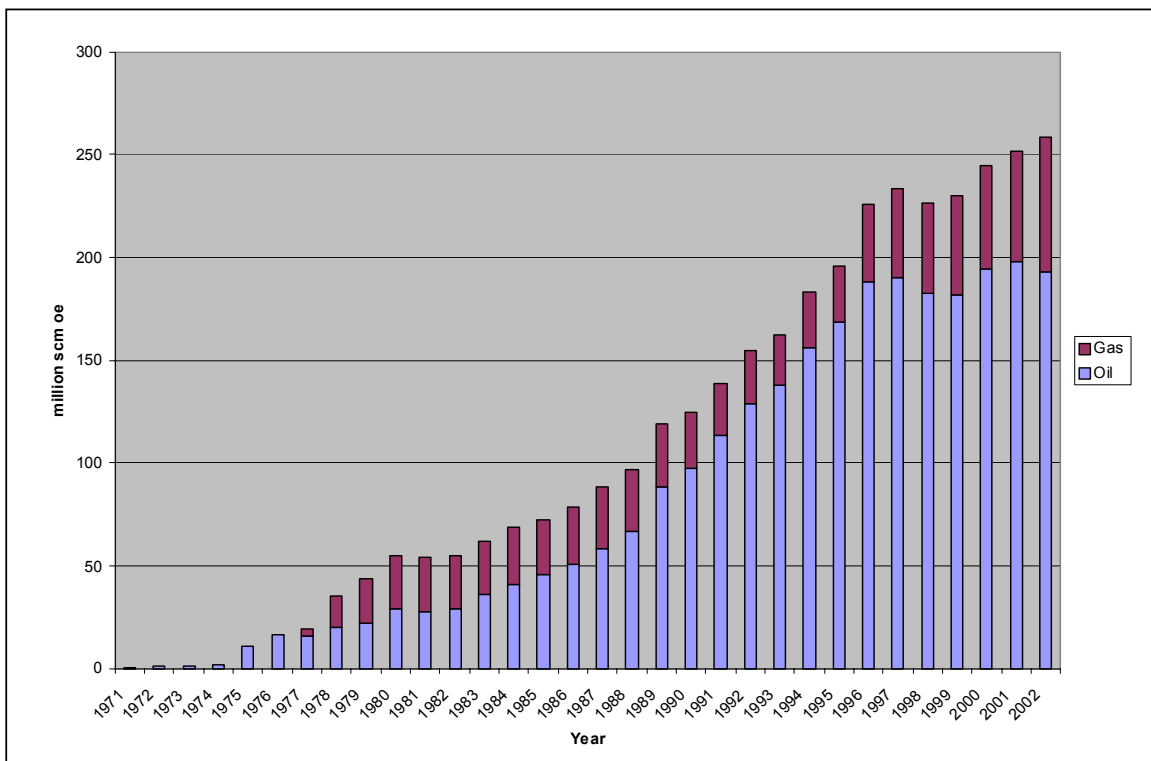


Figure 1: Oil and gas production in Norway from 1971 to 2002 (Olje- og Energidepartementet 2001,2002,2003)

² oe: oil equivalents. It is possible to compare the quantity of different hydrocarbons with this calculational unit. It is based on the energy contained by the raw material.

The total amount of discovered and undiscovered petroleum resources in Norway is estimated to be 13.7 billion scm oe. Production to date sums up to 3.5 billion scm oe, corresponding to 26 per cent of total resources. Hence, some 10.2 billion scm oe are still left in the deposits but this number has to be handled carefully, due to a large uncertainty range in the estimations (Olje- og Energidepartementet 2003, 35).

As mentioned above, Norway has an important role in the international oil trade and supply. The main recipient nations are the United Kingdom, the Netherlands and France. Beside the exports 16 per cent of the yield stays inside Norway for domestic use (compare figure 2).

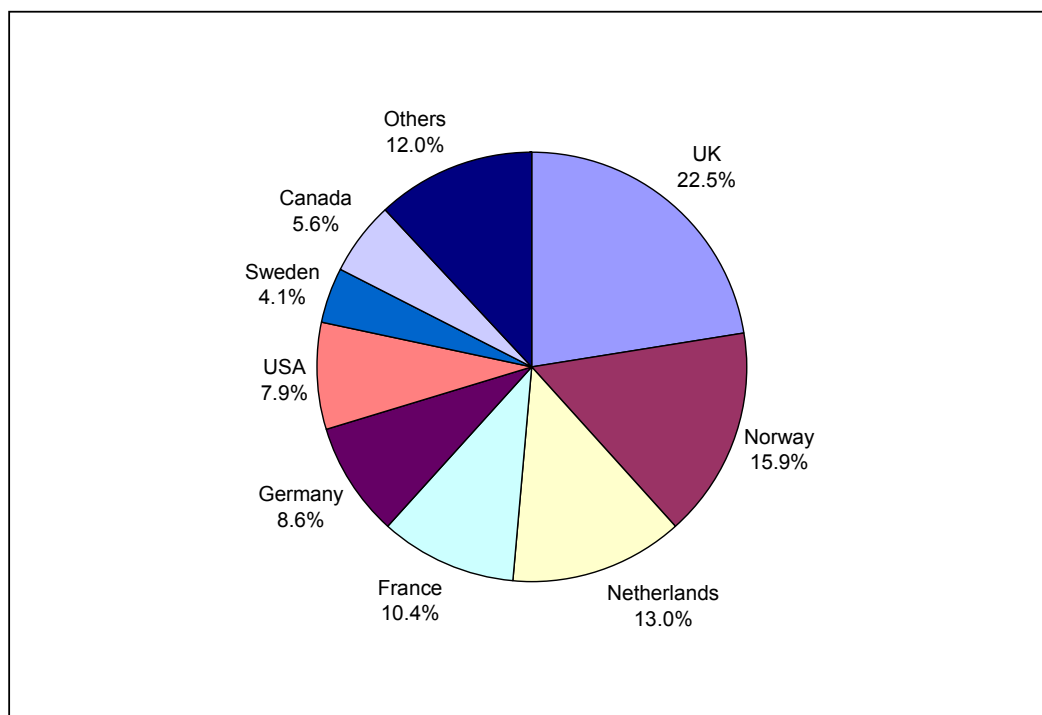


Figure 2: Recipients' shares on shipments of Norwegian crude oil in 2002, (Olje- og Energidepartementet 2003, 44)

As European consumption of natural gas has grown significantly in the last decades, Norway's role as one of the major suppliers has become more important. Germany is by far the most important recipient, with a share of 42 per cent. France, the Netherlands and Belgium follow in the rank of recipient nations (compare figure 3).

A total of twelve new discoveries were made in 2001 and nine in 2002. They contribute to the total Norwegian resources with 43-51 million scm of oil and 25-32 billion

³ NGL: Natural Gas Liquids.

scm of gas. But only 60 per cent of the NCS are opened for exploration and production licences cover around nine per cent of the area. The Norwegian offshore sector still has untouched potential for the future which supports the hope for new findings. These new findings are not expected to be of the same size as many of the previous ones. Instead, there is a tendency towards the discovery of many small deposits. But the high amount of findings could compensate this development trend. Over one hundred economically advantageous fields are estimated to be found in the next 25 years, so an end of the development period is not near yet (Hagland 2000).

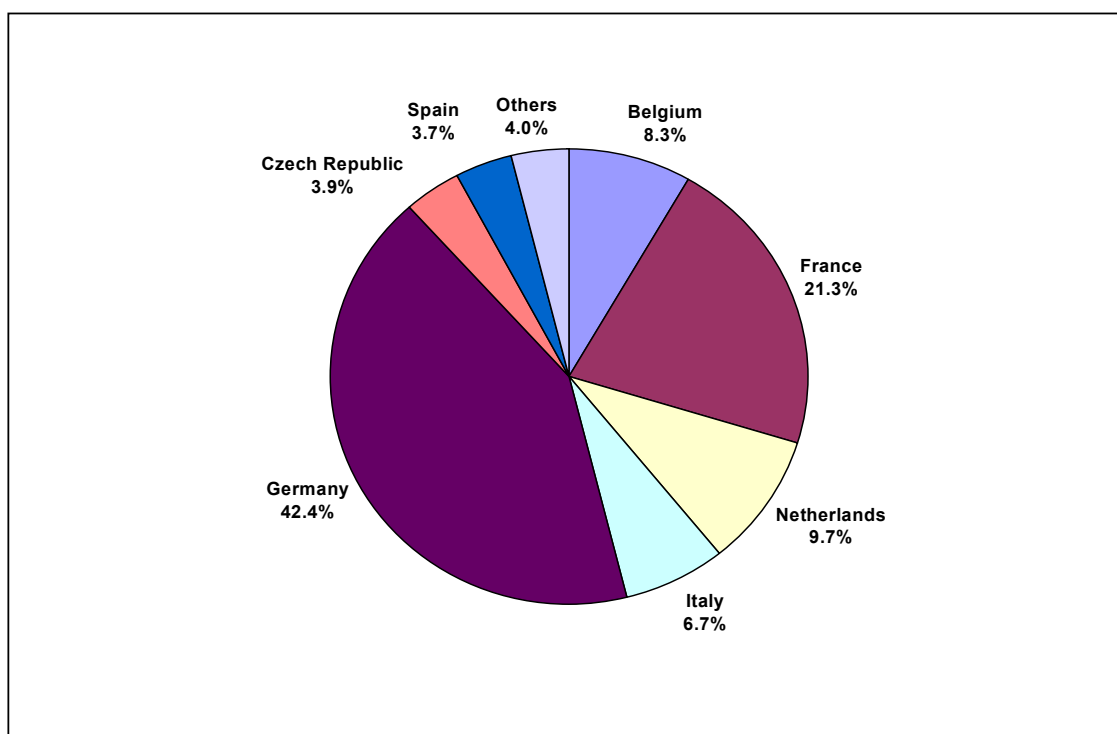


Figure 3: Recipients' shares on Norwegian natural gas export in 2002, (Olje- og Energidepartementet 2003, 45)

Great hope in the Norwegian petroleum sector is connected with a gradual expansion of exploration towards north. The North Sea has been made available for petroleum activities on a high level but only a few new findings are expected. The prognosis for the Norwegian Sea and particularly the Barents Sea are more positive because of the lower level of exploration in these areas (Preuß 2000). The first exploration wells were drilled in the Barents Sea in 2000 after some years of stagnation. Some interesting geological structures were found (e.g. the field *Goliat*) but soundings, difficulties on the seabed and poor infrastructure on land complicate the development. Another obstacle is the long distance to the outlet areas which

require very long pipelines or transport by ship. The production of electricity on location would be a third alternative, as is currently planned in Melkøya close to *Snøhvit* on land (Statoil 2003).

In the case of *Snøhvit*, which is certainly the most advanced project in the Barents Sea, the plan for development was finally approved by the Norwegian parliament in March 2002 after petroleum resources were proven in 1984 (NPD 2003). This long time span shows how difficult the development in this area is. (For more details on *Snøhvit*, see chapter 2.1.3)

The last years have seen some significant changes in the state's direct participation in petroleum activities. In 2001 the Norwegian parliament resolved to restructure the role of the state in the petroleum sector. The government sold 15 per cent of the SDFI to Statoil and the sale of 6.5 per cent to other companies was completed in spring 2002. Statoil was also partially privatised and listed on the Oslo and New York stock exchange in June 2001. In total 18.2 per cent of the company was sold to private owners and the Norwegian parliament has opened negotiations on further reduction in state's shareholding, down to two-thirds (Olje- og Energidepartementet 2003, 17). The main reason for the partial privatisation was the assumption that the state, as one of many shareholders, will concentrate on issues relating to the return of capital and dividends in a more efficient way than is possible in a totally state owned company. Anyway, the state still holds 81.7 per cent of the shares and has a powerful position in all decisions.

In connection with the partial privatisation of Statoil, two new state-owned companies were established. Petoro will manage the SDFI on behalf of the state and Gassco is responsible for the transport of natural gas (Olje- og Energidepartementet 2002, 11 and Olje- og Energidepartementet 2003, 18).

2.1.3 Major oil and gas fields and transportation facilities

Some of the most important oil and gas field of the NCS will be introduced in this chapter. Only those fields, which have an important meaning for the present and future petroleum production, will be dealt with. Beside these there are some other fields which had an outstanding role in the past. But currently most of their deposits have been extracted and, hence, their importance is rapidly declining. *Gullfaks*, *Oseberg*, *Statfjord* and others belong to those fields. Especially the *Statfjord*-field, the third biggest ever found, accumulated huge amounts of produced hydrocarbons, but only a small amount still remains at this stage (compare table 1).

Ekofisk, Troll and Åsgard will be discussed according to their present and future importance for the Norwegian petroleum sector. The *Snøhvit*-field will be introduced due to its important future role. It is not producing yet and the development of the vast manufacturing facilities has just begun. But it is certainly worth while to pay attention to it because of its unique position in the Barents Sea and its innovative character.

Table 1: Reserves in producing fields or fields with approved development plans. In million scm oe, rounded (NPD 2003)

<i>Field</i>	<i>Discovery year</i>	<i>Production start-up</i>	<i>Original saleable</i>	<i>Remaining reserves</i>
Balder	1967	1999	63	51
Brage	1980	1993	49	4
Byggve	1991	2004	3	3
Draugen	1984	1993	144	54
Ekofisk	1969	1971	669	216
Eldfisk	1970	1979	146	35
Embla	1988	1993	18	7
Fram	1987	2003	20	20
Frigg	1971	1977	116	1
Glitne	1995	2001	6	3
Grane	1991	2003	120	120
Gullfaks	1978	1986	361	43
Gullfaks Sør	1978	1998	75	59
Gungne	1982	1996	16	12
Gyda	1980	1990	43	4
Heidrun	1985	1995	213	127
Heimdal	1972	1985	49	1
Hod	1974	1990	10	1
Huldra	1982	2001	18	14
Jotun	1994	1999	30	13
Kristin	1997	2005	86	86
Kvitebjørn	1994	2004	73	73
Mikkel	1987	2003	33	33
Murchison	1975	1980	15	1
Njord	1986	1997	24	10
Norne	1992	1997	104	55
Oseberg	1979	1988	438	125
Oseberg Sør	1984	2000	64	54
Oseberg Vest	1984	1991	8	7
Oseberg Øst	1981	1999	25	15
Sigyn	1982	2002	11	11
Sleipner area	1974	1993	257	106
Skirne	1990	2004	5	5
Snorre	1979	1992	253	137
Snøhvit	1986	2006	187	187
Statfjord	1974	1979	647	51
Statfjord Nord	1977	1995	42	14
Statfjord Øst	1976	1993	40	10
Sygna	1996	2000	11	6
Tambar	1983	2001	10	7
Tor	1970	1978	40	6
Tordis	1987	1994	62	21
Troll	1979	1995	1612	1355
Tune	1996	2002	30	29
Ula	1976	1986	88	16
Vale	1991	2002	5	5
Valhall	1975	1982	205	110
Varg	1984	1998	6	1
Veslefrikk	1981	1989	60	14
Vigdis	1986	1997	43	21
Visund	1986	1999	101	94
Åsgard	1981	1999	369	323
Sum			7123	3776

Furthermore, there were some promising new findings made in the past which currently do not have any approved development plans. These fields will not be introduced in detail in this paper. Nevertheless, some basic information about them can be found from table two. The importance of the field *Ormen Lange* for the future is clearly appreciable.

Table 2: Resources in discovered fields. In million scm oe, rounded (NPD 2003)⁴

<i>Field</i>	<i>Discovery year</i>	<i>Resources</i>	<i>Sea area</i>
Dagny	1978	5	Southern North Sea
Freja	1987	4	Southern North Sea
Gamma Vest	2001	3	Northern North Sea
Gekko	1974	9	Southern North Sea
Gjøa	1989	39	Northern North Sea
Goliat	2000	8	Barents Sea
Idun	1999	18	Norwegian Sea
Kappa	1986	4	Northern North Sea
Lavrans	1995	23	Norwegian Sea
Ormen Lange	1997	397	Norwegian Sea
Skarv	1998	53	Norwegian Sea
Stær	2002	5	Norwegian Sea
Trym	1997	4	Southern North Sea
Tyrhans Sør	1983	50	Norwegian Sea
Volve	1993	14	Southern North Sea
15/12-12	2001	8	Southern North Sea
24/6-2	1998	12	Northern North Sea
25/11-16	1992	4	Northern North Sea
25/5-5	1995	4	Northern North Sea
30/6-17	1986	2	Northern North Sea
30/9-19	1998	10	Northern North Sea
Sum		676	

Ekofisk

Ekofisk is situated in the very south of the Norwegian sea territory⁵ and is the place where the Norwegian “oil age” began. In the late summer of 1969 Phillips Petroleum Company set an exploration well on the right spot and found a huge oil field 300 kilometres off the Southwest coast of Norway. The sea is only 70 meters deep and a successful development of the region

⁴ Fields with number labels are not named at the moment. The number combination allows a distinct spatial orientation on the NCS.

⁵ The Norwegian Petroleum Directorate provides a detailed map of the Norwegian Continental Shelf (<http://www.npd.no/English/Produkter+og+tjenester/Publikasjoner/map2003.htm>).

was very likely. *Ekofisk* became one of the most important sources of crude oil in the North Sea soon and has kept this position until today (First of its kind 1998).

The *Ekofisk*-field, with its original saleable reserves of 669 million scm oe (NPD 2003), is currently the second biggest finding on the NCS ever (after *Troll*) and produces since 1971 mainly crude oil. In over 30 years of intensive exploitation more than 453 million scm oe were produced and sold. Initially tankers brought the raw materials ashore, but after building pipeline infrastructure in 1975 the transportation means changed. Oil now reaches Teesside (England) via *Norpipe* and the produced natural gas is pumped to Emden (Germany). In this way it is assured that the products reach the market quickly and stable. (Olje- og Energidepartementet 2001, 74)

The production peak was reached in 1980 with 440000 barrels per day (b/d)⁶. Today it varies around 360000 b/d, after falling down to 225000 b/d in 1990 (Olje- og Energidepartementet 2001, 75 and Olje- og Energidepartementet 2003, 71). Extensive technical reconstruction led to this positive development. Among others, they account for investments of an estimated 8.4 billion Norwegian Crown (NOK)⁷ in total (Olje- og Energidepartementet 2003, 72). Today a total of 29 platforms are installed in the *Ekofisk*-area (which consists of *Ekofisk*, *Eldfisk*, *Embla* and *Tor*), but the whole area is under major remodelling after the production phase *Ekofisk II* started working in 1998. Many of the *Ekofisk I* constructions are not needed anymore and are scheduled for disposal. Nevertheless, *Ekofisk II* has a production licence until 2028 and with 216 million scm oe left in the deposit it will play an important role throughout the coming years. It is even possible that the licence will be renewed afterwards and that *Ekofisk* will not only be the first of its kind but also one of the last (Anda 2001, 23).

Troll

The *Troll*-field is situated 80 kilometres north west of Bergen and lies under 300 meters of water. The 750 square kilometre area was discovered in 1979 and is divided into two main parts: *Troll Øst* and *Troll Vest*. A development plan was approved in 1986 and test production, started in 1990, confirmed the profitability of the project. The field was developed in two phases. Phase I is designed for the exploitation of natural gas in *Troll Øst*. Regular production began at the end of 1996. A 470 metre high concrete construction was installed on

⁶ The production figures for crude oil are declared in barrels per day because the barrel is the most common trade unit (one scm corresponds to 6.29 barrels) (Olje- og Energidepartementet 2003, 203).

⁷ Exchange rate (22.01.2004): 1 Euro equals 8.56 NOK

location and is connected through pipelines and cables to a processing plant in Kollsnes. The building is not only one of the highest in Europe and the biggest object ever moved by men (Norwegen: Energie macht Karriere 1999) but it is also unique in its technical organisation. The processing of the gas on land allows for a very efficient method of running the production platform. Phase II is designed for the exploitation of crude oil in *Troll Vest*. Only here the oil-containing layer in *Troll* is worthy of production. The two on-site production platforms are connected with the *Troll Oljerø* to a processing plant in Mongstad.

In the future *Troll* phase III will exploit the natural gas in *Troll Vest*. But it is not clear yet when these plans will be realised because of a tight interaction between the oil and gas production. An increase in gas production will lead, unavoidably, to a decrease of oil exploitation due to the internal pressure in the deposit.

The whole *Troll*-field contained originally 1612 million scm oe of hydrocarbons, of which 1326 billion scm were natural gas, 224 million scm oil and the rest NGL (NPD 2003). Up to date 257 million scm oe have been produced, hence, there are still huge reserves in the deposits. The estimated production in 2003 will be 344.000 b/d of oil and 46.2 billion scm of natural gas (Olje- og Energidepartementet 2003). The gas from *Troll* is transported after processing in Kollsnes via *Zeepipe* to Zeebrugge (Belgium), *Statpipe/Norpipe* to Emden (Germany) and *Franpipe* to Dunkerque (France).

Currently, over hundred billion NOK had been invested in the *Troll* field. These huge sums could be spent only because of long-term supply contracts for Norwegian natural gas to the European market. In 1986 German, French, Dutch and Belgian gas companies and the holders of the *Troll* production licences signed the so-called '*Troll*-contract'. It has a minimum time delay until 2029 and is the biggest trade agreement in Norway's history. This long-term duty for both sides, supply and demand, is a necessary precondition for developing *Troll* as well as for the needed supply security on the consumer's side (Gas für Generationen 2000).

Åsgard

The *Åsgard*-field is one of the most recent to have started production. It consists of three smaller fields which are exploited as one entity. It is situated on the Haltenbanken, 200 kilometres off the central Norwegian coast. The preconditions for the exploitation are very complicated on site. Soundings are between 240 and 310 metres and the geological structures are very complex (Donnerbauer 2000). Due to these facts the exploitation is accomplished through sub-sea systems and floating production units.

The original saleable reserves totalled 369 million scm oe. Just 46 million scm oe of this has been produced up to date. The present production rate is 124000 b/d of oil, 10.9 billion scm of gas and some additional NGL and condensates. However, the production maximum has not been achieved yet, but is expected to be achieved in 2007. *Åsgard* will contribute 15 per cent of gas and ten per cent of oil of the total Norwegian production then (Donnerbauer 2000). Gas is piped for processing reasons to Kårstø, before being sent on to continental Europe through *Europipe II* (Olje- og Energidepartementet 2003, 125). The oil is removed from *Åsgard* by shuttle tankers.

Under present conditions oil production will last at least until 2014 and gas can be removed from the deposits until 2030. The production period will not be very long but because of the innovative applied technology the investments were comparably small. The production with the technical means of the early 1990s would have cost nearly twice as much as was needed now (Donnerbauer 2000). Accordingly, *Åsgard* will amortise in a short time.

Snøhvit

The *Snøhvit* area comprises the *Snøhvit*, *Albatross* and *Askeladd* fields. These fields lie in the Hammerfest Basin of the Barents Sea about 140 kilometres northwest of Hammerfest in northern Norway. The deposits were proven in 1984 and the Norwegian Parliament approved the plan for development and operation in March 2002.

The development strategy is based on sub-sea installations from where gas and condensate are sent to a treatment plant on Melkøya, just outside of Hammerfest (NPD 2003, 38). There the gas will be converted into liquid form (liquefied natural gas, LNG) and sent on to the market in specially built ships. Production is likely to start in the end of 2005 and delivery commitments to the buyers in Europe and the USA begin in October 2006 (NPD 2003, 39). The markets for LNG are one of the fastest growing energy markets, mainly because of the need to transport natural gas over distances beyond the economic or practical reach of pipelines. This demand has quadrupled in the last 20 years (Statoil I). Recoverable raw materials amount to 187 million scm oe and will allow production until 2035.

Construction works on Melkøya started in summer 2002 and are proceeding well in spite of a time delay of three months. Necessary investments are expected to be 24.4 billion NOK plus an additional 17 billion NOK for the gas liquefaction plant (Olje- og Energidepartementet 2003, 134).

Snøhvit's special role in the Norwegian petroleum sector is due to the fact that it is the first offshore project in the Barents Sea. It is not only interesting to observe the technical

challenges and developments, but also the impacts of the largest industrial project in northern Norwegian history on the regional development. During the peak of the construction phase 1200 people will be employed in Melkøya and 350-400 new jobs are due to be created in Hammerfest in the production phase (Statoil I).

Transportation facilities

After the production and the first treatment of the hydrocarbons the question of how they should reach the consumer markets arises. Only ships and pipelines are available for transportation purposes in the offshore sector. Shuttle tankers bring most of the produced oil from the NCS to land. Pipelines are very important for the transportation of natural gas. The main outlet market for Norwegian gas is continental Europe and that is why an extensive pipeline network has been built over the years. The advantages of pipeline transport are continuous flow and safety. Furthermore, pipelines, after construction, are comparably inexpensive to maintain and are transportation container, method and route at the same time (Mineralölwirtschaftsverband 2000, 12).

Following, I will introduce the main pipelines from the Norwegian Offshore sector to the European markets. Information on additional pipelines can be found from the map on the transportation system off Norway (compare figure 4).

The *Norpipe*-network was the first pipeline which started working (1977). It consists of an oil and a gas pipeline, both starting in the *Ekofisk*-area. The 440 kilometre gas pipeline goes to Emden in Germany and the oil pipe runs 350 kilometres to Teesside in England. The gas pipeline has a capacity of 40 million scm per day⁸ (scm/d) and 810000 b/d oil are transported at present in the oil pipeline (NPD 2003 and Olje- og Energidepartementet 2003).

The 880 kilometre long *Statpipe*-network was finished in 1985 and consists of several pipelines. One of the main purposes is the transportation of the hydrocarbons produced in the fields *Statfjord*, *Gullfaks* and *Oseberg* to the treatment plant in Kårstø. The whole complex has a capacity of 55 million scm/d (Olje- og Energidepartementet 2003, 147).

The *Zeepipe*-network transports gas from the purification plant in Kollsnes to Zeebrugge in Belgium and covers a total distance of 800 kilometres. The completion of the project occurred in 1993 and the capacity is 41 million scm/d (Olje- og Energidepartementet 2003, 148).

⁸ The transport capacity in pipelines depends on the composition of the petroleum, temperature and pressure. In comparing the capacity of different pipelines these preconditions have to be taken into consideration.

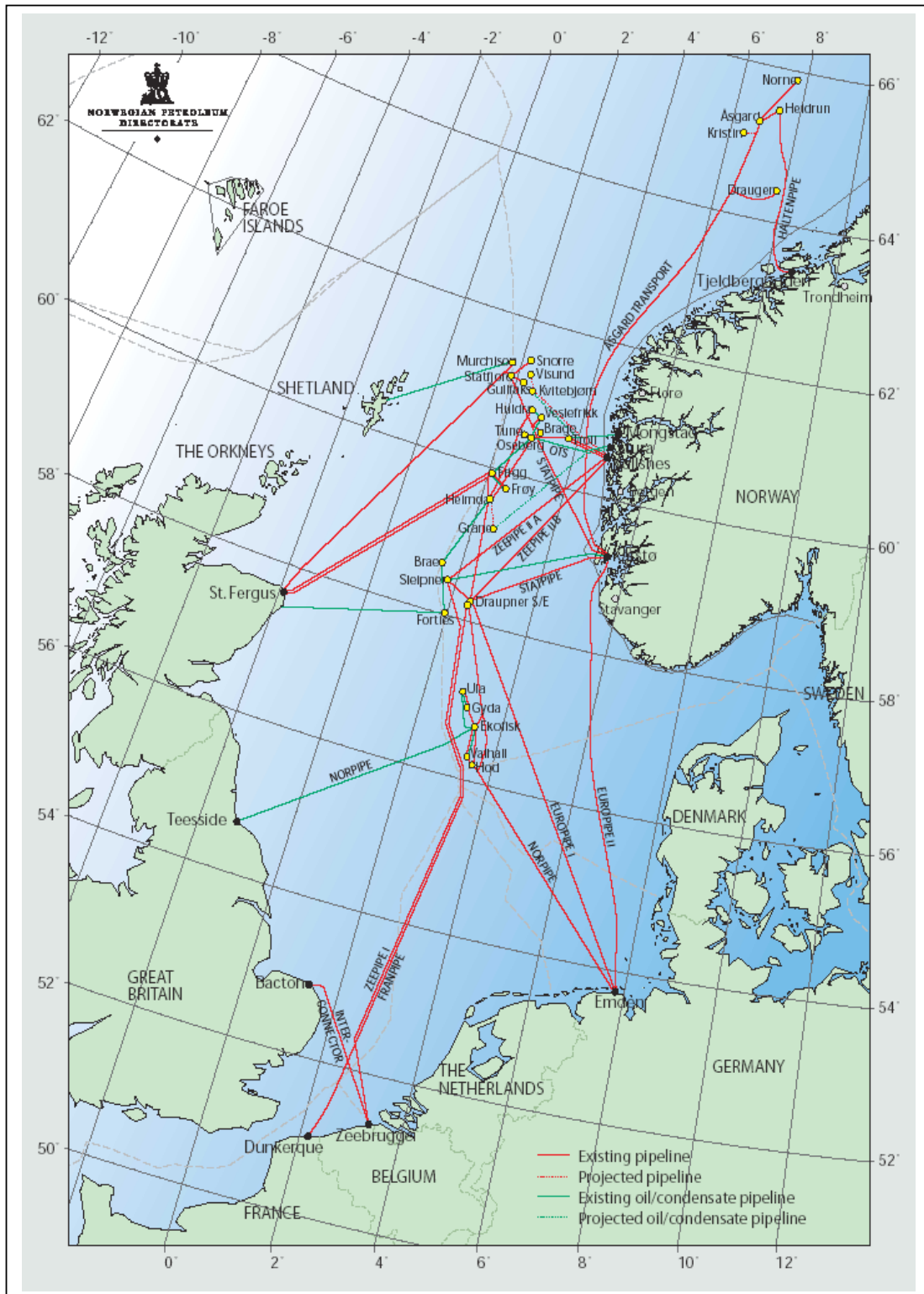


Figure 4: Oil and gas transportation systems off Norway (Olje- og Energidepartementet 2003, 145)

The *Europipe I* runs most of its way parallel to the *Norpipe*, straight from the Norwegian sea territories to Germany. It was built for the transportation of *Troll* gas, has a length of 660 kilometres and capacity of approximately 50 million scm/d. *Europipe II* connects the treatment plant in Kårstø with Dornum (Germany), a distance of over 650 kilometres. It transports gas and has a capacity of 71 million scm/d (Olje- og Energidepartementet 2003, 146).

Expanded gas supply contracts forced the construction of the 840 kilometres long *Franpipe*. It connects the NCS with Dunkerque (France) and started working in 1998. The capacity is 52 million scm/d (Olje- og Energidepartementet 2003, 147). Gas from fields in the Norwegian Sea arrives in Kårstø through the *Åsgard* transport network. It has to cover a distance of 745 kilometres and started working in 2000. Every day 66 million scm can be transported (Olje- og Energidepartementet 2003, 148).

2.1.4 Position of the oil and gas industry in the Norwegian economy

The oil and gas industry represents a substantial part of the present Norwegian economy. Its share of gross domestic product, exports and total government revenues is significant and has grown over the last decades (compare figure 5), reaching particularly high level in the last three years (Olje- og Energidepartementet 2003, 29). Reasons for the present strong position of the petroleum sector are high oil prices, a strong NOK/US-Dollar exchange rate and the highest ever petroleum production. These positive impacts allow a strong appearance despite very high production costs in Norway. The breakeven price of 12 US-Dollars per barrel is on an international scale among the highest. At the opposite end of the price scale Saudi Arabia has produced oil at a breakeven price of 1.5 Dollars (Olje- og Energidepartementet 2002, 35). However, the Norwegian petroleum sector is internationally competitive due to its high technical standards, integration in the Western world and political stability in trade relations.

The influence of the petroleum sector on the labour market is not comparable to other macroeconomic indicators. Only some 16400 people work in the actual petroleum industry, a share of 0.7 per cent of all employees in Norway (Olje- og Energidepartementet 2003, 30). If abutting branches of economy (supply, logistics, and construction) are included a total of 81707 people are engaged (Olje- og Energidepartementet 2003, 64), corresponding to 3.5 per cent of the whole Norwegian labour market.

The dependency of the Norwegian economy on the petroleum sector combined with the constant uncertainty of price fluctuation for petroleum products leads to a complex

economical situation which is not easy to predict. During 1998 and 1999 lower oil prices were immediately followed by declining state revenues. The main intentions for the creation of the ‘Government Petroleum Fund’ are to avoid the impact of the price uncertainty on the economy and society as much as possible and to possess a financial emergency instrument. Since 1996 a total of 609 billion NOK of state budget surpluses were transferred into this international investment fund (Olje- og Energidepartementet 2003, 31).

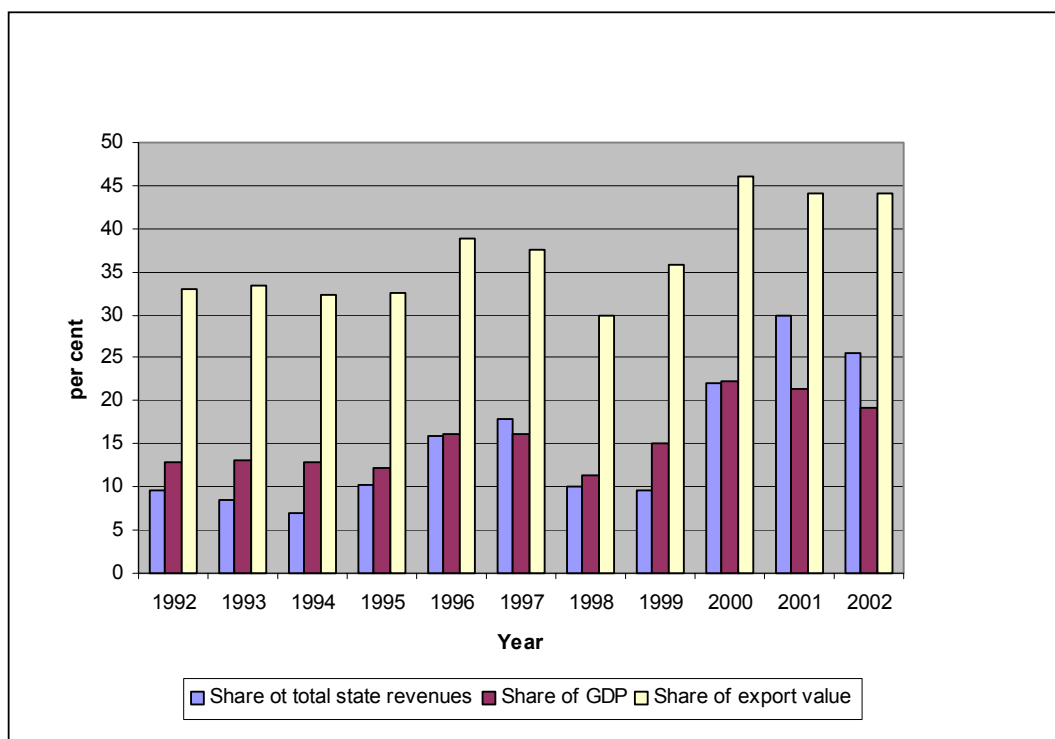


Figure 5: Macroeconomic indicators of the petroleum sector (Olje- og Energidepartementet 2001, 2003)

2.2 The Russian petroleum sector

2.2.1 History

Russia's story as an oil and gas producer dates back far in the past. Historic sources from the tenth century tell about oil and gas seeps in Baku on the Western shores of the Caspian Sea. For the main land of Russia the first written mention of gathering oil along the banks of the river Ukhta in the far north Timan-Pechora region originates from the sixteenth century. Oil from this region was delivered to Moscow for the first time in 1597 (Sibneft 2003). Additionally, there are many reports of perpetual flames from these regions.

The step towards a commercial use of the oil and gas deposits took place in the middle of the nineteenth century. The first oil well was drilled at Bibi-Aybat near Baku in 1846⁹ (Sibneft 2003). In the following years many large and relatively easy to exploit fields were found. The Nobel brothers from Sweden and the French Rotschild family played a major role in developing the Baku region, which was at that time part of the Russian Empire, into one of the main petroleum producing provinces in the world. The industry grew very fast and by the beginning of the twentieth century Russia stood in the first place among all oil producing countries (TNK 2003).

Oil and gas extraction spread into other parts of the Russian Empire later in the nineteenth and twentieth century. In 1864 oil was found in the Krasnodar Krai followed by findings on the banks of the river Ukhta and on the Cheleken peninsula in present-day Turkmenistan. The growth continued steadily, as did the increasing number of processing facilities, until the Russian revolution in 1917 and the nationalisation of the oil and gas industry by the Communists in 1920 (Sibneft 2003). Nevertheless, due to cooperation of some Western companies with the new Soviet government a continued inflow of funds could be maintained and by 1930 the pre-revolutionary level of production was reached again (TNK 2003). In the 1920s and 1930s oil deposits were also discovered in the region of Timan-Pechora and on Sakhalin.

⁹ The opinions about the time when the first oil well was drilled differ. TNK (2003) specifies the first well differently in the year 1864 and Considine and Kerr (2002, 16) do not mention any wells which were drilled before the 1870s.

Soon after the revolution a rapid industrialisation pushed up the oil and gas production. Until the Second World War the Caspian Sea and the North Caucasus remained the centre of the Soviet oil industry, but after a German thrust into the region the production tumbled strongly. Once more it recovered fast after the end of the war but the region's position in the Soviet oil and gas industry was not as dominating as it used to be. An accelerated development of the Volga-Urals region led to diversification of the industry and by 1950 it accounted for 45 per cent of the total production (Sibneft 2003). The growth of overall production enabled the Soviet Union to begin exporting oil and earning hard currency. During this time the first export pipelines for oil and gas were constructed and started to deliver westwards (TNK 2003). An aggressive pricing policy boosted the Soviet Union's market share and led to decreasing revenues for other producers. After the Soviet Union had replaced Venezuela as the second biggest oil exporter in the early 1960s it was time for the competitors to react. The formation of the Organisation of Petroleum Exporting Countries (OPEC) was one of the main results of this process.

By 1975 the production in the Volga-Urals region reached its peak level and concerns on how to maintain the output level had emerged some years earlier. First, findings in Western Siberia helped to overcome these difficulties, especially after the super-giant *Samotlor* field was found in 1965 (TNK 2003). The Western Siberian fields were developed very rapidly in spite of the hostile environment. By the middle of the 1970s West Siberian production was filling the gap being left by declining Volga-Urals output and contributed to an overall increase of production (Sibneft 2003).

The phenomenal production rates from fields in Western Siberia marked not only an economical and technological success, but also the beginning of the decline of the Soviet oil and gas sector. There was no incentive for the Soviet planners to care about long-term production maximisation. The short-term approach led to overproduction due to missing proper reservoir management. Poor efficiency and a lack of investments contributed to the decline as well. Finally, in 1977, the first decline in production occurred but could be successfully overcome by boosting drilling activities. The same measures helped in the period of the second decline between 1982 and 1986 and the Soviet Union hit a new production record in 1988 (Sibneft 2003). After the record was reached the following decline was inevitable and was as impressive as the rise has been earlier¹⁰. The production fell continuously for a decade and ended up at almost half of the record level.

¹⁰ Natural gas production decreased slower and recovered faster than oil production.

The slide occurred on the same time with a general economic crisis in the Soviet Union and has to be seen in connection with the wake of the collapse of the whole system. This collapse was followed by a slump of domestic oil and gas consumption. But the producing companies still had to sell a large portion of their output to this internal market, due to export capacity restraints. Many of the domestic customers were not able to pay for these deliveries and the companies got into deep financial troubles. As a result a complete halt to all new exploration and drilling activity followed (Sibneft 2003).

The slide of production finally ended in 1997. But the overall situation of the oil and gas industry was still far from positive. This was due to poor conditions of the reservoirs and a lack of investments.

The collapse of the Soviet Union in 1991 had strong influences on the organisation of the petroleum sector. The deposits were split among the former Soviet Republics, which became independent, according to their location. Russia, as the largest Soviet republic, took control of nearly 90 per cent (EIA 2002b) of the total sector. In 1992 some basic laws for the petroleum sector were adopted concerning the legal status of private enterprises, privatisation and foreign investments (TNK 2003). Since then the oil and gas sector has been in a transition phase, handling the dual problem of the dissolution of the Soviet Union and the attempt to establish a market economy (Considine and Kerr 2002, 235)¹¹.

2.2.2 Present situation of the Russian oil and gas sector

Russia is one of the leading producers of hydrocarbons in the world. The oil deposits, as well as the gas deposits, are huge and have a significant share on the world's findings. At the end of 2002 all proven reserves add up 9539 million scm oil and 47.57 trillion scm gas (BP 2003).

The use of standard cubic metre oil equivalents as a unit for quantification of energy sources is not in use in the case of the Russian petroleum sector, contrary to the Norwegian. The available data were converted to this unit because of a better comparability with the records of the Norwegian petroleum sector at the beginning of this chapter. I will use the standard units for the Russian deposits later in this chapter, so that deviation, occurring with

¹¹ The last section of chapter 2.2 will provide further information of the problems of restructuring and transition.

every conversion, can be avoided.¹² Furthermore, the present situation of the oil and gas sector will be discussed separately, as it is done in the bulk of available literature and data.

Oil sector

The Russian government does not publish data on size and location of the country's oil reserves (IEA 2002, 70). According to this fact, all data rely on independent Western estimations and can vary between different sources. The above mentioned and converted figure on Russia's oil reserves relies on BP's (2003) annual review on world energy. They estimate the proven reserves to be 60 billion barrels, a share of 5.7 per cent of world's total reserves and the seventh largest reserves in the world, behind several countries in the Middle East and Venezuela. (BP 2003, 4) Most of the remaining reserves lie in numerous deposits in Western Siberia (about 72 per cent) and the rest are scattered around the mature Volga-Urals region (14 per cent), the relatively underdeveloped Timan-Pechora Basin (seven per cent) and Eastern Siberia (four per cent). The remaining three per cent are distributed in marginal deposits (IEA 2002, 72).

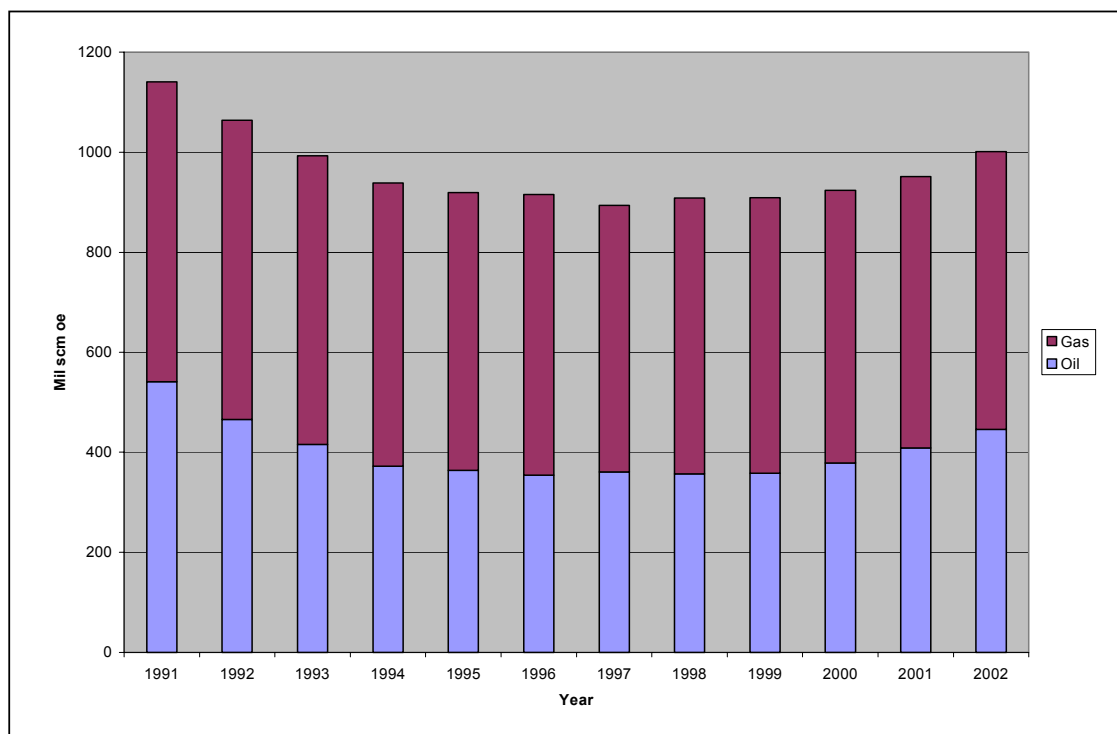


Figure 6: Russian oil and gas production 1991-2002 (BP 2003)

¹² For more details on conversion between different units look at <http://www.bp.com/centres/energy/definitions/units.asp> and Olje- og Energidepartementet (2003, 203).

The production of crude oil increased significantly during the last few years. From 2001 to 2002 it rose 9.1 per cent to 7.7 million b/d. That is a share of 10.7 per cent of the world's total production and Russia is the second biggest oil producer, after Saudi Arabia, at the moment (BP 2003, 6). The main reasons for the growing production are a relatively high oil price and a decline in production costs, due to devaluation of the rouble.

The bulk of the production comes from a few extremely large fields, for example the *Samotlor* field in West Siberia, but there is currently an observable tendency towards smaller and scattered fields. As a result, the average production per well has declined to a quarter of the peak level, which was reached during the 1970s, and production costs are increasing simultaneously (IEA 2002, 73). This development creates the need for higher investments and drilling activity in view of maintaining the high level of production. During the last years these preconditions were met successfully and between 1998 and 2000 over one hundred new fields came on stream. But the present production rate exceeds the rate of discovery significantly and in general it is "less a question of if than when" the production will start declining, as EIA 2002a puts it. The main reasons for this decline are ageing equipment, poorly developed fields and deterioration of transport facilities.

Russia is also one of the main exporters of crude oil in the world and the export is growing quickly at present. In 2002 all exports accumulated to 5.2 million b/d, about 12 per cent of all oil exports worldwide (EIA 2002c and BP 2003). The share of exports to other countries of the Former Soviet Union (FSU) is declining rapidly (it fell 81.9 per cent between 1991 and 2000). Especially since the prices in the inter-republic trade were raised in order to bring them closer to the world market's level (IEA 2002, 91). At the same time, trade with foreign countries increased to comparable extent. Russia is currently one of the main non-OPEC sources of oil and helps the Western countries to diversify their oil purchases and to abate the dependency on Middle Eastern countries. Accordingly, most Western countries buy oil from Russia, although it is usually less than ten per cent of national oil supply. The main customers are Germany, Italy, France, Finland, Spain, Switzerland, Ireland and the UK (IEA 2002, 91-92 and EIA 2002c).

Russia's export policy caused some disgruntlement with the OPEC during the last years. Although it is no member of the organisation it agreed with its member states on a cut of exports in order to raise the price level. Later the Russians preferred to accommodate European purchasers' interests with low prices and increased its exports. A general

harmonisation of Russian and EU energy interests¹³ can be observed since then, though Russia could not fulfil all of its promises (Brüggmann 2002 and 2003).

The production rate is expected to decline soon, due to the reasons mentioned earlier. Later, a stable level could be maintained throughout the next decades. Production declines in Western Siberia could be balanced by increasing production in the European part of Russia, Eastern Siberia, the Far East and Sakhalin. After 2030 the grade of current explored reserves and revealed resources will deteriorate. An increase in production is unlikely at this time and production is most likely to start dropping after 2020 or 2025 (Gritsenko et al. 2001). The future development is highly dependent on the level of investment and how they can be financed. An average of eight to ten billion US-dollar per year over the next 20 years would be necessary to fulfil the official targets set by the Russian government (IEA 2002, 75). Investments in 1999 were less than two billion and in 2000 less than five billion US-dollar.

Gas sector

Gazprom, a privatised company in which the state holds a major share, dominates the Russian gas sector. In 2000 it produced 90 per cent of all Russian gas output and it controls the exports to Western Europe (IEA 2002, 111). It is important to keep in mind the role of Gazprom in the context of the Russian gas sector (compare part 2.2.4 of this chapter). Russia has the world's largest proven reserves in natural gas. They are estimated to amount to 47.57 trillion scm, a share of 30.5 per cent of all gas reserves found in the world (BP 2003, 20). Major reserves can be found mainly in Western Siberia and in European Russia but Eastern Siberia and the Far East are of increasing importance for exploitation and development.

Russia is also the world leader in terms of natural gas production which reached 554.9 billion scm in 2002. That meant an increase of 2.3 per cent in production from the previous year and amounted for 21.4 per cent of total production worldwide (BP 2003, 22). The maintenance of a high production level throughout the last decade has brought natural gas's share in the Russian energy balance to nearly 50 per cent (IEA 2002, 111). These circumstances push the production rate and help to maintain its level. Nevertheless, it will be necessary to bring up new capacities on stream in order to avoid a decline. Fields now in production are expected to achieve declining outcomes soon, especially those of Gazprom. The company has a declining budget, investments are low and it has difficulties to maintain its main gas fields in the Nadym-Pur-Taz region. From this region 85 per cent of total Russian

¹³ More details from European Commission 2003

production originate in 2000, and the three largest fields contributed 80 per cent to it (IEA 2002, 112).

Although gas producing companies in Russia have to supply the domestic market first with artificially low prices there are huge amounts of gas available for export. Hence, Russia is also the world's leading gas exporter. Historically, Russia has two main markets for its gas which are significant for different reasons. On one side are the republics of the FSU and on the other European countries. The countries of the FSU received 88.9 billion scm gas in 2000 from Russia. But the export to those countries is declining fast because of the difficulties to receive a reasonable price for gas on that market. Furthermore, many purchasers owe substantial payments to the suppliers, especially the Ukraine (EIA 2002c).

Russian natural gas exports to non-FSU countries rose strongly during the last ten years. European countries received 128 billion scm in 2002, 65 per cent of the total exports (BP 2003, 28 and IEA 2002, 137 and EIA 2002c). The most important recipients are Germany, Italy, France, Turkey and Hungary (compare figure 7). Russia supplies Europe with over 25 per cent of its gas imports and wants to increase this percentage in the near future. More than 80 per cent of the exports rely on long term contracts, but the liberalisation of the European gas market will probably lead to a shift towards short term spot prices (IEA 2002, 136). This would be contrary to the Russian interests because of the difficulties that short term gas trade causes to the financing of investments. The gas trade between Russia and Europe could change in the near future due to this development.

The average depletion of reserves is 20 per cent at the moment and over 29 trillion scm of total explored reserves have not been put into development (Gritsenko et al. 2001). Hence, there is a huge potential for rising production levels of natural gas for the next 20 to 30 years. The creation of transportation systems for gas from remote new producing centres (Yamal, Gydan and the Barents Sea) will be one of the most important preconditions for enabling the increase. But Russia will not be short in natural gas even in a longer perspective. There are many promising regions around the country which most likely contain some deposits. The development in the Far East, for example, did not even start on a grand scale yet and future gas deliveries to Asian countries will determine the future openings. In general it is expected that large reserves and unexplored resources will pass on to the 22nd century (Gritsenko et al. 2001).

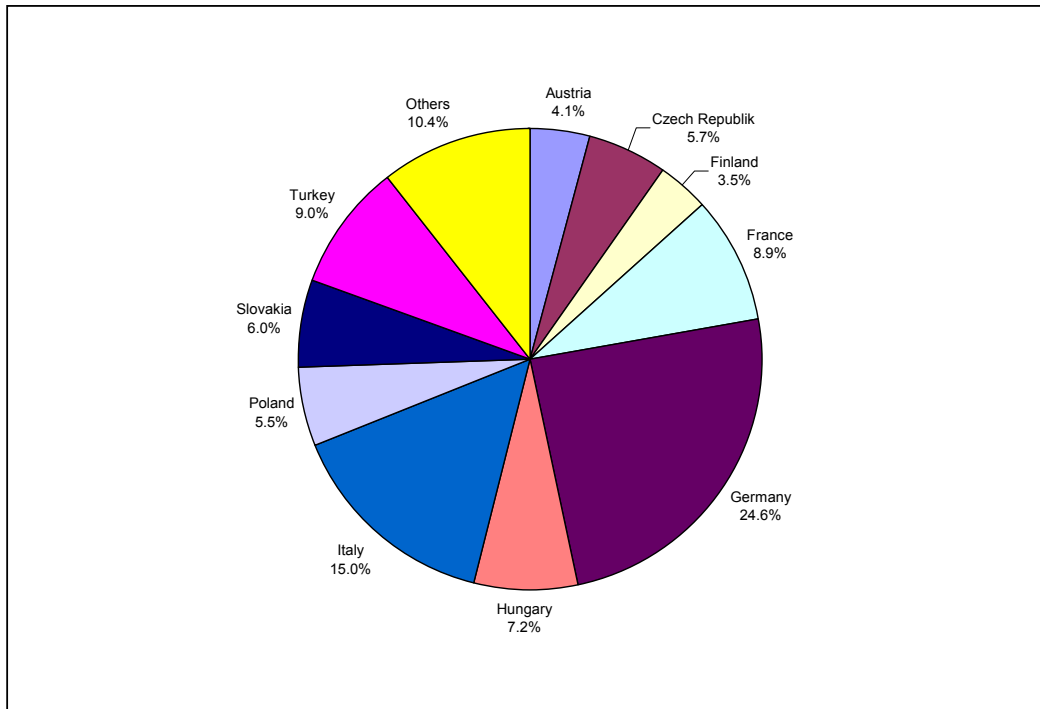


Figure 7: Non-FSU recipients' share of Russian natural gas export in 2002 (BP 2003)

2.2.3 Major Russian oil and gas regions and transportation facilities

As mentioned above, the Russian government does not publish official information about the location and size of the oil and natural gas deposits. This circumstance makes it very difficult to write about single oil and gas fields. Additionally, there are very many of these kind of deposits and it would certainly go beyond the scope of this work to introduce all of them, even in the form of a table like has been done in the chapter on the Norwegian petroleum sector. EIA 1997 specifies only for Western Siberia over 800 oil and gas fields and the number for all of Russia is accordingly much larger, though Western Siberia is the dominating Russian petroleum basin with a share of 75 per cent on total Russian production (Pinsker 2003).

Due to the missing information and the complexity of oil and gas fields I will not describe the single fields. Information on the main oil and gas producing regions can be taken from the figures eight and nine which illustrate the location of these regions. There are five major hydrocarbon basins: West Siberia, Volga-Ural, Timan-Pechora, North Caucasus and Eastern Siberia. Within these basins the largest oil and gas fields can be found (Oil: *Samotlor*,

Romashkino, Mamontov, Fedorov, Lyantor Gas: Urengoy, Yamburg, Medvezh, Orenburg, Severo Urengoy).

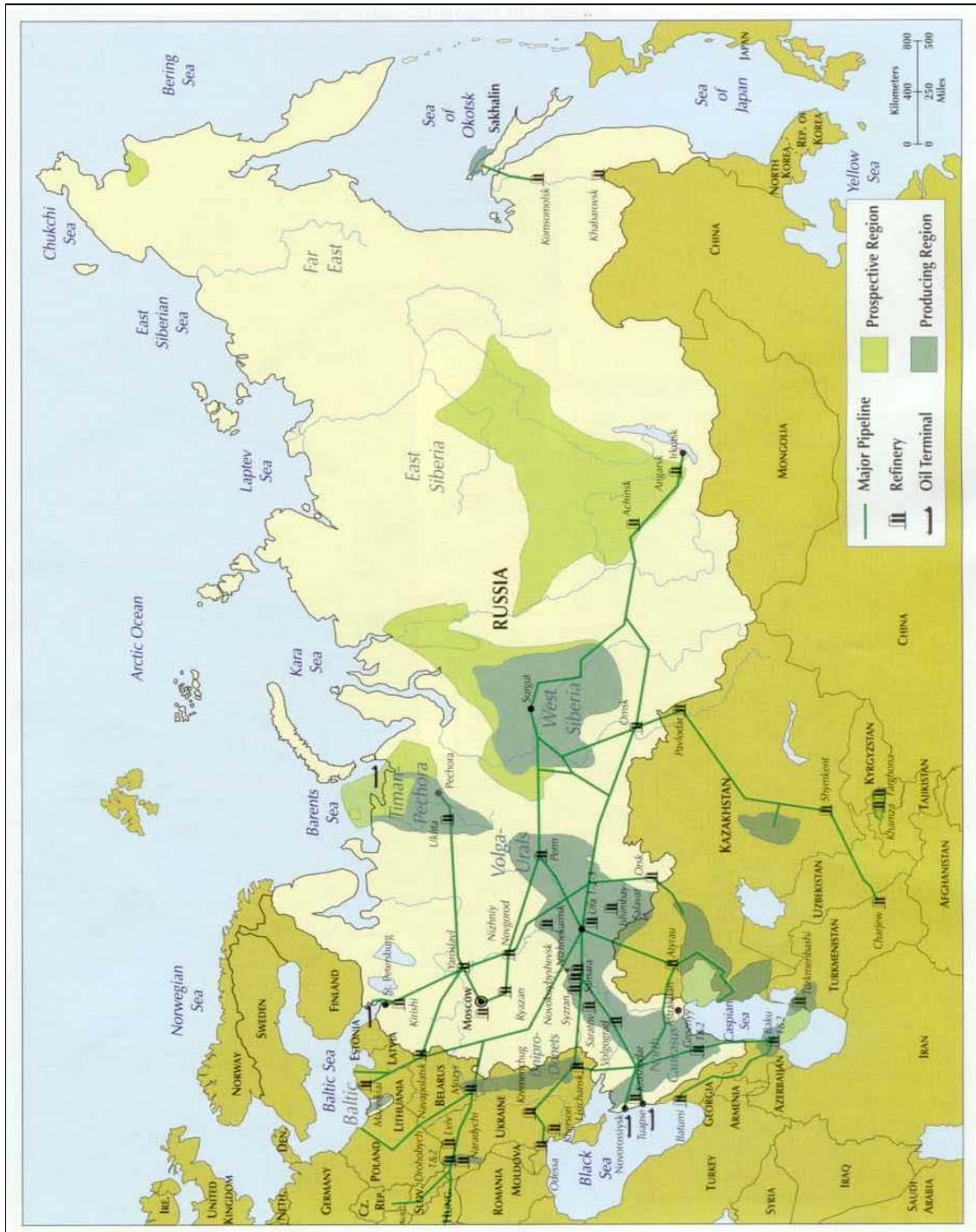


Figure 8: Major oil producing and prospective regions and pipelines (IEA 2002, 11)¹⁴

¹⁴ Map 1: Major Oil-Producing and Prospective Regions, *Russia Energy Survey 2002*, © OECD/IEA, 2002.

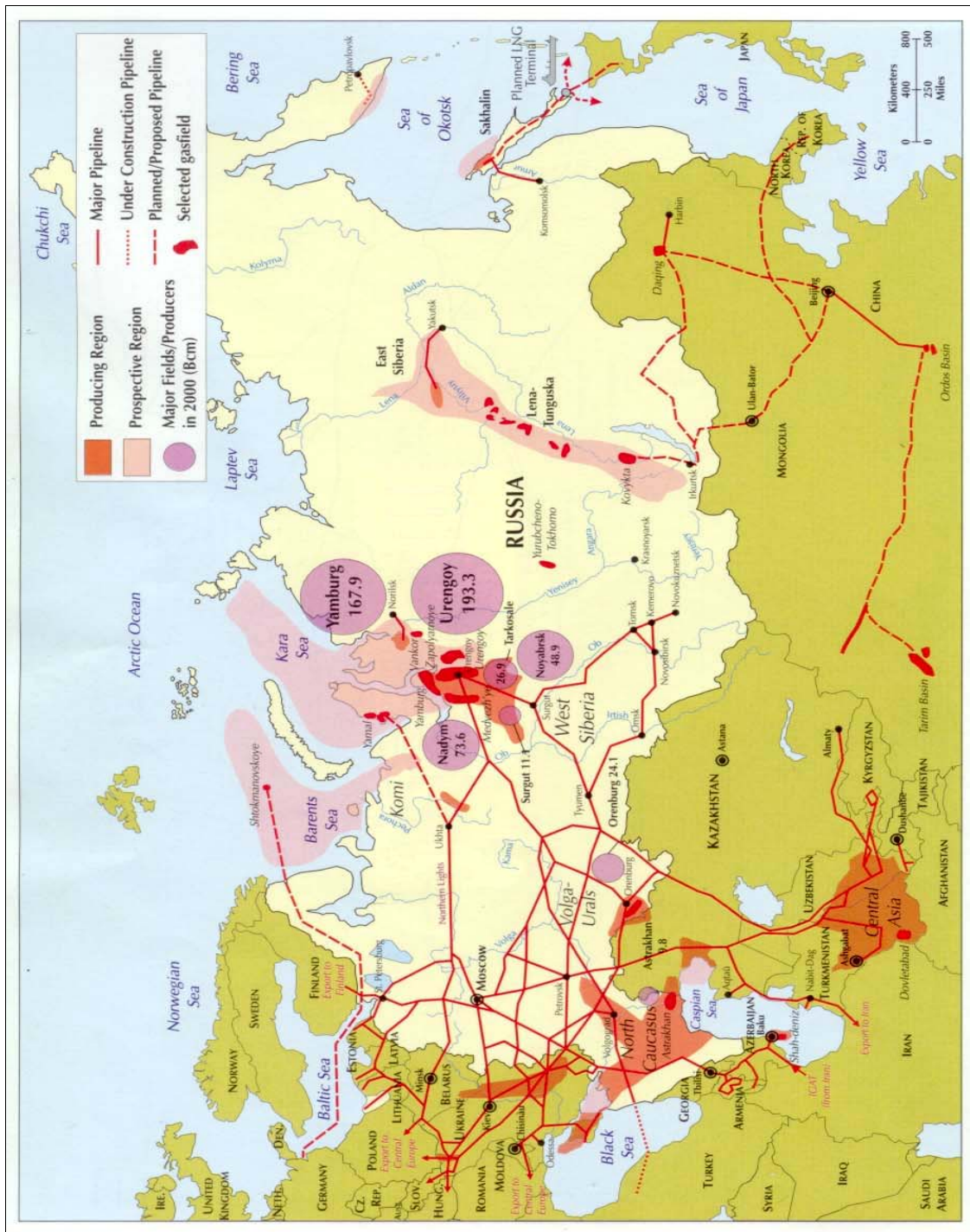


Figure 9: Major natural gas producing and prospective regions and pipelines (IEA 2002, 14)¹⁵

¹⁵ Map 4: Major Natural Gas Producing and Prospective Regions and Pipelines, *Russia Energy Survey 2002*, © OECD/IEA, 2002.

Transportation facilities for the export

Pipelines dominate the internal transportation of Russian oil and gas, due to the continental character of the country and the main focus on onshore production. An extensive pipeline system exists throughout the country which links it to nearly all the former Soviet republics. The ability to export oil and gas via pipeline to the markets beyond the borders of the FSU are limited due to missing capacities. Hence, Russia puts emphasis on building new pipeline connection to Europe and Asia.

Following, the main oil and natural gas pipelines will be introduced. If not stated otherwise the explanations are based on EIA 2002d.

In the case of oil export only 43 per cent reaches the buyers by pipelines, which are run by Transneft. The remaining 57 per cent is shipped from major marine terminals in Russia as well as in other former Soviet republics (Latvia, Lithuania, Estonia and Ukraine) and at the shores of the Black Sea, after they arrived there from the fields mostly by pipeline (IEA 2002, 94). Hence, pipeline transportation has also in the case of oil exports an important position.

The main export pipeline for oil to Europe is Druzhba (Friendship) and it transports oil from several different oil fields. It traverses Belarus before splitting into a northern and southern route. Its capacity is 1.2 million b/d and the deliveries go throughout Europe. The northern line runs until Germany via Poland and the southern pipe passes through northern Ukraine and continues to Hungary, Slovakia, and the Czech Republic. The capacity of the northern route is now fully used while the southern arm still has available transportation resources (IEA 2002, 95).

The first stage of the Baltic Pipeline System (BPS) became operational in December 2001 and allows an export capacity of 240000 b/d. It consists of a new main pipe from Kaharyaga (Nenets Autonomous District) to Usa (Komi Republic), the reconstruction of several older segments and the new construction from Kirishi to Primosk. An oil terminal built in Primosk is also part of the project and here the pipeline ends. Mainly oil from the Timan-Pechora and Western Siberian oil provinces will be piped through the BPS and it gives Russia a direct outlet to northern European markets and reduces the dependence on transit routes through Estonia, Latvia and Lithuania. In June 2002 work on the second stage of the BPS started, it will increase the capacity to 360000 b/d (EIA 2002d).

In November 2001 the first stage of the Caspian Pipeline Consortium's pipeline from the *Tengiz* field in Kazakhstan to Novorossiisk was completed. The pipeline is the first to be run by an international consortium rather than Transneft, the Russian state owned monopolist. It has an initial capacity of 564000 b/d but the missing links from Russia's Transneft pipeline

system to this pipeline has limited the flow of Russian oil in it. Nevertheless, the project marks an important turning point in the development of the oil sector because of its international character¹⁶. It is hoped that this trend will free up transportation capacities soon.

There are several other smaller pipeline connections in Russia as well as planned and considered new projects. The Northern Gateway connects, since 2000, the Timan-Pechora region with the shore of the Barents Sea and allows a direct export to international markets by tankers from Russia. Among the most important considered projects are pipes to China (with possible extensions to South Korea) and pipes from the Sakhalin Island to Japan (EIA 2002d).

Gazprom, a so-called state natural monopolist, runs the comprehensive domestic natural gas pipeline system. Russia's main export pipelines for gas run from West Siberia, across the Volga-Urals and Timan-Pechora, through Ukraine and Belarus to Europe. These are the Bratrstvo (Brotherhood), Soyuz (Union) and the Progress pipelines with a capacity of 28 billion scm each. Transit problems, especially through Ukraine, caused major efforts to diversify the pipeline routes to the outlet markets. Accordingly, the present situation of the natural gas infrastructure is characterised by new building and planning.

The Yamal-Europe pipeline via Belarus and Poland to Germany is, at the moment, the only one that does not go through Ukraine. It was originally planned to build two export lines from the gas fields in the Yamal region to Europe. However, neither the connection to the Yamal fields nor the second pipeline could be realised until now. That is why only gas from West Siberia is pumped to the outlet markets with a capacity of 28 billion scm per year.

As an alternative to the second Yamal-Europe pipeline a sea route through the Baltic Sea will be constructed to transport gas from the far north of European Russia and the Barents Sea to the market. It will run from a coastal point north of St. Petersburg to Germany, probably with spur lines to Finland and Sweden and construction is expected to require six years. There are still uncertainties concerning the funding for the project, which will be significantly more expensive than the on land alternative. Nevertheless, Gazprom decided to select this route, due to a higher reliability and a growing independence of export from transit issues (Quiring 2002).

The Blue Stream pipeline runs from Russia straight to Turkey via the Black Sea. Construction of this project began in February 2000 as a co-operation between Gazprom and the Italian company ENI. In October 2002 the pipeline, with an ultimate capacity of 16 billion scm per year, was finished. Soon after the supplies started on the basis of a long term contract.

¹⁶ An interesting impression of the characteristics and problems of the international partnership gives Alexander's Gas & Oil Connections 2002.

Another existing pipeline is the Volga/Urals-Vyborg to Finland (2.8 billion scm). Future pipelines to China and Japan are under consideration. Only a few details of these projects are known currently and further consolidation of the Asian market and the natural gas exploitation infrastructure are necessary preconditions for the final decision on them.

2.2.4 The oil and gas industry in Russia

The oil and gas sector has an outstanding position in the Russian economy. It provides Russia a basis for a stronger international position, a reason for economic integration into the Western World and seems to be an integral part of the Russian growth engine (Tykkyläinen 2003a). The share of the oil and gas sector on some basic macroeconomic indicators also reflects its importance: 17 per cent of GDP, 50 per cent of federal budget revenues and 50 per cent of foreign currency income (estimations according to IEA 2002 and Hagland 2003).

In view of these figures it is not surprising that the state influences the oil and gas sector with the help of several governmental bodies. The Ministry of Energy, Ministry of Natural Resources, the Anti-Monopoly Ministry and the Ministry of Economic Development carry out the interest of the government on a general level. Furthermore, the Federal Energy Commission is responsible for price regulations in some areas and the Commission on Oil and Gas Pipeline Use regulates access to the pipeline system (IEA 2002, 69-70).

The main task for governmental authorities during the last years was to manage the transition process towards a market economy. The progress in pushing through reforms in the energy sector has been slow but some basic changes were achieved. One of the main aspects is the privatisation of the former state owned oil and gas companies. In the case of the oil industry a group of large vertically integrated joint-stock companies was created in 1994. Lukoil, Yukos, Surgutneftegaz, Tymen Oil (TNK), Tatneft and Sibneft are the biggest of them and they contribute the majority of the Russian oil production (EIA 2002b). In a second phase, which has been ongoing since 1995, the shares of the government in these companies are supposed to be reduced. The privatisation of the gas industry follows a different direction. Until today, Gazprom is the only major player in the Russian gas business. It is 38 per cent state owned and dominates the gas sector in every respect and prohibits the development of competition on the market. There are plans for breaking up Gazprom into several independent companies, and the replacement of chief executive Rem Vyakhirev with Aleksei Miller in 2001 was interpreted to be a sign for further privatisation. However, little has changed since then. In view of the sheer size of Gazprom relative to the Russian economy (20 per cent of

federal budget revenues, eight per cent of GDP) it is not surprising that the state wants to maintain its influence on business decisions (IEA 2002, 144).

The adjustment of the legal framework of the oil and gas sector to the standards of the international economy is another major part of the transition process. Price regulation, production-sharing agreements (PSA) and third-party access to transportation facilities are among the most important aspects.

The price level on the domestic Russian market is significantly below the international one. The gas price within Russia is regulated by the state until today, whereas the oil price is officially free to the market forces. Accordingly, the domestic oil price in Russia is almost the same like the international one but gas is still sold to Russian customers for a significantly smaller price than to international purchasers (IEA 2002, 126). Existing export restrictions and the low price put economical pressure on the gas companies and prohibit necessary investments. A radical liberalisation of the market will not be achieved in a short term perspective because of social reasons and the dependence of other industries on cheap energy. Nevertheless, it will be of great importance for the future of the oil and gas sector to adjust the prices to the actual market prices.

Production-sharing agreements are the dominant form of investments in the oil and gas industry outside the OECD countries (IEA 2002, 83). The division of profits between the company and the state is, in this kind of agreement, subject to a contract that extends over the life of the project. Energy specific taxes and uncertainties on future developments are replaced by the contract and it offers certainties for the investors and rewards the operators for reducing costs. The state, on the other hand, has ensured its increasing share of the profit. The original law on PSA was approved by the Duma in 1995 and was replaced by a second one in 1999. An effective implementation has not been reached yet, even though dozens of agreements, which have been reached since the introduction of the PSA legislation, seem to be an indication for its success. Linkage and harmonisation with other existing laws, particular the tax code, are still weak and have to be revised (EIA 2002b).

Gazprom is not only dominating the gas production but also its pipeline transportation. It restricts the access to the pipeline system for other companies and causes major inefficiencies in the whole system. Many oil producers prefer to flame associated natural gases instead of utilise them for trade, due to Gazprom's refusal to grant them access to its pipelines. EIA 2002b assumes that Russia would have ten per cent more natural gas available for export over night, if this circumstance would be changed. Additionally, the competition among producers would be more effective if the pipeline system would be accessible for all

users under the same terms. It will be an important task for the state to develop a fair and open distribution system for all interested companies. This process is part of the restructuring of Gazprom and the Russian government intends to become a controlling shareholder in a new transportation company (EIA 2002b).

Aside from these aspects of liberalisation and privatisation in the transition process, many other problems are related to the oil and gas sector in the Russian economy. It will be a challenging task for the future years to cope with the age and partly desolate situation of the sector's infrastructure. Directly connected to this aspect is the question of how the necessary investments for restructuring can be ensured, especially foreign investments. A weakening peculiarity of the Russian oil and gas business is the non-payment or non-cash-payment behaviour of many customers. Barter was often more common than regular trade, though this tendency has been decreasing recently. Finally, it is of the utmost importance to find a political solution and agreement for oil and gas transit through neighbouring countries, especially Ukraine.

2.3 German energy market and policy

It is necessary now to have a look at the demand side of energy in Germany after the supply side was introduced in the two previous chapters on Norway and Russia. In this way both of the determining aspects for the energy trade from Norway and Russia to Germany are examined and the presentation of the underlying framework of this work will be complete.

2.3.1 Present situation of the German energy market

The German primary energy¹⁷ consumption in 2001 amounted to 14500 peta¹⁸ joule (PJ) (Schiffer 2002, 25). This amount means that Germany has the fifth largest energy market in the world after the USA, China, Russia and Japan.

Many aspects influence the energy requirement of Germany. Beside seasonal and climatic factors, the size of the population, the amount of households and the size of the living space, the amount of motor vehicles and the economic productivity are the most influencing aspects of energy consumption. All of these quantities have been growing for a long period and even though the population will decrease in the near future it is likely that the other figures will still continually grow slowly. Nevertheless, the primary energy consumption in Germany has been slightly decreasing since the beginning of the 1990s (Bundesministerium für Wirtschaft und Technologie 2002, 8). This trend in Germany differs fundamentally from the situation in many comparable countries, in which the economic growth causes also a growth in energy consumption. The reason for this development is the above average efficiency of the energy consumption. The German economy's energy intensity (ratio of primary energy consumption to GDP) has for years been declining (Federal Ministry of Economics and Technology 2002, 12). However, there will be a stable demand for energy within the short and medium term.

Figure ten shows the consumption of energy by different sectors. Traffic is not only the biggest single entity in this respect but also the fastest growing. The consumption of

¹⁷ Primary energy is the amount of energy contained by a natural, not processed, source of energy. Oil and gas are two of these energy sources. Secondary energy is the energy contained by energy sources, which were produced from primary energy sources through transformation processes, for example electricity or fuel.

¹⁸ peta = quadrillion = 10^{15} = P

energy in households grew slightly during the last years whereas the other sectors show declining needs for energy. Especially industry and the military use less energy than in the past.

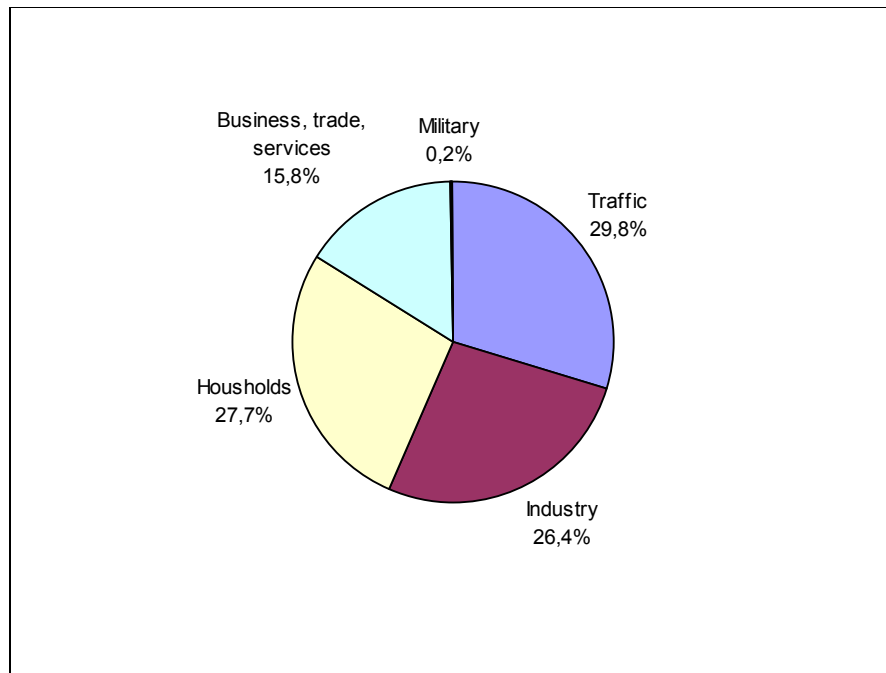


Figure 10: Energy consumption by sectors in 2000 (Bundesministerium für Wirtschaft und Technologie 2002, 12)

The composition of the mix of different energy sources for meeting the demand in Germany is changing at the moment and will undergo further changes during the next years. Figure 11 shows the development of the mix of energy sources for the time span from 1990 to 2020, according to common sources and estimations. The following explanations are based on Schiffer (2002, 363-365) and provide a closer view on the developments. During the last decades oil was always the most important energy source and it will keep this position at least for the medium term. Its share on the primary energy consumption in 2020 will reach 41 per cent after reaching 38.5 per cent at present. Natural gas is on the German energy market, at the moment, the second most important energy source (21.5 per cent of primary energy) after displacing hard coal and lignite recently. It will continuously expand its position and will reach a share of 28 per cent in 2020. The consumption of hard coal and lignite is strongly declining, nevertheless they will still keep a share of ten to 15 per cent of the energy consumption in 2020. Even stronger is the decrease of nuclear energy usage. Due to political decisions its use will phase out during the next 25 years (see chapter 2.3.2) and will have a

market share of four per cent in 2020. Wind and water based energy, as well as other energy sources, are on an upturn. However, their position on the energy market in absolute terms is still at a very low level and this will not change significantly until 2020.

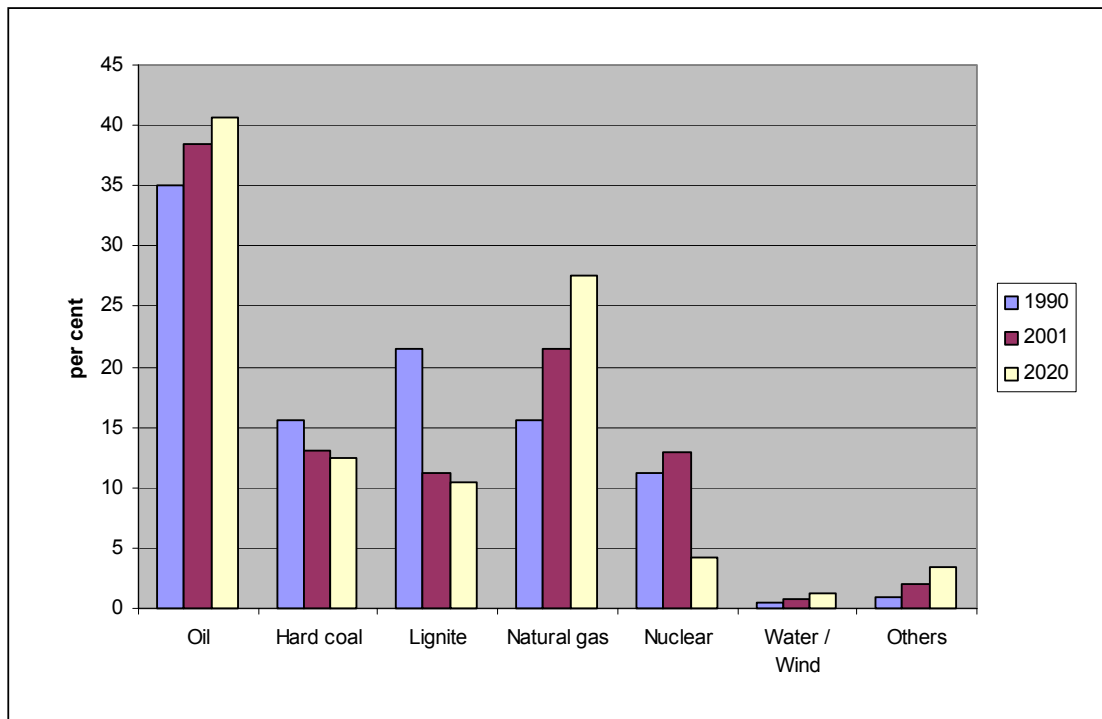


Figure 11: Shares of different energy sources of the total energy consumption in Germany 1990, 2001 and 2020 (Bundesministerium für Wirtschaft und Technologie 2002, 10 and Schiffer 2002, 364)

After examining the consumption of energy it is now appropriate to have a look at the origin of the energy sources. An outstanding feature of the German energy supply is its high dependency on imports. In 2001 more than three quarters of the energy requirement was based on imported sources (Schiffer 2002, 31). The dependency varies clearly between the different energy sources (compare figure 12). Beside nuclear energy, which is based completely on imported uranium, especially the oil and gas supply is dependent on foreign origin (with 98 and 78 per cent respectively). In the case of hard coal the domestic and foreign sources are nearly of the same importance, whereas lignite originates almost entirely from domestic sources.

The differences in the dependency on imports can be explained by the present resource situation. Germany's own energy base is essentially limited to coal. The recoverable reserves of hard coal correspond to five per cent of worldwide deposits and the comparable figure for lignite is 18 per cent. Hence, lignite is the most important domestic energy source, followed by hard coal, natural gas and oil.

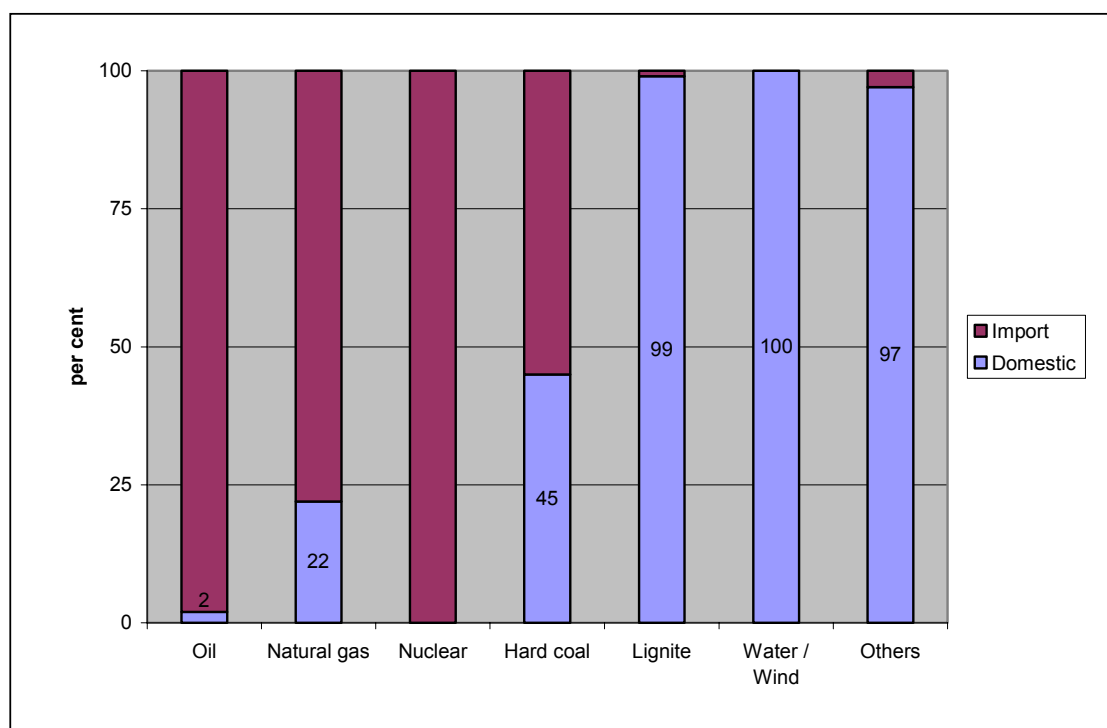


Figure 12: Import dependency of the energy supply in 2001 (Schiffer 2002, 31)

The most important foreign supplier of energy raw material is Russia. Its oil, gas and hard coal deliveries contributed 18 per cent to the German energy supply in 2001 (Schiffer 2002, 33). The following important suppliers are Norway (oil and gas, 11 per cent), UK (oil and gas, seven per cent) and the Netherlands (gas, five per cent). All energy imports required the spending of 48 billion Euros in 2001 which is nine per cent of the total import trade volume.

Following, I will have a closer look at the situation of the oil and gas supply which are in the centre of interest of this work. The supply of oil in Germany consisted in 2001 of 105 million tonnes of imports and 3.4 million tonnes of domestic production. The imports are traded on spot markets and originate from a total of 23 countries. With a share of 29 per cent Russia is the most important supplier, followed by Norway (18 per cent), UK (13 per cent)

and Libya (11 per cent). Figure 13 shows the total situation of oil imports. The ten biggest suppliers have a share of 96 per cent and 22 per cent of all deliveries originating from OPEC countries. The structure of delivery sorted by regions shows the following results: Western Europe 35.7 per cent, Eastern Europe/Asia 34.1 per cent, Africa 17.3 per cent, Middle East 11.2 per cent and South America 1.7 per cent. (Schiffer 2002, 46-49) The most important sectors for using oil in Germany are transportation (54 per cent) and the heating (30 per cent) (Federal Ministry of Economics and Technology 2002, 100).

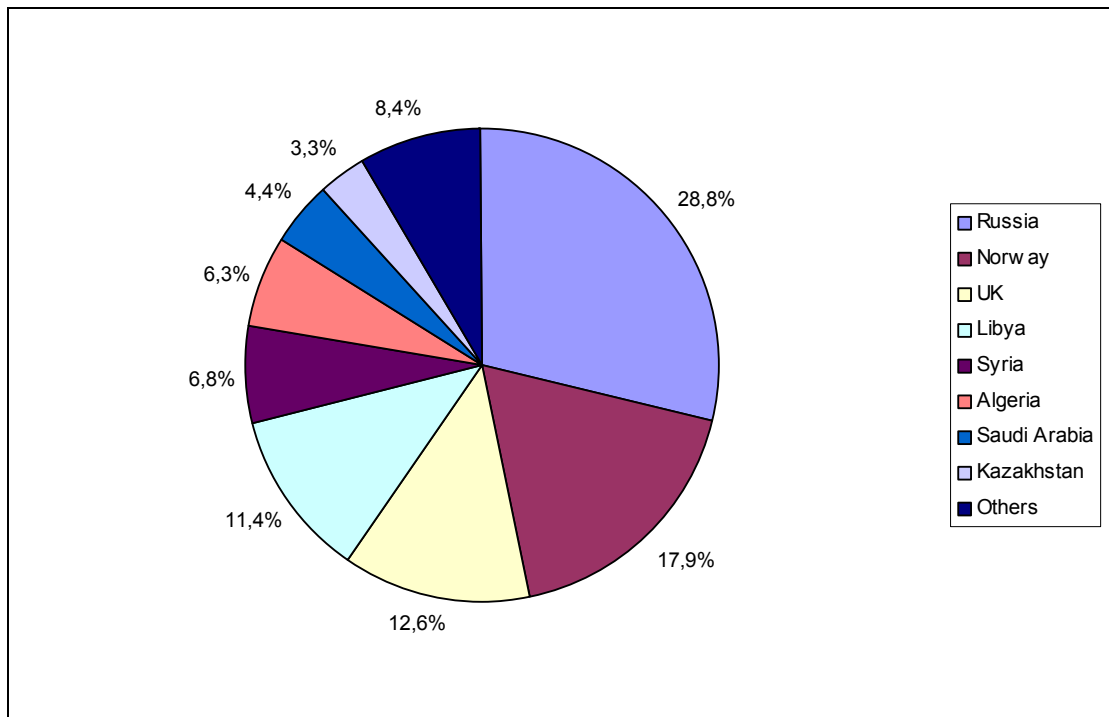


Figure 13: Oil imports by origin in 2000 (Federal Ministry of Economics and Technology 2002, 100)

The German market's supply of natural gas was 78 per cent imported and 22 per cent domestic production (total consumption: 84 billion scm). Germany is, with its domestic production, the fourth biggest gas producer in Western Europe. The deposits are mainly situated in the north-west of the country, particularly in Lower Saxony (Ruhrgas 2002, 7). The imports originate from six different countries: Russia, Norway, The Netherlands, UK, Denmark and Poland (compare figure 14). Russia has by far the biggest share of the gas imports and dominates the supply side for gas in Germany. The three biggest suppliers deliver nearly 95 per cent of all imports. The purchases of natural gas from abroad are based on long term contracts between the producers and the gas supplying companies of the German market.

The contracts usually run more than 20 years and some reach until 2030 (Schiffer 2002, 143). The most important sectors for using natural gas in Germany are households (mainly for heat production, 49 per cent), industry (25 per cent) and electricity production in power stations (12 per cent) (Ruhrgas 2002, 5).

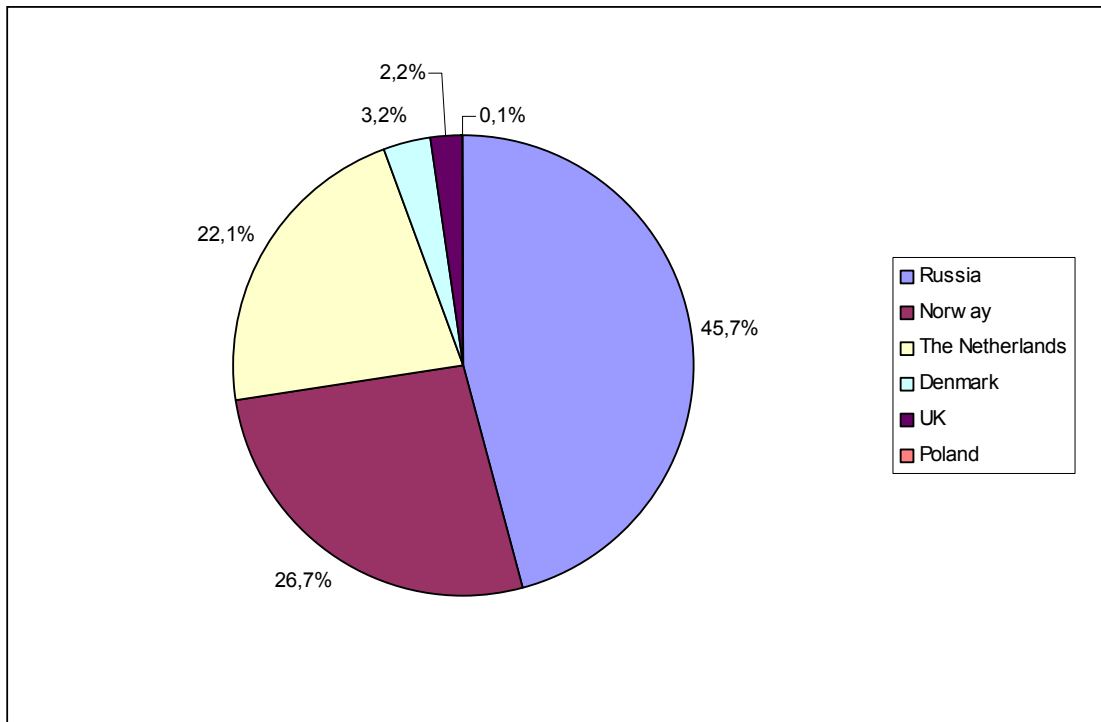


Figure 14: Natural gas imports by origin in 2000 (Federal Ministry of Economics and Technology 2002, 97)

2.3.2 German energy policy

The German energy policy is set out in detail in the “Energieprogramm” (energy program) since 1973 (including three updates that occurred in 1974, 1977 and 1981). The next important documents are the “Energiebericht” (energy report) from 1986 and the guideline from 1991 with the title “Energiepolitik für das vereinte Deutschland” (energy policy for the unified Germany). The energy report “Nachhaltige Energiepolitik für eine zukunftsfähige Energieversorgung” (Sustainable energy policy to meet the needs of the future; compare Federal Ministry of Economics and Technology 2002) from 2001 is the latest governmental program on energy policy (Schiffer 2002, 387).

The ministry of economics and labour¹⁹, which is responsible for the energy policy within the German government, labels the present energy policy as “Nachhaltige Energiepolitik” (sustainable energy policy) and specifies three main goals for its efforts: Environmental capability, supply security and economic viability. “More of one goal means less of the other; they are mutually competitive” (Federal Ministry of Economics and Technology 2002, 4). This competitiveness of the goals requires an active intervention of the state into the workings of the energy market. The market develops much too rapidly to reward the long-term goals of environmental protection and supply security, they would be overruled by the economical needs without the control of the energy policy. Accordingly, it is the aim of the German energy policy to define and try to occupy an optimal position within this triangle of parameters (compare figure 15) (Federal Ministry of Economics and Technology 2002, 4).

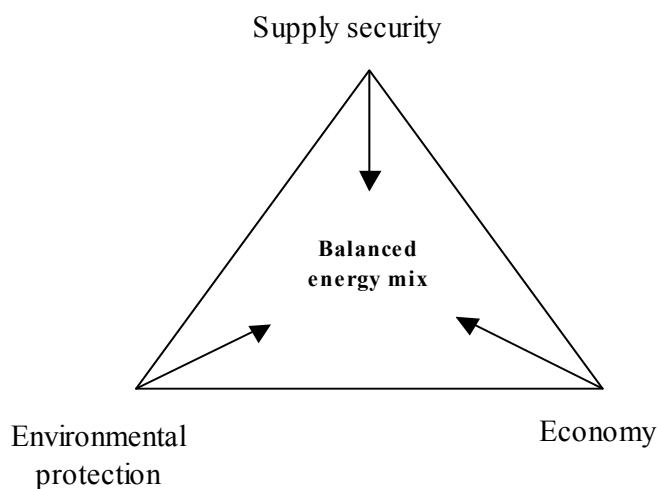


Figure 15: Goals of a sustainable energy policy (Schiffer 2002, 387)

For all three goals there exist various strategies to meet their demands. A reducing of energy consumption is basically compatible with all mentioned goals. Nevertheless, in most aspects the strategies are in the same way mutually antagonistic as the goals are. According to the Federal Ministry of Economics and Technology (2002, 9) the main strategies are:

¹⁹ The structure of the ministry was reorganised at the beginning of the present legislative period. The former ministry of economics and technology got also the responsibility for the labour market. It is now considered to be a so-called “super ministry“ with extensive competences.

Supply Security:

- Strengthen and develop domestic resources
- Reduce import risks / ensure long-term security of imports
- Use energy more sparingly and rationally
- Ensure technical security of transmission lines

Economy:

- Ensure affordable and efficient energy supply to industry and consumers
- Safeguard Germany as a competitive energy-producing location
- Give German energy firms opportunities on foreign markets

Environmental friendliness:

- Replace polluting energies with environmentally friendly energies, in particular to attain climate-protection goals
- Use energy more sparingly and rationally
- Internalisation of external costs

The present governmental program concerning energy policy is based on the above mentioned goals and strategies. The coalition of the Social Democrats and the Green party stressed the meaning of energy policy during the last legislative period (1998-2002) and implemented new ideas and principles to shape the energy sector. Furthermore, both parties agree with the coalition treaty for the present legislative period (since 2002) in principle on a continuation of their former work (SPD 2003).

The agreement on ending the use of nuclear energy is one of the most important changes of the energy policy since 1998. On June 11, 2001, the government and the operators of nuclear power plants signed the agreement that serves as a basis for the gradual ending of this source of energy production (Federal Ministry of Economics and Technology 2002, 17). According to this agreement all German nuclear power plants will shut down in the next 25 years.

Renewable energies are in the focus of the coalition's energy policy. The legal framework for producing and feeding renewable energy into the public grid was improved and also recognised by the European court on March 13, 2001. Beside the legal framework the state's financial assistance for installing production sites for renewable energy was

enlarged. The so-called “100000 Roof Solar Electricity Program” is for example part of the governmental program.

Climate protection is another main feature of the energy policy. Since October 2000 it is official goal of the German government to achieve the national target of a 25 per cent lowering of CO₂ emission by 2005 from the 1990 level (Federal Ministry of Economics and Technology 2002, 18). An important step forward was the voluntary commitment agreement for climate protection, signed by the German industry and government on November 9, 2000. One important supplement to this agreement is the greater use of cogeneration and its state support. Further developments are the establishment of a Council for Sustainable Development and the eco tax which provides an incentive for the sparing use of energy. (Schiffer 2002, 390)

Federal Ministry of Economics and Technology (2002) or Schiffer (2002) mention additional focuses of the German energy policy: energy conservation and efficiency, adjustment of the regulatory framework for the electricity and gas markets, integration of eastern Germany's electricity sector into the liberalised electricity market, offsetting competitive distortions vis-à-vis the other European Member States, safeguarding Germany's hard coal production, supporting energy research and energy data for policymakers and consumers.

The overall framework for the energy policy and the energy market has changed during the last years. Four key words define this development: internationalisation, sustainability, liberalisation and climate control. The internationalisation of the German energy market is mainly based of the influence of the European Union (EU) on the energy policy. Although the EU does not have competence in the field of energy, it has nevertheless been able to adopt a number of measures resulting in the completion of the internal market and the free movement of goods, notably in gas and electricity (European Commission 2000, 67). The opening for the gas and electricity market according to the EU guidelines in Germany led to a restructuring of the energy market and an increasing level of international competition. The liberalised markets should provide an efficient use of energy and increase supply security. International agreements for climate protection contribute as well to the growing international dimension of energy policy. The intersection with the other two dimensions of the new framework, sustainability and climate control, also occurs here.

Figure 16 shows the interplay of these four important dimensions and their influence on the energy policy. The ministry of economics and technology summarises its energy policy in this context aptly with following sentences:

“Contributions to the long-term feasibility of the economic, ecological and social order can be made by energy policy under these new conditions. This can be done by maintaining good relations with energy-producing countries, by keeping open both national energy markets and the options regarding energy sources and use, by setting a clear energy policy course, and by providing information about long-term consequences of energy use.” (Federal Ministry of Economics and Technology 2000, K-1)

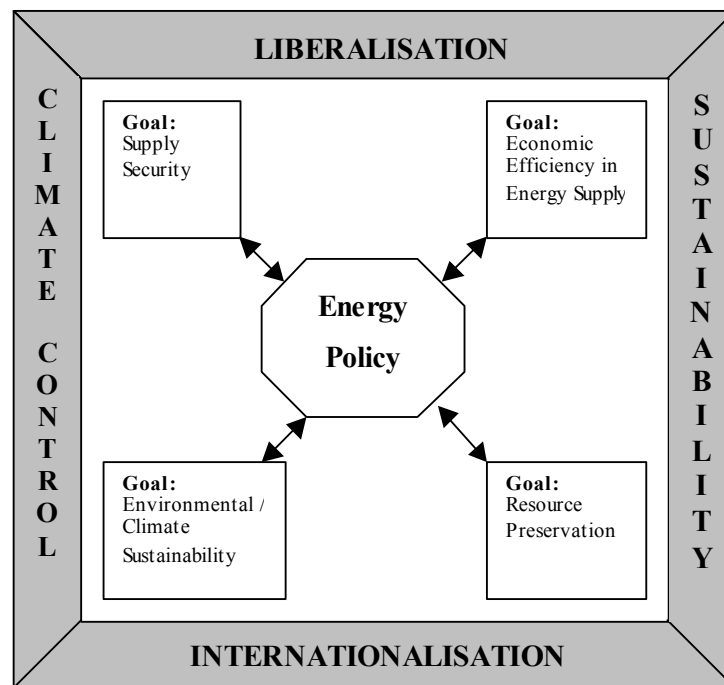


Figure 16: Framework for energy policy (Federal Ministry of Economics and Technology 2000, K-1)

3 Method and research material

The following third chapter will introduce content analysis as the main research method of this study. A detailed description of this method and its characteristics forms the first section of this chapter. Afterwards, the research material, which is a collection of newspaper articles from two leading German newspapers, will be introduced. The last section illustrates how content analysis is applied in this work within the particular framework of the research's setting.

3.1 Content analysis in general

Content analysis is a research method with a long tradition particularly in communication science but also in social sciences. The development towards an important and independent scientific method started at the beginning of the 20th century and peaked during World War II. Three trends were the crucial factors behind its development: The positivistic-behaviouristic thinking tradition of this time, the rise of the empirical social sciences and the expanding use of mass media in all its different forms (Früh 2001, 11).

The content analysis is a method which allows the detection of specific structural features of all kind of texts, for example newspaper articles. It is the goal of every content analysis to reduce the complexity of language and its messages by concentrating only on the relevant aspects of texts and language that have been defined by the research's approach. Formally expressed, "die Inhaltsanalyse ist eine empirische Methode zur systematischen und intersubjektiv nachvollziehbaren Beschreibung inhaltlicher und formaler Merkmale von Mitteilungen"²⁰ (Früh 2001, 25).

Observed facts of reality (for example statements in newspaper articles) are transformed into data according to operationalised criteria, and arranged according to pre-defined categories. After this qualitative step of analysis the quantitative examination of the data follows and, finally, its interpretation occurs, taking into account the scholarly relevant perspectives. Content analysis produces aggregated data by transforming empirical facts from the object level to the abstract level. These aggregated data cannot be read from the single

²⁰ Own translation: Content analysis is a systematic and intersubjectively comprehensible method used to describe contents and formal characteristics of messages.

texts and that is why the content analysis allows the researcher to find higher structures and common characteristics.

“Bei der Datenerhebung werden die komplexen Inhalte des Untersuchungsmaterials kontrolliert und systematisch auf die Information reduziert, die nach Maßgabe der wissenschaftlichen Fragestellung interessiert. Die Datenanalyse generiert dann Informationen, die sich an der einzelnen Aussage oder am einzelnen Text nicht erkennen lassen, sondern erst als Strukturmerkmal größerer Textmengen zutage treten”²¹. (Früh 2001, 63)

The strength of content analysis is beyond the pure counting of words or frequencies of terms. The actual study case within the text, namely the crucial statements and the “kommunikativ relevanten Inhalte”²² (Früh 2001, 61), are often not explicitly mentioned. The main achievement is the detection and analysis of “Sinneinheiten”²³ (Früh 2001, 92). These units of meaning are, in general, parts of texts which contain statements on certain facts. The meanings of these statements do not necessarily have to be mentioned explicitly because it is also possible to detect implicit meanings (what can be read between the lines) with content analysis. Früh specifies semantic implications of different levels of abstraction for this purpose (Früh 2001, 55 ff.). A semantic implication on the first level is equal to the explicit mentioning. For understanding a semantic implication on the second level one step of abstraction is needed. As more steps of abstraction are needed by the reader in order to understand the meaning as smaller is its clearness. The reliable and valid registration of this kind of units of meaning requires a precisely defined system of categories. One of the main problem that occurs during content analysis is to find, specify and define ‘hard’ indicators for each category. This is the task for every researcher; he or she knows best what exactly is in the scope of the research.

One always has to keep in mind the limitations of the applied research method. The results of content analysis are not able to reproduce the investigated reality authentically. They are always a subjective model of reality which represents the perspective of the researcher. Content analysis is meant to register meanings that are not directly ‘available’ in

²¹ Own translation: Complex contents of the research material are controlled and systematically reduced to information, which are relevant to the research question, during the data collection. The data analysis produces in that way information, which are not recognisable from the single texts but only as structural characteristics of bigger amounts of texts.

²² Own translation: communicative relevant contents.

²³ Own translation: Unit of meaning

the texts. Früh (2001, 114) points to the fact that there is not a universally valid meaning of messages because the particular meaning is always created in people's minds. For the interpretation of semantic implications (not explicitly mentioned statements) content analysis depends on plausibility assumptions and probability. Nevertheless, these are not arbitrary but based on conventional meanings of language usage (Früh 2001, 43 ff.). There are numerous meanings of messages which are interpreted mainly uniformly by members of the same language group, even though other meanings of a message can be perceived in very different ways.

Früh does not consider these limitations as an argument that speaks against the usage of content analysis or empirical studies in general:

“Entgegen dem Alltagsverständnis geht es auch gar nicht darum, die Realität in unserem Bewusstsein möglichst “wirklichkeitsgetreu” abzubilden, sondern ein brauchbares Begriffsinstrumentarium zu schaffen [...]. Beurteilungskriterium ist demnach nicht ‘richtig-falsch’ sondern ‘brauchbar-unbrauchbar’.”²⁴ (Früh 2001, 19-20)

It is of crucial importance for the judgement on the usefulness that the method is applied systematically and that its criteria are revealed. In this way an intersubjective checking of the results can be achieved.

According to Früh (2001, 58-59), it is, in principle, possible to register all kinds of contents if they are definable in a way that everybody can detect them independently of one another and classify them to the same category. Content analysis provides the necessary framework for a standardised interpretation. Nevertheless, that is why its subject is limited to contents that are not recognised only by single persons but also by others under the pre-given definitions. Deeper semantic implication should not be applied in content analysis or only with great caution. It is recommended by Früh that only semantic implications of the first and second level are used, otherwise he sees the risk of a too strong subjective influence in the categorising process.

After describing the basics of content analysis the question arises in which cases is it an appropriate method and under which circumstances does it have advantages compared to other methods. Früh (2001, 39) lists six main arguments:

²⁴ Own translation: Contrary to the everyday understanding, it is not the purpose to project the reality as faithful as possible in our awareness, instead a useful apparatus of terms should be created [...]. The criterion of judgement is accordingly not ‘right-wrong’ but ‘useful-useless’.

1. Content analysis provides information on communicators and recipients, who are not within reach anymore.
2. The researcher is not dependent on cooperation with test subjects.
3. Time is not an important factor. The research is independent of fixed dates for data collection.
4. The object of research is not changed or influenced by the research.
5. The research is reproducible anytime or repeatable under modified means of analysis on the same research subject.
6. Content analysis is usually cheaper than other methods of data collection.

At the end of this chapter I will try to classify content analysis with respect to the quantitative-qualitative debate. It is, indeed, very controversial among the common publications on content analysis whether it is belonging to qualitative or quantitative methods. Neuendorf (2002, 10) provides a long table of different definitions of content analysis with rather different conclusions towards this question. He clearly identifies content analysis as a quantitative method. Berelson (1952) tends in his standard publication on content analysis also to this direction, even though he explicitly mentions the applicability of the method for qualitative research. Crang provides an even stronger point of view (1997, 188) when he states with respect to content analysis: “This is definitely not what qualitative analysis is about”. I follow in this work Früh and his definition of content analysis. He concludes: “[...] dass die Inhaltsanalyse zwar quantifizierend vorgeht, die quantitative Analyse dabei aber immer der qualitativen Analyse folgt und beide deshalb kein sinnvoller Gegensatz sein können”²⁵ (Früh 2001, 35). Quantitative analysis is needed to detect common structural features of an amount of texts, in particular with statistical analysis. However, the preliminary works as well as the following interpretative procedures are of clear qualitative character. At the end of the research process new qualitative findings are gained. Due to this reason Früh (2001, 130) rejects to label content analysis only as a quantitative method. Following this argumentation I define content analysis as a quantifying approach with strong qualitative attributes.

²⁵ Own translation: [...] that the content analysis admittedly proceeds quantitatively, but the quantitative analysis follows always the qualitative analysis and that is why both cannot be a reasonable opposite.

3.2 Research material: Newspaper articles from Frankfurter Allgemeine Zeitung and Süddeutsche Zeitung

The content analysis in this research work is based on newspaper articles from two leading German newspapers: The Frankfurter Allgemeine Zeitung (FAZ) and the Süddeutsche Zeitung (SZ). There are a total of 103 articles that were accessible in the print media archive of one of Germany's biggest state-owned television organisations (compare appendix 1). This archive contains all articles of both newspapers. The main searching criterion for finding appropriate articles was that they deal with the Norwegian and/or Russian oil and gas sector in any respect. It was neither necessary that these topics are mentioned explicitly in the headings nor that the articles treat only energy related aspects. For the searching process important key words (for example energy supply, energy resources etc.) were combined with the key words Norway, Norwegian and Russia, Russian.

The period in which the chosen articles were published was fixed beforehand. It should be long enough to result in a reasonable amount of articles. On the other hand it should not reach too far into the past because the results of the content analysis are supposed to reflect the present situation and the opinions about contemporary developments. For that reasons I decided to search for articles which were published in the period from January 1999 until March 2003. This time span is long enough to result in enough articles and to allow statements on possible development trends without reaching back into 'historical' dimensions. Under these preconditions I found the above-mentioned total of 103 articles. They can be divided into 62 articles from the Frankfurter Allgemeine Zeitung and 41 from the Süddeutsche Zeitung.

It is necessary and appropriate at the end of this section to explain why I chose the Frankfurter Allgemeine Zeitung and the Süddeutsche Zeitung as the sources of articles even though the market for newspapers in Germany offers plenty of other publications. According to Goethe-Institut (2003), the German newspaper market is shaped extraordinarily by a journalistic diversity and Peters (2003) remarks: "Deutschland ist ein Zeitungsland"²⁶. In 2002 nearly 400 daily newspapers were sold with a circulation of 30 million. As a result of the media policy of the Allies after 1945 only a few of them are national. Of these national newspapers, only four are considered to belong to the group of "quality newspapers"

²⁶ Own translation: Germany is a newspaper country

(Qualitätszeitung). These are: Süddeutsche Zeitung, Frankfurter Allgemeine Zeitung, Die Welt and Frankfurter Rundschau. Criteria for this classification are circulation, the extent of reporting and the amount of foreign correspondents (Meyn 1996, 77).

The choice of the FAZ and the SZ is based on their outstanding position on the German newspaper market and also within the group of the four quality newspapers. Together they had a daily circulation of 810000 in the first quarter of 2003, compared to 390000 of the two other newspapers of the group (Goethe-Institut 2003). They are also in terms of reputation and influence on decision makers leading in Germany. Following, I will present a short portrait of both newspapers, based on Peters (2003).

Süddeutsche Zeitung

The Süddeutsche Zeitung has been published in Munich since 1945. It is the biggest of the national “Qualitätszeitungen” in Germany and had a daily circulation of 432875 in the second quarter of 2003. The amount of daily readers is estimated to be 1.1 million and a special feature of the SZ’s readership is the fact that half of all German journalists read it regularly. Its own and independent national and international reporting is very broad, though a little smaller than FAZ’s. The SZ is orientated towards liberal and social tendencies, and in its editorial statute it states: “Sie verteidigt und erstrebt freiheitliche, demokratische Gesellschaftsformen nach liberalen und sozialen Grundsätzen.”²⁷

Frankfurter Allgemeine Zeitung

The Frankfurter Allgemeine Zeitung has been published in Frankfurt am Main since 1949. In terms of circulation (381318 daily copies were sold in the second quarter of 2003) it is the second biggest newspaper in Germany. It is estimated that the amount of daily readers is 860000, particularly self-employed persons and decision makers in the economy and politics read this paper. According to a recent survey it is the most respected newspaper in Germany and even on an international scale it comes in third place. This high reputation is based, among others, on one of the biggest network of international correspondents. Accordingly, the FAZ is to a large extent independent from news agencies. In the editorial statute the independence of the newspaper from governments, parties and interest groups is established. In its politics part the FAZ is conservative-liberal. Its strong and independent position and

²⁷ Own translation: It defends and strives for free and democratic forms of society, according to liberal and social principles.

attitudes are expressed with the offensive slogan of the newspaper: “Die Frankfurter Allgemeine Zeitung macht keine Meinung, sie hat eine”²⁸ (Peters 2003).

²⁸ Own translation: The Frankfurter Allgemeine Zeitung does not create opinion it has one.

3.3 Content analysis in this work

In this work I widely follow the ideas and principles of Früh's (2001) approach to content analysis. As mentioned above, there are rather different opinions on the principles and rules of this method. Früh's combined qualitative and quantitative approach seems to me the most suitable for the purpose of my research. Nevertheless, it is not possible to be in accordance with all of his principles and therefore the content analysis in this work varies on some points from Früh's ideas. Following I will specify these variations and explain them before pointing out the characteristics of my approach and its results.

The first and most basic difference to Früh's ideas on content analysis is the scientific framework of the research. Here it is not defined by journalistic purposes or in the sense of communication sciences. It is neither the aim to achieve cognition on the usage of language in the two newspapers nor to detect possible differences in both newspapers concerning their reporting of Norwegian and/or Russian oil and gas topics. In spite of the fact that Früh also certainly seeks for cognition beyond the pure linguistic level, he puts some emphasis on these aspects. The purposes and interests of this work aim beyond this linguistics level, obviously due to the geographic background. This variation in content analysis is only a matter of principle difference and does not cause any change in the procedure.

The impacts are of a more important scale in the case of the next differing aspect. For achieving representative and empirical proven results Früh calls for a representative sample of the research material (in this case newspaper articles). This precondition is not met in this work for the total German media sector (but for the two chosen quality newspapers) and therefore it cannot claim for representativeness or completeness. There are two reasons to limit the research material from the beginning on articles from only two newspapers even though representativeness surely cannot be reached in this way. First of all, as mentioned above, it is not the purpose of this work to gain a picture of the reporting of German media on the Norwegian or Russian energy sector. Therefore the German media does not have to be represented representatively in the sample of research material. This aspect is again related to the fact that the journalistic point of view is not of interest at this place. The second reason is of a more pragmatic character. It would be beyond the scope of a Master's thesis to analyse a broader sample of articles. Früh (2001, 137 ff.) reaches in his examples, even with a limiting selection process, a total of one thousand and more articles. One researcher cannot analyse such an amount of articles, therefore Früh uses groups of analysers.

The next difference in proceeding compared to Früh is also related to the missing representativeness. I set the formulation of hypothesis in Früh's way (Früh 2001, 75 ff.) aside because they could neither be verified nor falsified. Not even with complex mathematical methods due to the limited amount of research material. Instead I formulate concrete central questions. I am able to discuss these without claiming generalisations and they can be answered in respect to the research material.

Früh uses for his content analysis, as mentioned above, a group of people to work with his research material and to code the relevant parts of the texts. This circumstance requires the testing of the content analysis' reliability, meaning that all coders have to identify the same parts of the texts as crucial for the research (intercoder-test) (Früh 2001, 177 ff.). This is not a problem in this research because the researcher does all the analysis alone. Therefore, it is only necessary to test the intracoder-reliability which tests if the researcher codes the same articles in the same way after some time.

As an extension of Früh's understanding of content analysis a collection and analysis of concrete catchphrases and judging statements from the articles is applied in this study. In the framework of content analysis those catchphrases would be coded in one of the categories but would not experience any direct analysis. This extension allows concluding on characteristics of the linguistic exposure to Norway and Russia as energy suppliers. Furthermore, the final result will be based on a broader argumentation.

After the differences in approaching content analysis between Früh and this work are set out it is necessary now to explain why the results of the modified content analysis are in my opinion still reasonable. The main point is the general assumption that the authors of the articles represent a professional elite for energy questions in general and for oil and gas related topics in particular. As quality newspapers the Frankfurter Allgemeine Zeitung and the Süddeutsche Zeitung stand on their own for credibility and reliability. In my point of view it is reasonable and valid to conclude from the opinions expressed in the articles of these two newspapers on some general pattern and regularities of the examined reality. Nevertheless, the results based on this assumption are not provable and will always have the character of probable assumption. Hence, the aim of this work is to specify tendencies in perceptions and regularities in the reporting of the two newspapers. To accent it once more, the results of this work are no concrete facts but they give a picture based on experts' opinions.

4 Analysis of the newspaper articles

4.1 Analysis instrument

The first step in the analysis process is the development of an adequate analysis instrument. It has to fit exactly to the preconditions of this particular research setting. This development process is subdivided into three parts. First, concrete central questions and categories of analysis are formulated. Based on these predefinitions a system of categories for the actual analysis and an analysis sheet for working with the articles are developed. At the end of this section codification instructions are provided which define the concrete procedures of the content analysis.

4.1.1 Concrete central questions and categories of analysis

It is necessary to develop at the beginning of the analysis a practical and easy to operate instrument for the examination of the articles. This instrument is the basis for the whole research process and a special careful handling of its structures is needed.

Based on the main research question (“How is the reputation of Norway and Russia as oil and gas suppliers for Germany?”) and on its sub questions, which are formulated at the beginning of this work, it is possible now to formulate concrete central questions for the content analysis. As mentioned earlier (compare chapter 3.3), I will not formulate hypotheses in the way Früh (2001, 75 ff.) proposes it. Furthermore, the discussion of the concrete central questions comes to the fore of the research process. The following concrete central questions will be handled with the aid of the newspaper articles:

1. Are there recognisable attitudes towards Norway and Russia as oil and gas suppliers for Germany?
 - a. Can catchphrases or judging statements be found as indicators for these attitudes?
 - b. Are there predominating positive or negative attitudes?
 - c. Are Norway and Russia described in a different way?

2. How is the aspect of security for German oil and gas supply handled and connected with Norway and Russia?
 - a. Are Norway and Russia described as reliable or unreliable trading partners for Germany?
 - b. Is there a difference between the reporting on Norway and Russia in this context?
 - c. Are political or economical arguments for the presented opinions predominating?
 - d. How is the future of supply security for Norwegian and Russian oil and gas deliveries presented?

3. How is the aspect of dependency of German oil and gas supply on Norway and Russia handled?
 - a. Is the dependency on Norwegian and Russian oil and gas deliveries explicitly mentioned?
 - b. Is the dependency of Norway/Russia on the German outlet market mentioned?
 - c. Can different opinions connected with Norway or Russia be identified?
 - d. Are the bilateral political relations between Germany and Norway/Russia explicitly connected with the aspect of supply dependency?
 - e. How is the future of supply dependency on Norwegian and Russian oil and gas deliveries presented?

4. Are particular attendant circumstances mentioned which influence the oil and gas sector in Norway and Russia?
 - a. Are these primarily economical, political, social or environmental aspects?
 - b. Are there differences on this matter between the reporting on Norway and Russia?
 - c. Are the attendant circumstances presented as positive or negative for the oil and gas sector?

Now it is possible to deduce the analysis categories for the content analysis from these concrete central questions:

1. Attitudes towards Norway and Russia as oil and gas suppliers
2. Supply security and dependency
3. Underlying framework

4.1.2 System of categories and analysis sheet

The system of categories is at first based on the insights of chapter 2 and on the concrete central questions (theoretical categorisation). Later it will be improved by using information gained during the pre-reading of the research material (empirical categorisation). The final step is the designing of an analysis sheet that will be the “tool” for analysing the articles.

System of categories:

1. Attitudes towards Norway and Russia as oil and gas suppliers

- 11 Usage of catchphrases or judging statements concerning Norway – positive
- 12 Usage of catchphrases or judging statements concerning Norway – negative
- 13 Usage of catchphrases or judging statements concerning Russia – positive
- 14 Usage of catchphrases or judging statements concerning Russia – negative

2. Supply security and dependency

21 Supply security

- 211 Norway reliable
- 212 Norway unreliable
- 213 Russia reliable
- 214 Russia unreliable

22 Reasons for argumentation on supply security

- 221 Norway – political
- 222 Norway – economical
- 223 Russia – political
- 224 Russia – economical

23 Future development of supply security

- 231 Norway – positive
- 232 Norway – negative
- 233 Russia – positive
- 234 Russia – negative

24 Supply dependency

- 241 Mentioned concerning Norway

- 242 Mentioned concerning Russia
- 243 Mentioning of Norway's dependency on German market
- 244 Mentioning of Russia's dependency on German market
- 25 Bilateral relations and supply dependency
 - 251 Mentioned concerning Norway
 - 252 Mentioned concerning Russia
- 26 Future development of supply dependency
 - 261 Norway – positive
 - 262 Norway – negative
 - 263 Russia – positive
 - 264 Russia – negative

3. Underlying framework

- 31 Classification of attendant circumstances
 - 311 Norway – political
 - 312 Norway – economical
 - 313 Norway – social
 - 314 Norway – environmental
 - 315 Russia – political
 - 316 Russia – economical
 - 317 Russia – social
 - 318 Russia – environmental
- 32 Judging on attendant circumstances
 - 321 Norway – positive
 - 322 Norway – negative
 - 323 Russia – positive
 - 324 Russia – negative

Definition of categories

11 Usage of catchphrases or judging statements concerning Norway – positive

All judging statements and/or catchphrases concerning Norway's oil and gas business which stress a general positive character of it. A judging statement is defined as a normal sentence

(or grammatical sub unit) without containing a particular catchphrase. A catchphrase is defined as a single word with an obvious judging message. Often there will not be a clear difference between a judging statement and a single catchphrase. Both usually form a unit because a catchphrase is normally part of a judging statement. But under certain circumstances they can occur separately and the goal of this category is to detect all accordant text passages.

Examples:

1. Norway's oil economy is growing above average.
2. Norway's overwhelming oil reserves assure a bright future for the country.

12 Usage of catchphrases or judging statements concerning Norway – negative

All judging statements and/or catchphrases concerning Norway's oil and gas business which stress a general negative character of it. (Definition of judging statement and catchphrase: see above in category 11)

Examples:

1. The market stimulation originating from the oil and gas business is likely to lead to an overreaction of the economy.
2. The alarming dependency of the Norwegian economy on the oil business will be in the centre of tomorrows meeting.

13 Usage of catchphrases or judging statements concerning Russia – positive

All judging statements and/or catchphrases concerning Russia's oil and gas business which stress a general positive character of it. (Definition of judging statement and catchphrase: see above in category 11)

Examples:

Examples are analogical to categories 11, just concerning Russia.

14 Usage of catchphrases or judging statements concerning Russia – negative

All judging statements and/or catchphrases concerning Russia's oil and gas business which stress a general negative character of it. (Definition of judging statement and catchphrase: see above in category 11)

Examples:

Examples are analogical to categories 12, just concerning Russia.

21 Supply security

All statements concerning explicitly the aspect of supply security for oil and gas deliveries from Norway and Russia to Germany. Supply security is defined as secure, stable and reliable deliveries of oil and gas according to trade contracts. Further details follow below.

211 Norway reliable

All text passages characterising Norway as a reliable trade partner (according to the definition of supply security in category 21).

Examples:

1. For the last 20 years, Norwegian natural gas has been a stable source for the German market.
2. The organisation of the Norwegian offshore sector guarantees a stable production and therefore Norway is a solid partner for Germany's energy supply.

212 Norway unreliable

All text passages characterising Norway as an unreliable trade partner (according to the definition of supply security in category 21).

Examples:

1. Technical problems of the installations on the *Troll* field led repeatedly to delivery delays of gas for the German Ruhrgas.
2. A walkout of oil workers in Stavanger is likely to shut down the production of several oil fields in the North Sea; the performance of trading contracts could be insecure after some days.

213 Russia reliable

All text passages characterising Russia as a reliable trade partner (according to the definition of supply security in category 21).

Examples:

Examples are analogical to categories 211, just concerning Russia.

214 Russia unreliable

All text passages characterising Russia as an unreliable trade partner (according to the definition of supply security in category 21).

Examples:

Examples are analogical to categories 212, just concerning Russia.

22 Reasons for argumentation on supply security

All text passages containing statements on the reasons for the judgements on Norway's and Russia's reliability as oil and gas suppliers for Germany. The scope of possible reasons is limited by definition to political and economical aspects. Other reasons will not be coded. Further details follow below.

221 Norway – political

The aim is to find all statements concerning Norway's reliability as a supplier and using political reasons for its argumentation.

Examples:

1. A stable political system and a well-organised legal framework are special characteristics of the Norwegian role as an oil producer.
2. The influence of the policies of the new Norwegian government has positive affects on developments of the oil and gas sector.

222 Norway – economical

The aim is to find all statements concerning Norway's reliability as a supplier and using economical reasons for its argumentation.

Examples:

1. The strong appearance of Statoil after its partial privatisation gives hope for a continuously stable production on the company's oil and gas fields.
2. The production of oil and gas is highly profitable, even though the Norwegian labour forces are among the most expensive in the world.

223 Russia – political

The aim is to find all statements concerning Russia's reliability as a supplier and using political reasons for its argumentation.

Examples:

Examples are analogical to categories 221, just concerning Russia.

224 Russia – economical

The aim is to find all statements concerning Russia's reliability as a supplier and using economical reasons for its argumentation.

Examples:

Examples are analogical to categories 222, just concerning Russia.

23 Future development of supply security

The purpose of this category is to detect all text passages which contain conclusions on the future of supply security for oil and gas deliveries from Norway and Russia to Germany. Further details follow below.

231 Norway – positive

This category aims to find all statements which describe the future of supply security for Norwegian oil and gas deliveries to Germany in a positive way (according to the definition of supply security in category 21).

Examples:

1. The deliveries are ensured for the next decades, due to the size of Norwegian gas deposits.
2. The highly developed pipeline infrastructure in the North Sea is one of the main reasons to trust in stable oil flows from Norway during the next 10 to 20 years.

232 Norway – negative

This category aims to find all statements which describe the future of supply security for Norwegian oil and gas deliveries to Germany in negative way (according to the definition of supply security in category 21).

Examples:

1. The ebbing of some of Norway's oil fields can lead to a significant reduction in future production.
2. If the level of investments on the Norwegian continental shelf stays as low as recently production figures are likely to drop sharply within the next five years.

233 Russia – positive

This category aims to find all statements which describe the future of supply security for Russian oil and gas deliveries to Germany in a positive way (according to the definition of supply security in category 21).

Examples:

Examples are analogical to categories 231, just concerning Russia.

234 Russia – negative

This category aims to find all statements that describe the future of supply security for Russian oil and gas deliveries to Germany in a negative way (according to the definition of supply security in category 21).

Examples:

Examples are analogical to categories 232, just concerning Russia.

24 Supply dependency

The detection of text passages that contain statements on Germany's dependency on Norwegian and Russian oil and gas deliveries is, at this point, in the centre of interest. Furthermore, statements on the dependency of Norway and Russia on the German outlet market for their oil and gas products are searched for. Dependency is defined as the actual need of continuous oil and gas trades for all parties to maintain the present level of economical activity, social organisation of the state, political appearance etc. Further details follow below.

241 Mentioned concerning Norway

The dependency of Germany on oil and gas supplies from Norway has to be mentioned if a text passages is coded in this category (according to the definition of dependency in category 24).

Example:

1. The share of Norwegian gas on the total supply became alarmingly bigger throughout the last 10 years.
2. What would happen if the pipeline connection from the Norwegian gas resources to Germany would stop functioning? Could a stable supply still be maintained?

242 Mentioned concerning Russia

The dependency of Germany on oil and gas supplies from Russia has to be mentioned if a text passages is coded in this category (according to the definition of dependency in category 24).

Example:

Examples are analogical to categories 241, just concerning Russia.

243 Mentioning of Norway's dependency on German market

The coding is required if statements on the dependency of Norway on the German outlet market for its oil and gas products can be detected (according to the definition of dependency in category 24).

Examples:

1. For years Germany has bought nearly half of the total Norwegian gas production.
2. Norway could not plan the secured development of the *Troll* field without a stable demand for gas on the German market.

244 Mentioning of Russia's dependency on German market

The coding is required if statements on the dependency of Russia on the German outlet market for its oil and gas products can be detected (according to the definition of dependency in category 24).

Examples:

Examples are analogical to categories 243, just concerning Russia.

25 Bilateral relations and supply dependency

This category is drafted to find conclusions on the impacts of the mutual dependency in the oil and gas business between Germany and Norway/Russia. Only statements on impacts concerning explicitly the bilateral relations between these countries are coded. The purpose of this category is to evaluate the political impacts of the oil and gas business. Further details follow below.

251 Mentioned concerning Norway

Only statements on the impacts of the oil and gas trades between Germany and Norway and their bilateral relations are looked at.

Examples:

1. Norway and Germany maintain, for many years, very good relations: one of the reasons is surely the extensive oil and gas trade between both countries.
2. It is not surprisingly that Norway and Germany are interested in taking care of their mutual perception; both are depended on each other in economical terms.

252 Mentioned concerning Russia

Only statements on the impacts of the oil and gas trade between Germany and Russia and their bilateral relations are looked at.

Examples:

Examples are analogical to categories 251, just concerning Russia.

26 Future development of supply dependency

The purpose of this category is to detect all text passages that contain conclusions on the future of Germany's supply dependency on oil and gas deliveries from Norway and Russia. Further details follow below.

261 Norway – positive

This category aims to find all statements that describe the future of supply dependency on Norwegian oil and gas deliveries for Germany in a positive way (according to the definition of dependency in category 24).

Examples:

1. The share of Norwegian gas on the total German supply will reach a more favourable level soon and the dependency on the northern trading partner will decrease accordingly.
2. The dependency on oil and gas imports is not a burden for the economy, even though Norway's share on Germany's energy supply will maintain a high level.

262 Norway – negative

This category aims to find all statements that describe the future of supply dependency on Norwegian oil and gas deliveries for Germany in a negative way (according to the definition of dependency in category 24).

Examples:

1. The whole German energy business should be concerned about the estimations of future gas supplies from Norway. The dependency on only a few suppliers can make us vulnerable in the future.
2. The discussion about an increasing dependency of the German market on a few major energy suppliers stood at the centre of discussions between the Norwegian and German delegations.

263 Russia – positive

This category aims to find all statements that describe the future of supply dependency on Russian oil and gas deliveries for Germany in a positive way (according to the definition of dependency in category 24).

Examples:

Examples are analogical to categories 261, just concerning Russia.

264 Russia – negative

This category aims to find all statements that describe the future of supply dependency on Russian oil and gas deliveries for Germany in a negative way (according to the definition of dependency in category 24).

Examples:

Examples are analogical to categories 262, just concerning Russia.

31 Classification of attendant circumstances

On this point the underlying framework for the oil and gas sector in Norway and Russia is examined. This is carried out by detecting statements which contain information on attendant circumstances. These attendant circumstances are classified into four groups: political, economic, social, and environmental. Other aspects are excluded by definition and will not be coded. Further details follow below.

311 Norway – political

At this point the targets of coding are statements on political attendant circumstances in the Norwegian oil and gas sector.

Examples:

1. The state influenced the rules of business from the very beginning of the Norwegian “oil and gas age”.
2. A driving force behind the development of the *Snøhvit* field is the regional development policy of the national government.

312 Norway – economical

At this point the targets of coding are statements on economical attendant circumstances in the Norwegian oil and gas sector.

Examples:

1. Norway's economy is highly dependent on the oil and gas sector.
2. A declared goal of Statoil's new management is the expansion of its oil business on the global level.

313 Norway – social

At this point the targets of coding are statements on social attendant circumstances in the Norwegian oil and gas sector.

Examples:

1. Norway runs an extensive welfare system which is based on the incomes from the oil and gas business.
2. Thanks to the oil resources on its continental shelf, poverty is a foreign word in Norway.

314 Norway – environmental

At this point the targets of coding are statements on environmental attendant circumstances in the Norwegian oil and gas sector.

Examples:

1. Mainly young people demonstrated in Hammerfest against the development of the *Snøhvit* field and stressed the environmental threats of the project.
2. According to Norsk Hydro, the existence of oil producing infrastructure has no influence on the fish population in the North Sea.

315 Russia – political

At this point the targets of coding are statements on political attendant circumstances in the Russian oil and gas sector.

Examples:

Examples are analogical to categories 311, just concerning Russia.

316 Russia – economical

At this point the targets of coding are statements on economical attendant circumstances in the Russian oil and gas sector.

Examples:

Examples are analogical to categories 312, just concerning Russia.

317 Russia – social

At this point the targets of coding are statements on social attendant circumstances in the Russian oil and gas sector.

Examples:

Examples are analogical to categories 313, just concerning Russia.

318 Russia – environmental

At this point the targets of coding are statements on environmental attendant circumstances in the Russian oil and gas sector.

Examples:

Examples are analogical to categories 314, just concerning Russia.

32 Judging on attendant circumstances

In this category judging of the attendant circumstances of category 311 to 318 takes place. All statements which contain an obvious positive or negative attitude towards the attendant circumstances are looked after and have to be coded. Further details follow below.

321 Norway – positive

The coding of all attendant circumstances of the Norwegian oil and gas business is required if they provide a positive attitude.

Examples:

1. According to Norsk Hydro, the existence of oil producing infrastructure has no influence on the fish population in the North Sea.
2. Thanks to the oil resources on its continental shelf, poverty is a foreign word in Norway.

322 Norway – negative

The coding of all attendant circumstances of the Norwegian oil and gas business is required if they provide a negative attitude.

Examples:

1. Norway's economy is highly dependent on the oil and gas sector.
2. Mainly young people demonstrated in Hammerfest against the development of the *Snøhvit* field and stressed the environmental threats of the project.

323 Russia – positive

The coding of all attendant circumstances of the Russian oil and gas business is required if they provide a positive attitude.

Examples:

Examples are analogical to categories 321, just concerning Russia.

324 Russia – negative

The coding of all attendant circumstances of the Russian oil and gas business is required if they provide a negative attitude.

Examples:

Examples are analogical to categories 322, just concerning Russia.

Analysis sheet:

See appendix 2

4.1.3 Codification instructions

The chosen newspaper articles will be scanned under strict rules and definitions (principally based on Früh 2001) for units of meanings which contain statements pertaining to at least one of the analysis categories. All other statements will not be considered. A statement is defined as a complete grammatical unit which has an own meaning (unit of meaning). A grammatical sentence can be identical with such a unit of meaning, but it can also contain more than one statement or be only part of it. Every independent unit of meaning will be coded, thus an article can contain several statements of the same or different category. The sentence: “Norway has a ambitious history as an oil producer, a highly developed infrastructure in the oil sector and has always been a reliable trade partner” contains for example three statements of the category “Attitudes towards Norway and Russia as oil and gas suppliers” (underlined in the text).

A statement, which cannot be associated definitely to a category, is not supposed to be coded. In the case that a statement fits in more than one category it has to be checked if it has

a main meaning or if all meanings are of the same importance. More than one coding can be appropriate if the second option applies. For example, the sentence: “Norway is a reliable trade partner in the natural gas business but the dependency on its deliveries reaches an inopportune dimension” contains statements of the categories “Attitudes towards Norway and Russia as oil and gas suppliers” and “Supply security and dependency”.

Moreover, additional definitions and coding rules have to be pointed out:

- An article is a text which is marked by a make-up
- Pictures and their underlines are not considered
- Only sentences that were mentioned before a specific context or unit of meaning in a text are used for their interpretation
- The grey marked categories on the analysis sheet are not supposed to be coded. One of their subcategories has to be used instead.

A final assessment of each article takes place at the end of the analysis sheet. The purpose is to label the article according predefined characteristics of its content. It has to be specified if the article is mainly dealing with:

1. Norway, Russia or both
2. Political, economical, both or other aspects
3. Oil, gas or both
4. Energy or other main topics

Furthermore, articles have to be labelled if Germany is mentioned as a trade partner. And, as an additional step of analysis, all catchphrases that will be identified during reading the articles will be collected. In that way these are available for a widening qualitative analysis of the reporting.

4.2 Results of the content analysis

The results of the content analysis are laid down in a matrix of the marked categories. All of the following results are taken from this composite account of the findings. The matrix can be found in appendix 4.

The analysis of the results will take place as an interpretation of the markings in a basic way. The character of the acquired data does not allow sophisticated statistical methods to be applied. This fact is mainly due to the limited amount of articles and codifications. Nevertheless, the intensive dealing with the outcome of the content analysis and the following interpretation provides distinctive results. I follow in this assumption Dorling (2003, 376-377) who argues for the usage of simple statistical methods because they are more easily understood and convincing. Dorling also states that complex statistical methods do not necessarily contribute to a better understanding of the research's subject.

At this place I want to point out again that the following presentation of the results is separated from their interpretation due to the concept of content analysis (compare chapter 1.3). The fact that the interpretation of the results is not an integrated part of the content analysis itself requires this separation. The interpretation follows in chapter 4.3.

4.2.1 General assessment of the articles

The 103 observed newspaper articles can be categorised with regard to their main focus into three groups: 28 are dealing only with the Norwegian petroleum sector (27 per cent²⁹), 58 with the Russian (56 per cent) and in 17 articles both countries are mentioned (17 per cent). Hence, Russia as a supplier of natural gas and crude oil for the German market has a clearly more pronounced position in quantitative terms.

The assessment of the topical classification of the articles produced distinctive results as well. More than 59 per cent of all articles are on political aspects (61 of 103). In comparison to that seems the amount of economical articles relatively small, they represent only 18 per cent (19 of 103). Additionally, 12 articles deal to the same extent with political and economical aspects (12 per cent). Ten articles (10 per cent) which do not fit in the

²⁹ All per cent-values in this chapter are rounded.

political-economical pattern complete the topical categorisation. Table 3 provides an overview of the topical classification of these ten articles.

Following, the differences between Norway and Russia will be pointed out. Now, as well as later in this work, all articles which deal with Norway and Russia will be used for the interpretation of the results regarding both countries. They will be added to the articles focusing only on one of the countries and the accumulated data is subsequently the basis for the results. The accumulated amount of articles on Norway increases in that way to 45 and on Russia to 75.

Table 3: Articles on non-political and non-economical topics

Sheet No.	Focus on	Topical classification	Main topic
18	Norway	Educational/cultural	Studying in Norway
39	Norway	Technical	Carbon dioxide storage under the sea bottom
43	Norway	Portrait	Portrait of an industrialist
45	Norway	Technical	Off shore rig recycling
56	Norway	Technical	Carbon dioxide storage under the sea bottom
82	Norway	Social	Nordic societies
86	Norway	Technical	Off shore rig recycling
69	Russia	Technical	Northern sea route from Europe to Asia
74	Russia	Military	Russia as a naval power
81	Russia	Social	Corruption in Russia

In the case of Norway there are 21 of 45 articles on political matter (47 per cent), 14 on economical (31 per cent), three are a combination of political and economical aspects (7 per cent) and seven deal with different topics (16 per cent). The results for Russia have a different quality. Here there are 49 of 75 articles on political matters (65 per cent), 14 on economical topics (19 per cent), nine are mixed political-economic (12 per cent) and only three are on differing topics (4 per cent).

The next aspect of the general assessment of all articles deals with the focusing of the reporting on crude oil or on natural gas as the main energy providing raw material. A third option is again the combined mentioning of both energy sources. A look at all 103 articles provides the following results: 27 articles deal only with oil (26 per cent) and 22 only with gas (21 per cent). The majority of articles (54, respectively 52 per cent) mention both energy sources. The separate look at the results concerning Norway and Russia leads to a different outcome. In the case of Norway nine of 45 articles deal with only oil or gas, representing 20 per cent of the articles. The remaining 27 articles (60 per cent) mention both energy sources. Among the 75 articles on Russia 23 are dealing with oil only (31 per cent), 18 with gas (24 per cent) and 34 with both (45 per cent).

Table 4: Articles with focus on non-energy topics

Sheet No.	Focus on	Main topic
2	Norway	Change of government in Norway
18	Norway	Studying in Norway
36	Norway	Internal Norwegian energy crises
38	Norway	Petroleum fund
39	Norway	Carbon dioxide storage under the sea bottom
43	Norway	Portrait of an industrialist
45	Norway	Offshore rig recycling
47	Norway	Norwegian economy
48	Norway	Norway after the election
56	Norway	Carbon dioxide storage under the sea bed
64	Norway	Portrait of Norway
82	Norway	Nordic societies
86	Norway	Offshore rig recycling
1	Russia	EU-Integration of Turkey
13	Russia	Russian-Polish-German relations
14	Russia	Corruption in post Soviet Russia
15	Russia	Putin's visit on Bush's ranch in Texas
20	Russia	Media enterpriser Gusinski
21	Russia	War in Chechnya
22	Russia	Russia's gas supplies to Serbia despite of Western boycotts
25	Russia	Russia's relations to the West
28	Russia	Corruption in Turkey
29	Russia	Internal Russian energy crisis
30	Russia	Portrait of Chernomyrdin
40	Russia	Russian budget surplus
51	Russia	Internal Russian energy crisis
62	Russia	Interventions of Oligarchs into political matters
63	Russia	Baltic Council's and EU's politic concerning Russia
67	Russia	Russia's foreign policy
69	Russia	Northern sea route from Europe to Asia
72	Russia	Russia-USA relations
74	Russia	Russia as a Naval power
76	Russia	Internal Russian energy crisis
81	Russia	Corruption
89	Russia	Russia's energy policy and the Kyoto-Protocol
90	Russia	Election campaign in Russia
92	Russia	US interests in Uzbekistan
97	Russia	German Russian trade
101	Mixed	Internal Norwegian energy crisis

At the end of the general assessment two additional considerations are analysed. At first, all articles that mention explicitly Germany as a trade partner of Norway and Russia for oil and gas products are searched for. Afterwards all articles are classified concerning their topical focus either on energy relating aspects or on differing topics. In a general perspective 25 of 103 articles mention explicitly Germany as an energy trade partner of Norway and Russia, representing 24 per cent of the articles. The same category is coded in 14 of the 45 articles on Norway (31 per cent) and in 20 of the 75 articles on Russia (27 per cent). In the case of the topical focus 64, respectively 62 per cent, of the total 103 articles deal mainly with energy related topics. The remaining 39 articles, respectively 38 per cent, have differing

topical focuses. Table 4 provides an overview on these differing topics. In the case of Norway 31 of 45 articles (69 per cent) are dealing mainly with energy related topics and 14 (31 per cent) with other aspects. In the case of Russia 49 (65 per cent) articles are mainly on energy topics and 26 (35 per cent) on different aspects.

After the results of the general assessment were laid down separately by the different aspects of analysis above, a tabular overview of the results is concluding this chapter.

Table 5: Results of the general assessment of the articles (per cent-values rounded)

	All articles	in %	Norway	in %	Russia	in %	Mixed	in %
MAIN FOCUS ON	103	100	28	27	58	56	17	17
TOPICAL CLASSIFICATION								
Political	61	59	21	47	49	65		
Economical	19	18	14	31	14	19		
Mixed political-economical	12	12	3	7	9	12		
Others	10	10	7	16	3	4		
ENERGY SOURCE								
Oil	27	26	9	20	23	31		
Gas	22	21	9	20	18	24		
Mixed	54	52	27	60	34	45		
OTHER ASPECTS								
Germany as trade partner	25	24	14	31	20	27		
Energy as main topic	64	62	31	69	49	65		
Other main topic	39	38	14	31	26	35		

4.2.2 Codifications of the content analysis' categories

In this chapter the arrangement of the codifications of the content analysis' categories follows in the presentation of the results from the analysis of the newspaper articles. The 38 categories are laid down and defined in chapter 4.1.2. The analysis is based on the distribution pattern of the codifications and the amount of the categories' codifications per article. The aim is to look

after differences of these values among the categories and articles dealing on the one hand with the Norwegian oil and gas sector and on the other hand with the Russian equivalent.

I am aware of the weaknesses that the dealing with the unit of ‘amount of codifications per article’ inevitably contains. The structures of the articles are diverse and it is accordingly difficult to speak of ‘articles’ as a general term. For example, the articles vary in size from very short examples, made up of only a couple of rows, to extensive reports covering several pages. Nevertheless, the general structure of all the articles is comparable because of the consistent distribution of short and long articles. More sophisticated methods of specifying the size of articles are not applicable. The layouts of the articles from the electronic archive are very diverse as well. The measurement of the length of the article’s columns is, for example, due to this reason not appropriate. Again, it is still possible to find general conclusions on the distribution of the codifications and come to relevant statements concerning the aims and research questions of this work, based on the introduced procedures.

The basic analysis procedure is similar to the analysis of the general assessment of the articles in the previous chapter. The categories dealing with aspects of the Norwegian oil and gas sector will be analysed with the articles on Norway only and the articles on Norway and Russia, which adds up to 45. The analogous selection process for articles on Russia leads to 75 articles. The results are rounded.

The first category of analysis deals with the attitudes towards Norway and Russia as oil and gas suppliers. The aim is to make the differences in approaching Norway and Russia with catchphrases and judging statements clear, if such exists. For Norway and Russia one category at the time records the positive and negative catchphrases and judging statements. Category 11 (Norway – positive) appears 81 times and category 12 (Norway – negative) 35 times. These values lead to 1.8 mentions of category 11 and 0.78 mentions of category 12 per article which focus on Norway. The results for the categories on Russia (category 13: Russia – positive, category 14: Russia – negative) have a different character. Positive catchphrases and judging statements are 123 times mentioned and negative 88 times. The amounts of mentions per articles are 1.64 and 1.17 respectively.

Table 6: Category 1, catchphrases and judging statements

Category	Codifications absolute	Codifications per relevant article
11 – Norway positive	81	1.8
12 – Norway negative	35	0.78
13 – Russia positive	123	1.64
14 – Russia negative	88	1.17

The second main analysis category examines the aspects of supply security and dependency of German oil and gas markets with respect to Norway and Russia as suppliers. Its six subcategories focus on different details of these aspects. The first subcategory (21) has a look at supply security with respect to the reliability of Norway and Russia as supplying trade partners. The categories 211 and 212 record text passages which describe Norway as a reliable or unreliable trade partner respectively. For Russia the categories 213 and 214 measure the same aspects. Norway is described as a reliable supplier 22 times and 11 times as unreliable. These are 0.49 respectively 0.24 mentions per article. Russia is mentioned as reliable 49 times and 22 times as unreliable, 0.65 and 0.29 mentions per article.

Table 7: Subcategory 21, supply security

Category	Codifications absolute	Codifications per relevant article
211 – Norway reliable	22	0.49
212 – Norway unreliable	11	0.24
213 – Russia reliable	49	0.65
214 – Russia unreliable	22	0.29

Subcategory 22 seeks for the mentioned reasons for the discussion on Norway's and Russia's reliability as suppliers. The reasons are classified into political (category 221 for Norway and 223 for Russia) and economical (category 222 for Norway and 224 for Russia) groups. The argumentation on Norway is nine times (0.2 per article) explained by political reasons and 24 times (0.53 per article) with an economical background. In the case of Russia political reasons are 41 times (0.55 per article) coded and economic reasons 30 times (0.4 per article).

Table 8: Subcategory 22, argumentation on supply security

Category	Codifications absolute	Codifications per relevant article
221 – Norway political	9	0.2
222 – Norway economical	24	0.53
223 – Russia political	41	0.55
224 – Russia economical	30	0.4

The next subcategory (23) is designed to record statements on the future development of the supply security. A positive development for Norway and Russia (categories 231 and 233) is distinguished from a negative future for both countries as oil and gas suppliers (categories 232 and 234). Norway's positive future as a supplier is ten times (0.22 per article) confirmed and a negative development is 16 times (0.36 per article) predicted. A positive development for Russia is 30 times (0.4 per article) mentioned and a negative future 12 times (0.16 per article).

Table 9: Subcategory 23, development of supply security

Category	Codifications absolute	Codifications per relevant article
231 – Norway positive	10	0.22
232 – Norway negative	16	0.36
233 – Russia positive	30	0.4
234 – Russia negative	12	0.16

The aspect of mutual dependency of Germany on the one hand as a buyer of oil and gas and Norway and Russia on the other hand as suppliers is examined in subcategory 24. Statements on Germany's dependency on Norway (241) and Russia (242) are recorded as well as statements on Norway's (243) and Russia's dependency (244) on the demand of the German market for their products. Germany's dependency on Norway is coded 18 times (0.4 per article) and on Russia 34 times (0.45 per article). A look at Norway's dependency on the German outlet market leads to 11 (0.24 per article) codifications. Only seven statements (0.09 per article) are found for the dependency of Russia.

Table 10: Subcategory 24, supply dependency

Category	Codifications absolute	Codifications per relevant article
241 – Mentioned Norway	18	0.4
242 – Mentioned Russia	34	0.45
243 – Norway's dependency	11	0.24
244 – Russia's dependency	7	0.09

Subcategory 25 is designed to record all statements which explicitly mention the meaning and consequences of the supply dependency for the bilateral relations between Germany and Norway (251), and Germany and Russia (252). For the relations with Norway

these preconditions are only once met in all of the articles (0.02 per article). In the case of Russia six such codifications can be found (0.08 per article).

Table 11: Subcategory 25, dependency and bilateral relations

Category	Codifications absolute	Codifications per relevant article
251 – Norway mentioned	1	0.02
252 – Russia mentioned	6	0.08

The last subcategory (26) of the second main category deals with the future development of the supply dependency from the German perspective. It is examined here if the development concerning Norway is positive (261) or negative (262) before doing the same regarding Russia (categories 263 and 264). These four categories are also coded only very infrequently. A positive future of the dependency on Norway is coded three times (0.07 per article) and a negative development two times (0.04 per article). The future dependency on Russia is described in a positive sense five times (0.06 per article) and 14 times negatively (0.19 per article).

Table 12: Subcategory 26, future of dependency

Category	Codifications absolute	Codifications per relevant article
261 – Norway positive	3	0.07
262 – Norway negative	2	0.04
263 – Russia positive	5	0.06
264 – Russia negative	13	0.19

The third main category examines the underlying framework and preconditions for the Norwegian and Russian oil and gas sector. It is divided into two subcategories. The first classifies the attendant circumstances (31) into four groups for Norway and Russia at the time (categories 311 and 315: political, 312 and 316: economical, 313 and 317: social, 314 and 318: environmental). The second subcategory records afterwards if these circumstances can be seen in a positive or negative context (32). The purpose of these categories is to find out if Norway and Russia are presented and described in the articles with these four groups of attendant circumstances in a different way or not.

The subcategories 311 to 314 for Norway are coded 174 times. Of these 50 codifications belong to category 311 (1.11 per article), 60 to category 312 (1.33 per article),

31 to category 313 (0.67 per article) and 33 to category 314 (0.73 per article). The subcategories 315 to 318 concerning Russia are coded together 301 times. Here the distribution of the single categories shows the following pattern: 164 for category 315 (2.18 per article), 115 for category 316 (1.53 per article), 15 for category 317 (0.2 per article) and seven for category 318 (0.09 per article).

Table 13: Subcategory 31, classification of attendant circumstances

Category	Codifications absolute	Codifications per relevant article
311 – Norway political	50	1.11
312 – Norway economical	60	1.33
313 – Norway social	31	0.67
314 – Norway environmental	33	0.73
315 – Russia political	164	2.18
316 – Russia economical	115	1.53
317 – Russia social	15	0.2
318 – Russia environmental	7	0.09

The final subcategory (32) is, as mentioned above, informative with regard to the positive or negative attitudes of the reporting in the articles towards the classifications of subcategory 31. Every codification here was followed by a codification in the next subcategory. Accordingly, every attendant circumstance was either positive or negative related to Norway or to Russia. The category ‘Norway – positive’ got 102 records (2.27 per article) and ‘Norway – negative’ had 72 recorded mentions (1.6 per article). Positive assessments of Russia’s attendant circumstances are coded 119 times (1.59 per article) and negative examples 182 times (2.42 per article).

Table 14: Subcategory 32, judging on attendant circumstances

Category	Codifications absolute	Codifications per relevant article
321 – Norway positive	102	2.27
322 – Norway negative	72	1.6
323 – Russia positive	119	1.59
324 – Russia negative	182	2.42

4.2.3 Qualitative assessment of catchphrases and judging statements

Besides the counting of codifications of category one, the most significant catchphrases and judging statements were also collected during the analysis of the articles. Appendix 3 contains a list of this collection. The additional purely qualitative look at these catchphrases widens the understanding of the reporting on Norway and Russia as energy suppliers and of the attitudes towards them. For analysis reasons the catchphrases can be arranged into several topical groups. In that way more complex differences in handling Norway and Russia in the articles can be identified, even if they are only recognisable in small details. This information is not obtainable from the sole interpretation of the codifications and their distribution pattern.

The first topical group can be labelled as ‘wealth’, a group especially significant for articles on Norway. Even though the amount of articles on Norway is smaller than that on Russia, the headword ‘wealth’, or related terms, occurs more frequently within this group. In qualitative aspects it is outstanding that Norway is described more splendidly than Russia. The catchphrases on Russia and ‘wealth’ are more of a businesslike character. Typical examples for Norway in this group are “wealth from the sea” (3)³⁰, “oil sheikhs of the North” (3), “oil paradise” (23), “guardian of the Norwegian petrol billions” (38) or “and the Norwegians are anyway above all: There is no cure against their wealth” (82). The Russian equivalents appear as “Russia’s wealth is named oil and gas” (37), “raw material rich Russia” (76) or “it will only develop upwards from now on” (95).

The second and most extensive group of catchphrases covers the structure of Norway’s and Russia’s oil and gas economy. Aside from the main aspect of positive and negative tendencies two more detailed aspects are covered by subgroups on resources and their production and producers as well as on the influence of the oil and gas sector on the gross domestic product and the export. The reporting on the positive tendencies in the Norwegian economy is very project orientated; for example, “just now a dream became true with Snøhvit” (46). Statements on the rudimental structures and preconditions of the energy branch can be found more often in the case of Russia, for example on the legal framework, the overall efficiency or declining trade risks. Typical examples are “efficiency increased” (10), “the risks on the Russian market are much smaller than some years ago” (15), “biggest

³⁰ All catchphrases are translated from German to English by the author. After the quotation follows the number of the article of origin, according to the list in appendix 3.

privatisation campaign” (17), “victory of the economical led Russia” (34) or “the legislation becomes more advantageous for foreign investors all the time” (37).

The group of catchphrases on negative tendencies for the economical structure merges several statements which stress the expensive and technically challenging character of the Norwegian and Russian oil and gas industry: “the North Sea oil is produced with complex technology and under expensive circumstances” (27) or “Russian oil is significantly more expensive than Arabic” (37). For Norway is a one-sided orientation of the economy towards oil and gas stressed as a negative feature. The risk of an over-stimulation of the economy and the limited time perspective for the production are important aspects. Some examples are, “in the sheikhdom of the North everything is expensive” (3), “the Norwegian oil age is beyond its peak“ (45), “the problematic mono industrial orientation” (47) and “the oil will not flow anymore in about 25 years” (58). Norway seems to be over-represented within the group of negative tendencies. The missing preconditions for a prospective development are often found fault in articles on Russia, “missing infrastructure” (31), “because the cleavages between laws and reality are still large” (37), “meagreness, forest fires or burst oil and gas pipelines” (90). The one-sided orientation of Russia’s economy towards energy branches is criticised as well, though a more optimistic future perspective is here identifiable. The following examples support these results, “Russia plays with the oil” (66), “that game with the oil could turn out as a one-way route for the country” (66), “the country would be forced towards a more productive economical structure without its raw materials” (81).

Norway is described in a businesslike way in the subgroup on resources and their production and producers; for example, “Norway can still count on gas” (58). Differing from the ‘wealth’-group Russia appears now in a splendid and overwhelming position, “an historical step in a country with enormous oil and gas deposits and a huge potential for future growth” (27), “legendary resources” (34), “Russia focuses the future on the giant gas deposits” (52) and “Russian oil giant” (66). Gazprom has an accentuated position within this group of catchphrases. Beside comments on its size it is also several times labelled as a ‘giant’ or ‘octopus’, “the world’s biggest gas combine” (8), “the gas giant” (20) and “because Gazprom really is an octopus” (8). The biggest Norwegian oil and gas combine, Statoil, appears only once in the list of catchphrases, “with Statoil dozes a potential giant in the country” (6). A common feature in the reporting on Norway and Russia are statements that stress the emphasised position of both countries as energy producers and exporters, “thanks to the oil and gas fields in the North Sea Norway is the biggest energy exporter in Europe” (101) or “Russia is behind Saudi-Arabia and is the second biggest oil producer” (71).

The second subgroup on the influence of the oil and gas business on the gross domestic product and the export shows a comparably equal handling of Norway and Russia. The immense meaning of the energy branch for both countries in these two categories is pointed out several times, “nearly half of the Norwegian export income is derived from oil and gas” (58), “oil and gas sum up to 40 per cent of the total Norwegian export” (64), “40 per cent of Russia’s export and 13 per cent of the gross domestic product are dependent on oil only” (66) and “after all Gazprom contributes about a quarter to the Russian budget” (95).

The next group of catchphrases is labelled ‘technology’. Though this group does not have many samples it shows some interesting results how the reporting on Norway and Russia can differ. Norway is described as efficient and advanced, “Snøhvit is the biggest industrial project in the Norwegian history” (46) and “Norway shows its technical capability” (59). Russia, in contrast, gets negative statements which create a backward and underdeveloped image, “the oil fields are poorly developed, the equipment is out-of-date, the pipelines have to be rebuilt” (66) and “Russia has to modernise its out-of-date energy economy” (89).

All mentioned groups of catchphrases dealt with so far included Norway and Russia at the same time. In addition there are three more groups which occur only in articles on Russia. These groups deal with the meaning of Russia for the German energy supply, with political influences on the oil and gas business and with the aspects of corruption, monopolistic structures and mismanagement. Russia’s important contribution to the energy supply of Germany and the West is clearly recognisable in the reporting of the articles. The outstanding position of Gazprom in the Russian energy branch experiences repercussion in the articles as well, “the Russian Gazprom alone will supply about one third of the market” (11), “Russian gas suppliers have a special meaning” (32), “Russia scales up to a global gas supplier” (37), “today Gazprom is the biggest gas supplier for the German market” (53) and “Russia delivered always, it did not matter how tense the political relations were, even during the Cold War” (87).

The political influences on the oil and gas business are of significance in the case of Russia. Especially two aspects are dominating, firstly the war in Chechnya, “the war has above all an economic background” (21) and “Russia advertises the existing pipeline from Baku to Novorossiisk. It is interrupted indeed. It crosses Chechnya” (54). The second aspect is the increasing acceptance of Russia as an energy supplier in Western countries, “Washington supports Russia’s claim to displace Saudi-Arabia as the biggest oil exporter” (57) and “nobody is still afraid of the idea that Russia will grow to an energy-power of world scale and replace, for example, Saudi-Arabia as the backbone of world export” (72).

The last group of catchphrases has a special significance for the reporting on Russia and its energy sector. As mentioned above it covers the aspects of corruption, monopolistic economical structures and mismanagement. These phenomena are described as increasing and usual features of the Russian economy. A lack of transparency and the uncontrolled privatisation processes are among the most often mentioned aspects. They also appear several times in connection with Russian companies, particularly with Gazprom. The following examples give an overview of the situation, “corruption on a grand scale” (8), “always new scandals about Russia’s biggest company” (8), “the years of the ‘wild’ privatisation” (35), “Gas monopolist” (53), “the Russian oligarchs” (62), “the Kremlin suspects corruption in Gazprom” (73) and “the monopoly position of Gazprom inhibits economic reforms” (73).

4.3 Interpretation of the results

After presenting the results of the research in the previous sections follows now their interpretation. The results from the general assessment, the codifications of the content analysis and the qualitative assessment of the catchphrases and judging statements are dealt with separately. Afterwards, the results are linked to the outcomes of the chapter about the theoretical background knowledge on the Norwegian, Russian and German energy sectors. As a last step of interpretation there are concluding comments and answers to the research questions.

4.3.1 General assessment

The general assessment of the articles produces remarkable results. First of all, it is clearly observable that articles dealing with Russia are more numerous than those dealing with Norway are. Their number is more than twice as much as the Norwegian articles. I ascribe this aspect to two main reasons. Firstly, Russia's energy deliveries are more important than the Norwegian are for the German market. The overview on the present situation of the German energy market (compare chapter 2.3.1) affirms this point of view. Russia's share on the German supply of crude oil and natural gas and the share of articles focussing on Russia are of a comparable size. Secondly, the Russian energy sector is not as consolidated as the Norwegian is. The facts provided in chapter 2.1 on the Norwegian and in chapter 2.2 on the Russian petroleum sector lead to a different appraisal of the countries' energy market. The organisation and utilisation of the Norwegian sector is much more advanced in terms of quality of infrastructure, extent of trade relations and the legislative reliability for the involved actors. This precondition is causing in my opinion a more intensive reporting on Russia because of the more frequent appearance of uncommon events. The relatively stable situation in Norway does not bear these kinds of happenings.

A look at the second category of the general assessment provides evidence for the different characters of the Norwegian and Russian energy sector. The topical classification of the articles shows that political aspects are clearly more important for Russia and that economical points of view are relatively more important in the case of Norway. Again, I ascribe this fact to the less developed circumstances in the Russian energy sector. The need for political (and hence legislative) formation is unequally higher in Russia than in Norway.

Consequently, political activity is higher there as well and the character of reporting follows this trend. The articles on Norway can concentrate relatively more on reporting concrete business related aspects.

The interpretation of articles on non-political and non-economical topics (compare table 3) shows again a different picture for Norway and Russia. First of all is the number of these articles for Norway is bigger. This is surprisingly when one takes into account the fact that the total number of articles on Russia is much larger. Also, the concrete topics of these articles give information on the different treatment of both countries. In the Norwegian case the articles are predominately on progressive and innovative topics (for example, carbon dioxide storage or offshore rig recycling). The few articles on Russia do not have the same character. The portrait of the country as a naval power, for example, or an article about corruption is evidence of a different approach and indicates, once again, a more progressive situation in Norway.

The assessment of the articles concerning the examined energy source leads to the conclusion that a combined reporting on oil and gas is more usual than the concentration on only one of these. An interesting aspect is that oil and gas occur in the case of Norway equally in number and that oil is slightly more often mentioned than gas for Russia. These facts are not in line with the actual situation in both countries because in Norway oil is, at present, clearly more important than gas and in Russia gas has a more important meaning (compare chapter 2.1.2 and 2.2.2).

The last aspect of the general assessment deals with the meaning of Germany as a concrete trade partner for Norway and Russia and group the articles based on their main topical focus on energy or other topics. In consideration of the position of the German outlet market for both countries (compare chapter 2.1.2 and 2.2.2) the amount of articles which mention Germany as a trade partner is surprisingly small (approximately one third of the articles) and shows no differences for articles on Norway or Russia. This apparent contradiction between the actual market situation and the reporting of the newspapers is again difficult to understand. One possible explanation is the fact that German journalists regard the meaning of the German market as self-evident and, hence, do not mention it explicitly. A look at the second above-mentioned aspect shows that energy is the main topic of two-thirds of the articles. Again, the reporting on Norway and Russia are equal in this respect. The interpretation of articles with non-energy topics (compare table 4) is difficult due to their topical variety. The articles on both countries focus often on internal political aspects that can be interpreted as more negative in the case of Russia. The aspect of corruption appears, for

example, repeatedly. The relations to other countries are mentioned among these articles only in the case of Russia and, again, the articles on Norway seem to be about more progressive aspects. The overall picture leads to the same conclusion than earlier in this chapter: Norway appears in a more advanced and progressive light.

4.3.2 Codifications

The next group of results comes from the content analysis and the codifications of its categories. The first of these categories deals with catchphrases that are used related to Norway and Russia. It appears that Norway and Russia are judged with positive catchphrases relatively equal. The clear preponderance of positive catchphrases is also a common feature. Nevertheless, Norway is described more positively because significantly less negative catchphrases are in the relevant articles than in these on Russia. The ratio between negative and positive catchphrase per relevant article underlines this fact. In case of Norway it is 2.3 and in articles dealing with Russia 1.4. The difference between the reporting on Norway and Russia is not made by the usage of positive catchphrases. The stronger pronounced negative attitudes on Russia make the difference, a result which is in line with the earlier explanations in this chapter.

Subcategory 21 provides results concerning the reliability of Norway and Russia as energy suppliers for Germany. Again, a positive picture of the situation is recognisable within the reporting. Norway and Russia are mentioned more often as reliable trade partner than as unreliable. Russia is described slightly more favourably, a new trend so far. The unreliability of both countries is mentioned only infrequently and to a comparable extent. The ratios between catchphrases indicating reliability and unreliability are also relatively close to each other for Norway and Russia. The conclusion is that Norway and Russia are described as reliable energy suppliers.

In the next step (subcategory 22) the content analysis examines the main aspects of the argumentation on supply security. Only political and economical arguments are considered here and different results for Norway and Russia are emerging. Political arguments are of no major meaning in the case of Norway whereas economical aspects are more influential. For Russia the results indicate a more influential meaning of political arguments but also the economical aspects are here more pronounced than those of Norway. At this point it is also valuable and informative to compare the ratio between political and economical reasons. For Norway the ratio between political and economical reasons is 0.4 and in the case of Russia

1.4. The political influences on the oil and gas sector are stronger in Russia than in Norway. This can be interpreted as an indicator for less developed overall structures and missing political stability in Russia.

Subcategory 23 aims to show the future developments for supply security from a German point of view. This aspect does not have a very high significance within the reporting because only few statements in the articles were coded for this category. Nevertheless, there is a tendency among the codification that indicates a higher future supply security for deliveries from Russia. The codifications for a positive or negative future of the supply security are the opposite way around for Norway and Russia. For Norway they indicate a relatively negative future whereas Russia's future appears to the same extent in a positive light. The differences in the resource situation in Norway and Russia (compare chapter 2.1.2 and 2.2.2) can be regarded as one reason for this assessment of the future of supply security. The Norwegian oil and gas resources are much smaller than the Russian deposits. Accordingly, Russia definitely has the higher future potentials for energy supply to Germany.

The aspect of supply dependency of Germany on deliveries from Norway and Russia as well as of Norway and Russia on the German outlet market are examined by subcategory 24. Germany's dependency on both suppliers is mentioned in a comparable dimension. It seems that Germany is not more dependent on one of them, even though Russia's importance for the German supply is certainly more important. The articles do not reflect this emphasis in an adequate way. The dependency of Norway and Russia on the German market is only to some extent evident in the articles. Norway's dependency is mentioned infrequently and Russia's even less. Especially Norway's dependency is surprisingly rarely mentioned. Again, the reporting does not match with the actual market situation. The same applies to Russia, though in an alleviated way. In general the reporting stresses the dependency of Germany on its suppliers stronger than the suppliers' dependency on the German market.

The next subcategory (25) was designed to examine the implications of the mutual dependencies on the bilateral political relations between Germany and Norway, and Germany and Russia. This aspect is very infrequently mentioned in the articles. As a consequence, the only possible result is that the question of bilateral relations is not in the focus of the reporting. The same applies to subcategory 26 as well. At this point the future of the mutual dependency from the German perspective was supposed to be examined. Concerning this matter only a negative appraisal of developments in Russia is slightly significant. The other possible outlooks are coded too rarely to yield valuable results.

The third main category of the content analysis deals with the underlying framework of the Norwegian and Russian oil and gas sector by analysing the attendant circumstances in both countries. These are classified in political, economical, social and environmental aspects in subcategory 31. In the reporting on Norway economical aspects are most often mentioned, followed by political, environmental and social. In general, the values of all four categories of attendant circumstances are not very far away of each other and also environmental and social aspects are significant. In the case of Russia political aspects are the most important, followed by economical, social and finally environmental. The emphasised position of political aspects is much stronger pronounced than the leading position of economical attendant circumstances in the case of Norway. Furthermore, the significance of the social and environmental aspects is very limited. The preponderance of the economical aspects in the case of Norway and of political aspects in the case of Russia is in line with the results mentioned above. The neglect of social and environmental aspects in the articles on Russia underlines, in my opinion, the less advanced character of the energy sector once again. While these more advanced and progressive aspects are discussed with regard to Norway the reporting on Russia is still concentrated on basic political and economical topics.

Finally, the content analysis is designed to classify the above-mentioned attendant circumstances into positive and negative categories for both countries. Subcategory 32 provides the corresponding results. Once more, the results for Norway and Russia are the opposite way around. The attendant circumstances for the Norwegian oil and gas sector are significantly more often positively appraised. The results for Russia have a different character and lead to a negative picture of the attendant circumstances. A look at the ratios between positive and negative attitudes confirms the above interpretation: 1.4 for Norway and 0.7 for Russia.

4.3.3 Qualitative assessment of catchphrases and judging statements

The widening look at the collection of the most important catchphrases and judging statements affirms many of the former conclusions from this chapter and provides details of the differences in the reporting. The provided picture of a more developed oil and gas sector in Norway compared to Russia is one of the most apparent results. The more splendid presentation in the 'wealth'-group and the fact that the aspects of political influences and corruption are not significant for Norway confirm this result. The usage of effusive terms and language to describe the Norwegian oil and gas sector whereas Russia is handled with a

businesslike language is another indicator for this trend. There are also further aspects pointing in this direction. The emphasis of the missing or deficient preconditions in Russia (infrastructure, legal framework etc.), Norway's project orientated presentation and the mentioning of Norway's advanced technological skills compared to Russia's backwardness also support this conclusion.

A different situation exists concerning the resource situation in both countries and their meaning for the German energy supply. In this respect Russia's future potentials for energy production lead to very positive reporting. Its huge resources are clearly considered as outstandingly important whereas in the case of Norway the limited potentials for future production are more pronounced. Both countries are presented as major current producer and exporters of energy but only for Russia does the same apply for the future. Furthermore, only Russia's meaning for the German energy supply is mentioned. There are no catchphrases that stress Norway's meaning for the current German supply at all. The analysis of the concrete catchphrases, which is not an integrated part of content analysis, leads, hence, to different results than the content analysis itself. The missing evidence for the stronger position of Russia in the results from the content analysis is now qualified by the analysis of the catchphrases. A similar result arises for the appraisal of Norway's and Russia's dependency on the German outlet market. This dependency can be derived from the catchphrases, whereas the content analysis itself does not provide strong evidence for this aspect. The immense meaning of the energy sector for the gross domestic product and other economic factors in Norway and Russia is frequently stressed by the catchphrases. Especially the export dependency is mentioned explicitly.

An interesting aspect concerning the energy production and export is the frequent mentioning of Gazprom. It obviously has an outstanding position in the reporting on the Russian energy sector. This importance of one company is not noticeable with the content analysis due to the design of the categories. Gazprom is described with superlative terms and expressions and they are evidence of a particular image of the company. It seems that the authors of the articles are sometimes not really aware of the actual structure of Gazprom and the reporting is sometimes vague and irrelevant (for example, labelling Gazprom as an octopus). Statoil, as the biggest Norwegian energy company, is mentioned only once within the catchphrases. This can be interpreted as an indicator of a less prominent position of the Norwegian oil and gas industry in general and Statoil in particular in the reporting.

The fact that the two topical groups on political influences as well as on corruption, monopolistic structures and mismanagement are only represented by articles on Russia are in

line with the results of the content analysis. Also, it is obvious that political aspects and attendant circumstances are more important for Russia than for Norway. Some articles link the energy sector with political events in Russia, for example, the war in Chechnya. In this way a totally different quality of topics and reporting occurs that is not relevant for Norway at all. The same applies for the reporting on corruption, mismanagement and the partial monopolistic structures of the Russian market. Hence, the analysis of the catchphrases explains in what way and towards which topics the stronger accentuation of political aspects for Russia, which occurs in the results of the content analysis, is leading.

4.3.4 Linking approach

The following is the last step of interpretation. It is an in-depth comparison of the results from the articles with the facts provided by the chapter on the theoretical background knowledge on the Norwegian and Russian energy sectors and the German energy market respectively policy. At first, worth mentioning is the aspect of the past and the development of the energy sectors in both supplying countries. Russia's long history as an oil and gas producing country differs to the character of the relatively new oil and gas province of Norway. The fact that most of Russia's energy sector and its organisational infrastructure originates from the Soviet time, whereas Norway's sector was developed with Western support as a reaction to the energy crisis leads to differing current preconditions in both countries. A significant part of the infrastructure in Russia is out-of-date and today's production still suffers under the results of inefficient exploitation during the Soviet regime. Furthermore, the structure of the Russian energy sector was originally adapted to the former appearance of the Soviet Union. The territorial changes in the region caused necessary adjustments for the oil and gas sector as well. An example is the necessary adjustment of the pipeline infrastructure to the present situation. Transit to the West via Ukraine bears risks for the Russian interests which occurred only after the end of the Soviet Union. The consequence of the Soviet legacy is an extensive transition processes. The government did not manage so far to create a stable business environment (Rautio 2003, 63) for the energy sector with adequate infrastructure and reliable legislation. Access to the latest technology and an orientation to Western outlet markets since the very beginning fostered the development of the Norwegian energy sector. Also, the governmental actions in the energy sector are highly efficient organised and lead to the accumulation of wealth in the society. The results from the content analysis reflect these different preconditions. The proved preponderance of political aspects in the reporting on

Russia is comprehensible in view of the above-mentioned details. It is obvious that political events and other business-predefining processes are of a much bigger importance in Russia than in Norway. The missing relevance of social and environmental attendant circumstances in the reporting on Russia can also be explained by a necessary concentration on the mentioned political and business-predefining processes.

The present resource situation in Norway differs from that of Russian. Both are major oil and gas producing countries, holding a leading position among the main producers and exporters in the world. The size of all found and assumed resources is very different in Norway and Russia. Russia's potentials for oil and gas productions are much more promising than those of Norway. The production of oil will most likely drop within the next ten years in both countries, in Norway mainly due to a shortage of new findings and in Russia because of ageing infrastructure and a lack of investments. Gas production will increase and will play a major role in both countries. The different resource situation in Norway and Russia is especially obvious in the case of natural gas deposits. Nearly one-third of all proven gas resources was found in Russia and its deposits are much bigger than the Norwegian ones. The prospects for future findings are also much more promising for Russia, even though Norway expects to discover new oil and gas fields in its territory as well. The actual resource situation and the future prospects are only to a certain extent adequately presented in the articles. The analysis of the catchphrases leads to the conclusion that Russia has much bigger resources and provides, hence, a realistic appraisal of the situation. The same applies to the information on the future prospects that derive from the catchphrases. The results from the content analysis do not reflect the actual situation as precise as the catchphrases. Though Russia is described as more reliable in terms of present and future supply security, which can be interpreted as a reaction to the more promising resource situation, the existing differences between both countries as suppliers for the German market is not laid down in a very detailed manner. The special future meaning of gas production and trade is not recognisable from the reporting, as the general assessment shows.

The position of the oil and gas sector in the economies of Norway and Russia is very commanding. The most important macroeconomic indicators show that both countries are dependent on the incomes from these sectors. The content analysis deals only in one category with this aspect. It asks for the dependency of Norway and Russia on the German outlet market. According to the results, this aspect is of no major importance in the articles. Nevertheless, there is a slight tendency towards a higher dependency of Norway than of Russia recognisable, even though Germany is the most important energy trade partner for

both countries. The catchphrases mirror the meaning of the energy sector for both economies adequately. Moreover, other specific features of the two different energy sectors are described with the catchphrases. For example, the high technical standards in Norway and the transition processes in Russia are emphasised.

As laid down in the chapter on the German energy market and policy, Norway and Russia are by far the most important energy suppliers for Germany. They provide nearly one third of the energy imports to Germany, especially oil and gas, the two most important energy sources in Germany. There is evidence for this dependency in the results from the content analysis and from the dealing with the catchphrases. Influences of the dependency on the general energy trade between Germany and Norway, and Russia on the bilateral political relations between these countries are, surprisingly, of no relevance in the reporting. Even though supply security is one of the official goals of a sustainable energy policy in Germany and good relations with energy producing countries are considered as an important device for achieving this goal, influences of energy related aspects on these relations are only very rarely mentioned. Other aspects of the German energy policy are not relevant in the particular setting of the content analysis and the collection of the catchphrases.

4.3.5 Concluding comments – answers to the research questions

The outcome from the different approaches of interpretation of the results leads now to the concrete answering of the research questions based on the previous argumentation of this chapter. At this point the multi-methodological concept, which was introduced at the beginning of this work, is applied in providing the answers. The combined information from all methodological approaches certainly allows results based on stronger arguments. The research questions are laid down in the introduction and in detail in the chapter on the concrete central questions (4.1.1) and will be handled now one by one.

The first concrete central question deals with the attitudes towards Norway and Russia that are expressed in the articles. It clearly can be said that both countries are described frequently with catchphrases and judging statements. The collection of these in appendix three and its analysis are obvious proofs for this result. The differences in the description of Norway and Russia are recognisable in the proportion of positive and negative catchphrases and in their quality and topics. Norway and Russia are linked to positive catchphrases equally. The differences occur with the usage of negative examples because Russia is linked to them more frequently. The different quality of catchphrases linked to Norway and Russia is laid

down in the chapter on their analysis. Examples are the splendid picture provided for the general appearance of Norway's energy sector, the positive picture on Russia's huge resources or the aspect of corruption that is only mentioned for Russia. Other aspects, for example, Germany's supply dependency, are described surprisingly equally. Accordingly, it is obvious that there are different attitudes towards Norway and Russia, in spite of similarities in the reporting concerning certain aspects.

The next central question deals with the aspect of supply security for Germany. The main result here is that Norway and Russia are presented in the articles as reliable trade partners. The content analysis leads to significantly more codifications for their reliability than for signs of unreliability. Russia is described slightly more favourably. A general trend is that economical aspects are more important concerning Norway whereas Russia's reliability is more often linked to political argumentation. Examples are the emphasis of Russia's general supply reliability, even during the Soviet era and in spite of current internal problems, or the repeated mentioning of Norway's sophisticated oil and gas infrastructure. The look at the catchphrases provides information on the differences in reporting on Norway's and Russia's future developments as an energy supplier. The huge Russian oil and gas deposits and the finiteness of Norway's resources are influencing factors for the reporting on future supply security. Future developments in supply security are in particular more positively appraised for Russia.

The aspect of supply dependency is, in general, of surprisingly small significance within the reporting. This applies in particular to the dependency of Norway and Russia on the German outlet market which is only very negligibly mentioned. The actual market situation leads to different conclusions. Russia's dependency is less frequently mentioned than Norway's need for trade relations with Germany. The dependency of Germany on supplies from Norway and Russia is more often coded but, nevertheless, only infrequent, too. The dependency on both countries' deliveries is, according to the content analysis, equal. No particular different opinions are connected with Norway and Russia in this respect. The catchphrases express a higher dependency on Russian deliveries. The aspects of the influences of energy topics on the bilateral political relations between suppliers and buyer and the future development of the dependency are too infrequently coded to allow conclusions from their interpretation. The same applies to the analysis of the catchphrases. Future perspectives and impacts on the bilateral relations are not covered.

The last of the concrete central questions deals with the attendant circumstances for the oil and gas sector in Norway and Russia. These are frequently mentioned and their coding

in the content analysis shows different results for Norway and Russia. For Norway economical aspects are most frequently mentioned followed by political. Environmental and social aspects are also relevant but less marked. In the case of Russia political aspects are leading in front of economical. Social and environmental points of view are of very limited relevance. Finally, it appears that the attendant circumstances are, in general, more positively described for Norway. The underlying framework of economical, political, social and environmental aspects is less favourably assessed for the oil and gas sector in Russia than in Norway. Informative examples from the list of catchphrases are the description of wealth in the whole Norwegian society and the intensive reporting on corruption in the Russian oil and gas industry.

5 Conclusions and discussion

This research work deals with Norway and Russia as crude oil and natural gas suppliers for the German market. Its intention is to lay down the perception of and attitudes towards both countries as energy suppliers in Germany. The difficulties, which are connected with the handling of vague factors like perception and attitudes, are met in this work with a content analysis of articles from two leading German newspapers. For a wider approach towards the research problem further methodological means are used. An extensive empirical and qualitative examination of the development and present situation of the Norwegian and Russian energy sector are comprised by this wider approach. It consists of the presentation of the principles of the German energy market and policy as well as the assessment of catchphrases, which were collected during the research from the articles.

An underlying limitation of this research is based on the limited amount of articles used in the content analysis. The chosen restricted amount of articles is mainly explained by pragmatic reasons. Other reasons for restricting the amount of articles were the intention to deal with up-to-date incidents, which means the concentration on recent articles. Furthermore, the categorisation of the two used newspapers, *Frankfurter Allgemeine Zeitung* and *Süddeutsche Zeitung*, as an expert elite within the German media and the exclusion of other newspapers led to a restricted amount of articles. The inclusion of other newspapers might extend the scope of opinions by including less qualified and professional opinions. Nevertheless, the implementation of other media products and a bigger sample of research material, if chosen carefully, would contribute to a positive modification of this research's approach. However, its results are considered as valid also under the described limitations due to the outstanding role of the used newspapers in terms of quality.

Within this setting and limitations the research questions are answered. These research questions deal with the attitudes expressed in the articles towards Norway and Russia, the aspects of supply security and dependency and the assessment of the general attendant circumstances in the Norwegian and Russian oil and gas sectors. The content analysis of the articles contributes many interesting and valuable points of view for answering the research questions.

It is shown that Norway and Russia are handled with and presented differently in the reporting. One of the most apparent results is the provided picture of a more advanced Norwegian oil and gas sector compared to the Russian. Furthermore, Norway and Russia are

presented as reliable trade partners for Germany. The future perspective is more promising for Russia because of its large deposits. On the other hand, the German dependency on both energy suppliers is assessed equally. A look at the dependency of Norway and Russia on the German outlet market shows no major differences. The meaning of the mutual dependency is, according to the reporting, not very relevant for the bilateral relations. Finally, an inconsistent picture of Norway and Russia can be recorded for the attendant circumstances. For Norway they are predominately positive and cover a broad spectrum of aspects. In the case of Russia the assessment shows a more negative result and a concentration on mainly political and economical aspects.

Taking into consideration the results from the look at the theoretical and empirical background knowledge of the Norwegian and Russian energy sector, the German energy market and policy and the qualitative assessment of the collected catchphrases leads to an advanced outcome. Several aspects, which are not characterised in line between the actual market situation and the reporting of the articles, are relativised by the results from the two additional approaches. This applies, for example, to the presentation of Germany's dependency on Norway and Russia as oil and gas suppliers. It is difficult to judge the importance of this aspect based on the results from the content analysis. Only the appraisal of the catchphrases shows proof of this dependency. The merge of the content analysis' results and of the facts about the background knowledge of the current market situation leads to a more significant outcome. The relatively equal handling of crude oil and natural gas in the reporting, which does not mirror the actual situation in Norway and Russia, is a good example. The knowledge of the more important position of oil in Norway and gas in Russia helps to appraise the outcome of the content analysis in an adequate way.

The multi-methodological approach is appropriate in the particular setting of this research because of the more sophisticated results that can be achieved by triangulation. The additional principles of Yeung's (2003) methodological approach towards new economic geographies, tracing the main actors and a process-based character of analysis, were fruitful for the research process. For example, the predominance of political aspects in the case of Russia can be better understood if the role of the political (for example the legislator) and industrial (for example Gazprom) actors is known. The process-based character of the research refers to the flexible adjustment of the methods towards the actual needs of the research situation instead of following preordained positions (Yeung 2003, 442). This principle can be recognised in the parallel application of content analysis and qualitative analysis of the catchphrases. The qualitative-quantitative debate is negligible within this

research because helpful aspects of both sides are pragmatically applied at the same time for the sake of a better outcome.

A further interesting theoretical point of view is the confrontation of the research's results with the theoretical assumptions on geopolitics and economic geographies, which are introduced at the beginning of this work. The meaning of political and cultural context is stressed in these theoretical approaches and, hence, the role of conventional economic or other influential aspects is less important. The imagination of space and behaviour of actors within this frame are in the focus. Agnew (1998, 4) describes, for example, the modern geopolitical imaginations. Ó Tuathail (1998,1) speaks about the "comprehensive visions of the world political map" and argues with this idea in the same direction like Agnew. For new economic geographies and their direction Barnes and Sheppard (2000, 5) argue similarly. They state, "...that economy cannot be treated as sovereign and isolated, but must be understood as part of a set of wider social processes". Also Bathelt and Glückler (2003) use the social embeddedness of economic action as a starting point for creating their conceptualisation of economic geography.

The different perception of and attitudes towards Norway and Russia as energy supplying countries, which are detectable in the result from the content analysis, can be interpreted with the above outlined theoretical assumptions. The results from the content analysis are not always in line with the actual market situation. It seems that the reporting in the articles does not always follow the economical facts, for example, in the case of the resource situation or the mutual dependencies in energy trades. What are the reasons for this actuality? The new economic geographies and geopolitics offer explanations by stressing the influence of context and by trying to detect its impacts. Ó Tuathail (1998, 8) describes the field of geopolitical influences between a triangle of institutions, ideology and intellectuals. Dalby (1998, 306-307) is more concrete and refers to the role of corporations in geopolitics and mentions particularly the influential position of oil companies. It becomes manifest here how the theoretical assumptions of new economic geographies and geopolitics apply to the aspects of oil and gas trade. Before progressing further it is necessary to lay down the differences for Norway and Russia regarding their position as trade partners for Germany.

Norway is a Western country. It has extensive cultural links with Germany that are observable, for example, in the related languages. After World War II, which led to the occupation of Norway by Germans, the relations between both countries became better and close trade relations developed soon again. After the war the country rebuilt its political and economical stability. Today Norway is an integrated part of the European Economic Area but

not of the European Union. Its refusal to join the EU, which was expressed in two plebiscites in 1972 and 1994, can be explained, among others, with the state income from the oil and gas sector. Many Norwegians consider that they do not want to spend their wealth for EU purposes.

Russia is not in the core of Western civilisation. In spite of many connections between Russia and Germany during history there exists a clear cultural difference. After World War II Russia and West Germany were separated by the Iron Curtain and developed their economical structures under totally different preconditions. Nevertheless, trade between the Soviet Union and Germany (West and East) was important for both sides. Oil and gas were among the most important commodities. The legacies of the Cold War and the Soviet era are responsible for the current poor economical integration of Russia in Western Europe. Recently, a process of harmonisation of interests takes place between many Western countries and Russia. The EU-Russia Energy Partnership (compare European Commission 2003) is an example for this economical and political convergence.

The most important difference is the fact that Norway and Germany belong to the same culture and civilisation. Russia is not an equivalent part of the same group, though there are also many cultural parallels, for example the Christian background. Huntington (1993), for example, estimates the cultural grouping of countries as more important than the classification according to economic patterns of development and specifies a current cultural division of Europe. He sees the occurrence of this divide on two levels (1993, 29). The micro-level is characterised by the confrontation on the individual level. On a macro-level of cultural division states, which struggle for military and economical power, are involved. The cultural preconditions for energy trades with Germany are, hence, different for Norway and Russia.

After describing the differences between Norway and Russia and stressing the meaning of cultural preconditions and imagination of space it seems likely that the perception of and attitudes towards Norway and Russia are influenced by these factors. Taking into consideration, for example, Ó Tuathail's triangle of institutions, ideology and intellectuals and combining it with Huntington's thoughts leads to concrete conclusions for the energy-based relations between Germany and its two main energy suppliers. In the case of institutions Germany and Norway are organised in a similar system. Both developed after the World War II social market economies within a democratic framework. Russia is trying to build a similar economic structure, too. Because of the Soviet legacy it is lagging behind and its political and economical institutions are less consolidated. These differences lead to a lower compatibility between the German and Russian institutions and a less developed stability in trade relations.

The aspect of ideology is according to Huntington not as important as cultural influences. It is reasonable to replace ideology with culture in the triangle of the geopolitical field of influence. As explained above are the cultural preconditions different in Norway and Russia. Energy trade between Norway and Germany does not have to cross a cultural border, as those between Germany and Russia have to do. This contributes in my opinion to an easier exchange of goods between Norway and Germany because cultural confrontations on the micro and macro level do not appear and, hence, cannot affect the trade. That does not mean that these confrontation appear always in the trade relations between Germany and Russia but the potential risk exists.

Intellectuals, as Ó Tuathail understands them (1998, 8), are intellectuals of statecraft. They are aiming to facilitate and to augment the state's operations. The same applies in my opinion to intellectuals and the economy. These intellectuals of statecraft operate in a similar system in Germany and Norway. Their paradigms are not controversial in general aspects, though their different national backgrounds certainly influence them. It seems to be possible that the legacy of the past and the cultural differences are influential on the Russia side once again. The consequences of the long era of Socialism and command economy are not likely to be completely vanished in the heads of the Russian intellectuals. Time is needed to bring the German and Russian side closer on a broad spectrum and until then disharmonies in trade relations are possible to emerge.

The relevance of context for the energy trade relations between Germany and its two main suppliers can also be explained with theoretical conceptualisations of new economic geography. In Bathelt's and Glückler's (2003) concept of relational economic geography are four concepts (organisation, evolution, innovation, interaction) crucial which stress the contextuality, path-dependence and contingency of economic action. Organisation is defined as the establishment of a particular social and spatial division of production and labour (Bathelt and Glückler 2003, 132). This organisation is in Norway certainly more transparent and sophisticated and, hence, more supportive for trade relations. The frequent use of 'oligarchy' and related terms in the reporting on the Russian energy sector confirms this assumption. At this point are the cultural differences between Germany and Norway on one hand and Russia on the other, which are stressed by Huntington (1993), important again. They lead to different norms, routines and conventions on both sides and to a higher compatibility of the systems between Germany and Norway. Norms, routines and conventions are also important for the concept of interaction. It acts as a transmitter between the involved economic agents and enables better learning processes and innovation (Bathelt and Glückler

2003, 136-137). The consequences of the differences between Norway and Russia as energy suppliers for Germany, which were mentioned above concerning the concept of organisation, apply also to the aspect of interaction. As higher the compatibility between systems is as higher is also the efficiency of interaction.

The idea behind the concept of evolution is that past matters. Bathelt and Glückler (2003, 133-134) state that historical structures and processes have an impact on today's decisions and, accordingly, that past choices generate potentials and limits for present actions because old decisions are not easily reversed. The past of the energy sectors in Norway and Russia are essentially different. Russia has a much longer history as an oil and gas producer and is confronted with the legacy of the Soviet era. These circumstances led repeatedly to adjustment processes and at present to a less consolidated structure of the energy sector than in Norway. The results of the content analysis show in the case of Russia a stronger emphasis on political arguments whereas economical aspects are more important in the reporting on Norway. The different historical background of both countries explains this situation and influences the present energy trade.

Innovation, the fourth concept in Bathelt's and Glückler's (2003, 135) relational economic geography, is defined as interactive social process of generating new technologies and knowledge. This process is strongly influenced by the actors' experience, organisational structures, varying degrees of vertical integration and centralisation and different routines and habits (Bathelt and Glückler 2003, 136). Accordingly, nation-states and their institutions have an important role for innovation processes. In this connection Norway and Russia created very different innovation environments. In Norway exists a highly developed and competitive energy sector with a significant innovation outcome. The Russian equivalent is characterised by an inherent lack of investments, ageing infrastructure and missing innovations. These are, among others, reasons why the description of the attendant circumstances in the reporting on Russia is significantly more negative compared to the reporting on Norway.

The empirical results of this study do not reveal mistrust of the Russian energy supply. Therefore the above outlined theoretical argumentations seem to fail. Nevertheless, it appears to be likely that the mentioned differences between Norway and Russia influence the perception of both oil and gas suppliers in Germany and also affect the reporting in newspapers. The results of the content analysis indicate that the actual market situation is not always described realistically in the entirety of the articles. It seems that the reporting follows at some places uncritically the impacts of 'imagined space', which is defined by above-mentioned arguments. A more comprehensive consideration of the real facts would be

advisable. The use of different language in the catchphrases on Russia than in those on Norway is probably also influenced by the different preconditions in both countries. The vague and irrelevant reporting on Gazprom or the handling of corruption are good examples for the case of Russia. Even though, there are good reasons for critical reporting on these topics it seems that the used language and its style is not only based on pragmatic facts.

After proving that there are different perceptions and attitudes in dealing with Norway and Russia as energy suppliers it is appropriate to evaluate their implications and meanings. As it is shown in the chapter on the theoretical background of the Norwegian, Russian and German energy sectors there exists a mutual dependency in energy trade between suppliers and buyer. Norway and Russia are depending on sales of their oil and gas to Germany. Significant shares of their production are traded to this particular outlet market and the incomes from these sales are required in both countries. It would not be possible to find an adequate alternative for the German market because of extensive trade relations and fixed transportation facilities that are leading to central Europe in general and Germany in particular. Germany, on the other hand, is dependent on the oil and gas deliveries from Norway and Russia to meet its demand for energy and to maintain its high level of economical activity. Oil and gas are the most important energy sources and both are mainly imported. Alternative suppliers could not replace the gap that Norway and Russia would leave if they would stop their deliveries.

This mutual dependency is recognised by all involved actors. All three countries stress the importance of their trade relations. Nevertheless, this research shows that the perception of both supplying countries in Germany is not likely to be based only on factual and pragmatic appraisals. In my opinion it might be adequate and necessary to try to handle this issue as realistically and impartially as possible. Especially in respect towards Russia a more clarified approach is advisable because of its immense meaning for present and future energy supplies to Germany.

From a theoretical perspective it is worth mentioning that the empirical results of this study, which prove the different handling of Norway and Russia in the reporting, supply evidence for the contextual embeddedness of political and economic action. At several places it is shown that the reporting focuses on contextual aspects instead of conventional economic facts. By showing the relevance of social and situational embeddedness, which is the main assumption of new geopolitics and new economic geography, this study contributes to these theories. Furthermore, it seems in this concrete case that the relevance of embeddedness is more important for the less developed and consolidated Russian energy sector. A promising

task for further studies would be to examine the interdependencies between the degree of economic development and embeddedness in general terms.

This study shows that different approaches towards Norway and Russia exist and that it would be another reasonable task for further studies to examine the characteristics and reasons for these differences in detail. A more precise knowledge of the differences would help to identify possible negative influences for the energy trade relations. Even more important would be to eliminate external and irrelevant influences on the trade and to contribute to an improvement and stabilisation of the relations. It would be helpful to describe the cultural differences and their implications based on case studies and to develop an instrument for adjusting possible oppositional interests.

At the end of this study it is time to answer the question which is the title of this thesis that asks for the orientation of the German energy supply towards North or East. The mutual dependency of all three involved countries on energy trade and the need for good relations of Germany with Norway and Russia to maintain supply security is laid down in this work. Furthermore, it is clear that there will not be a significant change of preconditions in a medium-term perspective. Accordingly, the only possible answer to the title's question is North *and* East.

References

- Agnew, J. (1998): *Geopolitics. Re-visioning World Politics*. London.
- Alexander's Gas & Oil Connections (2002): Caspian pipeline: A history of square pegs into round holes. <http://www.gasandoil.com/goc/news/ntc22449.htm> (19.07.2003).
- Anda, I. (2001): Bit of a revolution. *Norwegian Petroleum Diary* 2001 (1), 16-18.
- Barnes, E. and Sheppard, T.J. (2000): *A Companion to Economic Geography*. Blackwell Companions to Geography. Oxford.
- Bathelt, H. and Glückler, J. (2003): Toward a relational economic geography. *Journal of Economic Geography* 3 (2003), 117-144.
- Berelson, B. (1952): *Content analysis in communication research*. New York.
- BP (2003): *BP Statistical Review of World Energy June 2003*. London.
- Brüggmann, M. (2002): Ölexporte. Moskau schmiert den Aufschwung. *Handelsblatt* Nr.095, 21.05.02, 11.
- Brüggmann, M. (2003): Putin kann sein Versprechen, mehr Öl zu exportieren, nicht halten – Konzerne brauchen dringend neue Pipelines. *Handelsblatt* Nr.049, 11.03.03, 2.
- Bundesanstalt für Geowissenschaft und Rohstoffe (1998): *Reserven, Ressourcen und Verfügbarkeit von Energierohstoffen 1998*. Rohstoffwirtschaftliche Länderstudien XVII. Hanover.
- Bundesministerium für Wirtschaft und Technologie (2002): *Energie Daten 2002. Nationale und internationale Entwicklung*. Berlin.
- Considine, J.I. and Kerr, W.A. (2002): *The Russian Oil Economy*. Cheltenham.
- Crang, M. (1997): Analyzing qualitative materials. In: Flowerdew, R. and Martin, D.: *Methods in Human Geography. A guide for students doing a research project*. Harlow. 183-196.
- Dalby, S. (1998): Geopolitics, Knowledge and Power at the End of the Century. In: Ó Tuathail, G.; Dalby, S.; Routledge, P.: *The Geopolitics Reader*. London. 305-312.
- Donnerbauer, R. (2000): „Schwarzes Gold“ aus der Nordsee. *Wärmetechnik – Versorgungstechnik* 2000 (8), 28-33.
- Dorling, D. (2003): Using Statistics to Describe and Explore Data. In: Clifford, N.J. and Valentine, G. (2003): *Key Methods in Geography*. London. 369-382.
- EIA (1997): *Oil and Gas Resources of the West Siberian Basin, Russia*. Washington.

- EIA (2002a): Russia. <http://www.eia.doe.gov/emeu/cabs/russia.html> (30.04.2003).
- EIA (2002b): Russia: Energy Sector Restructuring. <http://www.eia.doe.gov/emeu/cabs/russrest.html> (25.07.2003).
- EIA (2002c): Russia: Oil and Natural Gas Exports. <http://www.eia.doe.gov/emeu/cabs/russexp.html> (19.06.2003).
- EIA (2002d): Russia: Oil and Natural Gas Export Pipelines. <http://www.eia.doe.gov/emeu/cabs/russpip.html> (25.07.2003).
- European Commission (2000): *Towards a European strategy for the security of energy supply*. Green Paper COM(2000) 769 final. Brussels.
- European Commission (2003): The EU-RUSSIA Energy Partnership. http://europa.eu.int/comm/energy_transport/en/lpi_en_3.html (22.07.2003).
- Federal Ministry of Economics and Technology (2000): *The Long-term Development of Energy Markets with Regard to the Competition and Environment*. Berlin.
- Federal Ministry of Economics and Technology (2002): *Sustainable Energy Policy to Meet the Needs of the Future. Energy Report*. Berlin.
- „First of its kind“ (1998). *Euroil* September 1998, 19-25.
- Früh, W. (2001): *Inhaltsanalyse. Theorie und Praxis*. Konstanz.
- „Gas für Generationen“ (2000): *Brennstoff Wärme Kraft* 2000 (10), 20-22.
- Gibbs, W.M. (1999): The Oil Age in Norway. <http://www.oil-offshore.com/history.html> (06.09.2001).
- Gläßer, E. (1993): *Norwegen*. Wissenschaftliche Länderkunden, Band 14. Düsseldorf.
- Gläßer, E.; Kolb, H.-J.; Schwackenberg, J. (1996): Erdöl- und Erdgasförderung aus den Schelfgebieten Norwegens. *Geographische Rundschau* 1996 (5), 311-317.
- Goethe-Institut (2003): Der Print-Sektor in der Bundesrepublik Deutschland. <http://www.goethe.de/kug/mui/pre/ein/deindex.htm> (29.09.2003).
- Gritsenko A.I.; Krylov, N.A.; Alenin, V.V.; Stupakov, V.P. (2001): Oil and gas of Russia in the XXI century: Forecast of production and development of the resource base. Mineral resources in Russia. Economics and management. 2001 (3). <http://www.geoinform.ru/english/mrr.files/issues/articles/agric3-01.html> (25.07.2003).
- Guyol, N.B. (1971): *Energy in the perspective of geography*. Foundations of Economic Geography Series. Englewood Cliffs.
- Hagland, J. (2000): Oil & Gas in the North Sea. <http://www.arcticculture.com/library/weekly/aa091500a.htm> (15.06.2001).

- Hagland, J. (2003): Seeking a new oil axis. *Norwegian Petroleum Diary*. 2003 (2), 29.
- Helle, E. (1995): Norway as an oil producer. <http://www.madein.no/oil.htm>. (15.06.2001).
- Holt-Jensen, A. (1996): The sharing of petroleum resources; resource poverty and richness around the North European Seas with a special reference to the Norwegian position. *GeoJournal*, 1996(2), 211-219.
- Huntington, S.P. (1993): The Clash of Civilizations? *Foreign Affairs* 72 (3), 22-49.
- IEA (2002): *Russia Energy Survey 2002*. Paris.
- Meyn, H (1996): *Massenmedien in der Bundesrepublik Deutschland*. Berlin.
- Mineralölwirtschaftsverband e.V. (2000): *Mineralölversorgung mit Pipelines*. Hamburg.
- Neuendorf, K.A. (2002): *The content analysis guidebook*. Thousand Oaks.
- “Norwegen: Energie macht Karriere“ (1999): *Brennstoff Wärme Kraft* 1999 (3), 20-22.
- NPD - Norwegian Petroleum Directorate (2001): *Offshore Norway 2000. Annual Report*. Stavanger.
- NPD - Norwegian Petroleum Directorate (2003): *Offshore Norway 2002. Annual Report*. Stavanger.
- OLF - The Norwegian Oil Industry Association (1993): *Norwegian oil & gas*. Stavanger.
- Olje- og Energidepartementet (2001): *Facts 2001. The Norwegian petroleum sector*. Oslo.
- Olje- og Energidepartementet (2002): *Facts 2002. The Norwegian petroleum sector*. Oslo.
- Olje- og Energidepartementet (2003): *Facts 2003. The Norwegian petroleum sector*. Oslo.
- Ó Tuathail, G. (1996): *Critical Geopolitics: The Politics of Writing Global Space*. London.
- Ó Tuathail, G. (1998): Thinking critically about geopolitics. In: Ó Tuathail, G.; Dalby, S.; Routledge, P.: *The Geopolitics Reader*. London. 1-12.
- Peters, G. (2003): Deutsche Presse. <http://gunnar-peters.de/medien/presse.htm> (29.09.2003).
- Pinsker, L.M. (2003): Major Return to Russian Oil Fields. <http://www.geotimes.org/apr03/resources.html> (01.08.2003).
- Preuß, O. (2000): Kraftakt in der Nordsee. *Financial Times Deutschland* 31.10.2000. <http://www.ftd.de/ub/in/FTD972880901068.html> (30.05.2001).
- Quiring, M. (2002): Gazprom beschließt Gaspipeline auf dem Grund der Ostsee. *Die Welt* 21.11.2002.

- Rautio, V. (2003): *The Potential for Community Restructuring – Mining Towns in Pechenga*. Kikimora Publications A:9. Saarijärvi.
- Ruhrgas (2002): *Erdgaswirtschaft. Eine Branche im Überblick*. Essen.
- Schiffer, H.-W. (2002): *Energiemarkt Deutschland*. Köln.
- Sibneft (2003): History of Oil in Russia. <http://www.sibneft.com/pages.jsp?lang=1&page=2> (22.07.2003).
- Smil, V. (1994): *Energy in World History*. Boulder.
- SPD (2003): Erneuerung – Gerechtigkeit – Nachhaltigkeit. Für ein wirtschaftlich starkes, soziales und ökologisches Deutschland. Für eine lebendige Demokratie. <http://www.sdp.de/servlet/PB/menu/1023283/index.html> (17.09.2003).
- Statoil (2003): Go-ahead for power station. <http://www.statoil.com/STATOILCOM/snohvit/svg02699.nsf?OpenDatabase&lang=en> (25.06.2003).
- Statoil (I): *Snohvit, natural gas from the far north*. Stavanger.
- TNK (2003): History of the Oil Industry in the Soviet Union. <http://www.tnk.com/company/history/industry.html> (19.07.2003).
- Tsygankov, A.P. (2003): Mastering space in Eurasia: Russia's geopolitical thinking after the Soviet break-up. *Communist and Post-Communist Studies* 36, 101-127.
- Tykkyläinen, M. (2003a): Geographical Dimensions of Russian Energy Developments. Report for the ERSA 2003 Congress, 27. -30.08.2003.
- Tykkyläinen, M. (2003b): North-West Russia as a gateway in Russian energy geopolitics. *Fennia* 182:2.
- Wismeth, A. (2000): *Das norwegische Petroleumsrecht*. Europäische Hochschulschriften, Reihe II Rechtswissenschaften, Band 3030. Frankfurt am Main.
- Witthöft, H.J. (1981): Die Bedeutung der Energiereserven aus der Nordsee. *Marine-Rundschau* 1981 (3), 157-165.
- Yergin, D. (1991): *Der Preis. Die Jagd nach Öl, Geld und Macht*. Frankfurt am Main.
- Yeung, H.W.C. (2003): Practicing New Economic Geographies: A Methodological Examination. *Annals of the Association of American Geographers* 93 (2), 442-462.

Appendices

Appendix 1: List of newspaper articles. Sorted by analysis sheet number.

Sheet No.	News paper	Day of publication	Page	Title
1	FAZ	04.02.2000	43	Halbherzige Erfüllung
2	FAZ	13.03.2000	61	Mit Öl, Charme und Keynes
3	SZ	06.10.1999	V2/2	Reichtum aus dem Meer
4	FAZ	21.09.2000	8	Im Scheitern des Nordens ist einfach alles teuer
5	FAZ	21.08.1999	22	Statoil will in die Liga der großen Ölkonzerne
6	SZ	20.08.1999	23	Geburtswehen eines Giganten
7	FAZ	08.03.2000	-	Die Türkei will mit Erdgas aus Russland ihren Energiebedarf decken
8	SZ	30.05.2001	-	An Gazprom entscheidet sich Putins Reformwille
9	FAZ	12.12.2001	16	Die Europäische Union kritisiert Norwegens Energiepolitik
10	SZ	27.05.2002	24	Russland und die USA rücken zusammen
11	SZ	02.01.2003	17	Fiskus und Irak-Konflikt machen Gas teuer
12	FAZ	05.04.2002	14	Russland produziert zuviel Öl und exportiert davon zuwenig
13	SZ	22.12.2000	1	Der Spion, der aus dem Kabel kommt
14	SZ	28.08.1999	2	Reich und ohne Moral – die „neuen Russen“
15	FAZ	16.11.2001	-	Putin in der Prarie
16	SZ	14.05.2002	1	Ein Öl-Prinz als Handlungsreisender
17	FAZ	25.11.2002	17	Russlands staatlicher Ölkonzern Slavneft wird verkauft
18	FAZ	17.08.2002	55	Wo Fischerei und Ölwirtschaft auf dem Stundenplan stehen
19	SZ	19.09.2000	2	Öl-Scheichs sind nicht an allem schuld
20	FAZ	12.07.2000	6	Der Kreml arbeitet am „Fall Gusinskij“
21	FAZ	15.11.1999	2	„Dieser Krieg hat vor allem einen wirtschaftlichen Hintergrund“
22	FAZ	02.11.1999	8	Serbiens Opposition bittet um Hilfe
23	SZ	08.09.2001	10	Milliardäre in Not
24	FAZ	30.03.2001	14	In Deutschland sprudelt wieder die Erdöl- und Erdgasquellen
25	FAZ	14.05.2002	14	Marginale Themen
26	SZ	12.02.2003	24	Neuer Erdöl-Gigant in Russland
27	FAZ	16.11.2001	17	Die Förderkürzung für Opec-Öl ist gefährdet
28	SZ	18.05.2001	9	Schwarzmeer-Strudel
29	FAZ	06.02.2001	8	Putin entlässt Energieminister und bewirkt Rücktritt eines Gouverneurs
30	SZ	12.05.2001	4	Im Profil: Wiktor Tschernomyrdin. Moskaus Mann in der Ukraine
31	SZ	19.03.2001	28	„Unsere Politik zielt auf gegenseitiges Verständnis“
32	FAZ	17.10.2000	10	Strategischer Partner Ukraine
33	SZ	27.05.2000	4	Der große Spielverderber
34	FAZ	30.11.2001	10	Grosses Spiel?
35	FAZ	03.11.2001	20	Vom Schmutzkind zum Musterknaben

36	SZ	09.01.2003	1	Schlotternde Scheichs
37	FAZ	22.05.2002	14	Sibirisches Öl für Amerika
38	FAZ	05.03.2003	23	Hüter der norwegischen Petromilliarden
39	FAZ	13.09.2002	34	Weltrettung aus der Tiefsee?
40	FAZ	10.08.2000	17	Positive Handelsbilanz in Russland
41	FAZ	12.11.1999	5	Finnland will ein Geschenk des Himmels endlich auspacken
42	FAZ	25.09.2000	1	IWF erwartet Steigerung der Ölproduktion noch in diesem Jahr
43	SZ	30.11.2001	29	Vom Fischer zum Milliardär
44	FAZ	06.06.2000	28	Erdgas wird immer wichtiger für die globale Energieversorgung
45	FAZ	31.12.1999	24	Norwegen hofft auf Geschäfte mit dem Abbau von Ölplattformen
46	FAZ	07.03.2002	6	Angst vor Schneewittchen
47	SZ	13.02.1999	23	Im „Kuwait des Nordens sind die Boomzeiten vorerst vorbei
48	FAZ	18.09.2001	16	Skandinavische Auslaufmodelle
49	SZ	27.09.2001	23	Putin sichert im Konfliktfall Öl und Gas zu
50	FAZ	06.12.2001	19	Russland will seinen Ölexport um 15 000 Fass täglich drosseln
51	SZ	06.02.2001	7	Putin entlässt Energieminister
52	FAZ	18.12.2000	20	Gas aus dem sibirischen Norden
53	SZ	30.06.2000	31	Ein deutscher will zur Gazprom
54	SZ	20.11.1999	8	Angriff auf Moskaus Rohstoff-Interessen
55	FAZ	26.02.2001	6	Die Ukraine hat die erste Runde im Erdgaspoker verloren
56	SZ	08.10.2002	V2/8	Treibhausgas weggesperrt?
57	FAZ	02.09.2002	9	Der Irak, die Opec und das Öl
58	FAZ	24.02.2003	12	Im Land mit dem höchsten Lebensstandard macht sich Pessimismus breit
59	FAZ	26.09.2002	18	Mit „Schneewittchen“ betritt Norwegen im Polarkreis Neuland
60	SZ	23.12.1999	26	„Preise schwanken“
61	SZ	21.09.2000	26	Gründe des vierten Ölpreis-Schocks
62	FAZ	18.12.1999	12	Bei den Tschuktschen
63	FAZ	12.04.2000	6	Der Ostseerat auf der Suche nach einer neuen Zukunft
64	SZ	12.09.2001	7	Die Öl-Scheichs des Nordens
65	FAZ	27.01.2000	21	Der Ölpreis strebt weiterhin nach oben
66	FAZ	18.12.2002	10	Russlands Spiel mit dem Öl
67	FAZ	18.04.2000	16	Im Griff der Oligarchen
68	SZ	25.03.2003	19	Griff nach Sibiriens Erdöl
69	FAZ	14.12.1999	-	Werden Atom-Eisbrecher künftig den Öltransport sichern?
70	FAZ	02.10.2001	19	Der Ölmarkt ist von Unsicherheit geprägt
71	SZ	23.02.2002	23	Ärger in der Pipeline
72	FAZ	26.02.2002	14	Auf dem Weg zum Duopol?
73	SZ	08.11.2000	12	Staat im Staate
74	FAZ	29.08.2000	9	Als Seemächte haben Russland und Amerika vergleichbare Interessen
75	SZ	10.12.1999	8	Litauen zapft den Westen an
76	FAZ	03.03.2001	15	Viele Russen zahlen ihre Stromrechnung nicht
77	SZ	02.10.2002	52	Saugmonster in der Nordsee
78	FAZ	12.06.2002	7	Vereinbarung über ukrainische Erdgasleitung
79	FAZ	03.01.2003	9	Der Ölpreis auf der Achterbahn

80	SZ	16.06.2000	2	Alle Lichter bleiben an
81	FAZ	25.08.2001	-	Freundschaftskapital gibt es reichlich
82	SZ	06.10.1999	V2/1	Eine Großfamilie mit Übervater
83	FAZ	05.09.2000	17	Der Erdgaspreis lässt sich vom Heizölpreis noch lange nicht abkoppeln
84	SZ	26.02.2002	V2/17	Rechenspiele
85	FAZ	19.05.2000	6	Eine Gasleitung um die Ukraine herum
86	FAZ	03.09.1999	13	„Versenkung der Brent Spar wäre der ökologisch beste Weg gewesen“
87	SZ	08.11.2000	12	Energie mit goldener Zukunft
88	FAZ	19.02.2002	18	Der europäische Markt ist noch stark historisch geprägt
89	SZ	27.06.2001	10	Kaltes Land, heiß umworben
90	FAZ	13.12.1999	8	Wer den Bären füttert
91	FAZ	09.10.2001	16	Öl und Terror
92	SZ	10.10.2001	3	Der süße Duft von Petroleum
93	FAZ	26.02.2002	23	Der russische Ölkonzern Yukos investiert 4 Milliarden Dollar im Ausland
94	SZ	08.11.2000	12	Russland gibt Gas
95	FAZ	17.10.2000	10	„Jetzt geht es nur noch aufwärts“
96	FAZ	21.06.2000	14	Strategische Rohstoffinteressen
97	SZ	16.03.2000	2	Hoffen auf stabilere Zeiten
98	FAZ	04.07.2001	5	Die polnische Nord-Connection
99	SZ	07.03.2002	11	Schneewittchen in der Barentssee
100	FAZ	02.10.2002	3	Lebenslinie der Macht
101	FAZ	14.02.2003	12	Ein harter Winter und zu wenig Strom in Skandinavien
102	FAZ	03.04.2002	1	Opec: Erdöl nicht als Waffe einsetzen
103	SZ	02.11.2001	32	Ein Öl-Magnat mit mächtigen Ambitionen

Appendix 2: Analysis sheet

See next pages

Sheet number: _____

Newspaper: *SZ* *FAZ*

Day of publication: ___ / ___ / _____

Heading: _____

Categories:

11 Usage of catchphrases or judging statements concerning Norway – positive	
12 Usage of catchphrases or judging statements concerning Norway – negative	
13 Usage of catchphrases or judging statements concerning Russia – positive	
14 Usage of catchphrases or judging statements concerning Russia – negative	
21 Supply security	
211 Norway reliable	
212 Norway unreliable	
213 Russia reliable	
214 Russia unreliable	
22 Reasons for argumentation on supply security	
221 Norway – political	
222 Norway – economical	
223 Russia – political	
224 Russia – economical	
23 Future development of supply security	
231 Norway – positive	
232 Norway – negative	
233 Russia – positive	
234 Russia – negative	
24 Supply dependency	
241 Mentioned concerning Norway	
242 Mentioned concerning Russia	
243 Mentioning of Norway’s dependency	

on German market	
244 Mentioning of Russia's dependency on German market	
25 Bilateral relations and supply dependency	
251 Mentioned concerning Norway	
252 Mentioned concerning Russia	
26 Future development of supply dependency	
261 Norway – positive	
262 Norway – negative	
263 Russia – positive	
264 Russia – negative	
31 Classification of attendant circumstances	
311 Norway – political	
312 Norway – economical	
313 Norway – social	
314 Norway – environmental	
315 Russia – political	
316 Russia – economical	
317 Russia – social	
318 Russia – environmental	
32 Judging on attendant circumstances	
321 Norway – positive	
322 Norway – negative	
323 Russia – positive	
324 Russia – negative	

Assessment:

- | | | | |
|--|---------------------------------|--------------------------------|--|
| <input type="checkbox"/> political | <input type="checkbox"/> Norway | <input type="checkbox"/> oil | <input type="checkbox"/> Trade partner Germany? |
| <input type="checkbox"/> economic | <input type="checkbox"/> Russia | <input type="checkbox"/> gas | <input type="checkbox"/> energy as main topic |
| <input type="checkbox"/> mixed | <input type="checkbox"/> mixed | <input type="checkbox"/> mixed | <input type="checkbox"/> other main topic: _____ |
| <input type="checkbox"/> others: _____ | | | _____ |

Comments:

Appendix 3: List of catchphrase. Sorted by analysis sheet numbers

Sheet No.	N or Rus	Catchphrase
1	Rus	<ul style="list-style-type: none"> weltweit einzigartige Gasvorkommen
2	N	<ul style="list-style-type: none"> Norwegen als einer der größten Exporteure von Öl und Gas Nordseeöl aus dem Festlandsockel sprudelt
3	N	<ul style="list-style-type: none"> Reichtum aus dem Meer leben auf einer Insel der Glückseligen, gespeist aus dem Reichtum, der vor ihrer Haustür aus dem Meer sprudelt Ölscheichs des Nordens boomenden Öl- und Gasindustrie wundersamer Segen aus dem Meer
4	N	<ul style="list-style-type: none"> Im Scheitum des Nordens ist einfach alles teuer Ölreichtum schmierten die Volkswirtschaft und die Sozialfürsorge wie Butter Überhitzung des Ölreichs führen
6	N	<ul style="list-style-type: none"> prosperierender Rentierstaat monoindustrielle Ausrichtung Norwegens der Segen wird zum Fluch schlummert im Land ein potentialer Riese (Statoil) Erdölreich Norwegen
8	Rus	<ul style="list-style-type: none"> immer neue Skandale um Russlands größten Konzern der Energie-Riese macht durch dubiose Geschäfte von sich reden was für Gazprom gut ist, kann Russland nicht schaden weltgrößter Energiekonzern Korruption im großen Stil Konkurrenz ist unerwünscht denn Gazprom ist wirklich eine Krake
10	Rus	<ul style="list-style-type: none"> die Rolle Russlands als eines der größten Weltenergielieferanten Effizienz gesteigert Als Förderer avanciert Russland im Februar gar vorübergehend zur Nummer eins in der Welt
11	Rus	<ul style="list-style-type: none"> die russische Gazprom allein werde ungefähr ein Drittel des gesamten Marktes versorgen
12	Rus	<ul style="list-style-type: none"> Risiko für den Staatshaushalt Russlands Ölmarkt ist überschwemmt
14	Rus	<ul style="list-style-type: none"> haben Korruption und Kriminalität eine noch größere Dimension erreicht
15	Rus	<ul style="list-style-type: none"> dass die Risiken auf dem russischen Markt heute wesentlich geringer sind als vor ein paar Jahren
16	N	<ul style="list-style-type: none"> Norwegen, das ist vor allem ein Land voller Energie Man denke nur an Öl und Gas
17	Rus	<ul style="list-style-type: none"> größte Privatisierungskampagne
18	N	<ul style="list-style-type: none"> das Öl hat die Norweger reich gemacht
20	Rus	<ul style="list-style-type: none"> Durchsuchung beim Energieriesen Gazprom der Gas-Gigant Gazprom spielte in dieser Sache keine Rolle in den wilden Jahren der Privatisierung
21	Rus	<ul style="list-style-type: none"> dieser Krieg hat vor allem einen wirtschaftlichen Hintergrund
23	N	<ul style="list-style-type: none"> Öleinnahmen bescheren der Regierung ein Problem: die Bürger wollen mehr Geld wie soll der enorme Reichtum am besten verwaltet werden? Ölparadies

26	Rus	<ul style="list-style-type: none"> • Neuer Erdölgigant in Russland • ausgedehnte Explorationsgebiete in Sibirien und Sachalin • "historischer Schritt in ein Land mit enormen Öl- und Gasvorräten und einem immensen Potential für künftiges Wachstum"
27	Rus / N	<ul style="list-style-type: none"> • die großen russischen Ölkonzerne • das Nordseeöl werde technisch aufwendig und teuer gewonnen
28	Rus	<ul style="list-style-type: none"> • der Vorstand des mächtigen russischen Gazprom-Konzerns
29	Rus	<ul style="list-style-type: none"> • die Energiekrise in Russland • letztlich befinde sich halb Russland in einer Krise
30	Rus	<ul style="list-style-type: none"> • Rohstoffgiganten Gazprom • russischen Finanz- und Rohstoffmögule
31	Rus	<ul style="list-style-type: none"> • der russische Konzern Jukos gehört zu den Senkrechtstartern der Branche • das unter den Schneemassen riesige Ölvorkommen liegen • fehlende Infrastruktur • die riesigen Naturschätze entdeckt hatten • das Vertrauen der Anlegen war entsprechend gering
32	Rus	<ul style="list-style-type: none"> • Russischen Erdgaslieferanten kommt dabei eine besondere Bedeutung zu • gebiete Russland in Sibirien über riesige Erdgasvorkommen • mit Gazprom über die Sicherheit des Transits verhandelt
33	Rus	<ul style="list-style-type: none"> • im „Grossen Spiel“ um die Erdöl- und Erdgasreichtümer • Russland soll in die Röhre gucken
34	Rus	<ul style="list-style-type: none"> • sagenumwobenen Energieressourcen • einen Sieg des wirtschaftlichen Überlegungen folgenden Russlands
35	Rus	<ul style="list-style-type: none"> • Jukos zu einer der führenden Ölgesellschaften der Welt zu machen • Jahren der „wilden Privatisierung“ • Andere Giganten der russischen Ölindustrie
36	N	<ul style="list-style-type: none"> • Weil sie Öl- und Gasfelder in der Nordsee besitzen, nennt man sie die Scheichs des Nordens
37	Rus	<ul style="list-style-type: none"> • Russlands Reichtum heißt Öl und Gas • zum globalen Energielieferanten aufzusteigen • russisches Öl ist zudem viel teurer als arabisches • die wichtigsten Fördergebiete sind Tausende von Kilometern von Häfen entfernt • auf absehbarer Zeit wird Russlands unter Schnee und Eis begrabenes schwarzes Gold mit den arabischen nicht konkurrieren können • freilich sind die Vorbehalte immer noch groß • weil die Kluft zwischen Gesetzen und Wirklichkeit immer noch groß ist • die Gesetzgebung wird für ausländische Investoren immer günstiger • die Russen neigen jedoch dazu, ihre Energiereserven allzu hoch einzuschätzen
38	N	<ul style="list-style-type: none"> • Hüter der norwegisch Petromilliarden
41	Rus	<ul style="list-style-type: none"> • spielen die Rohstoffe aus Russland, die zum großen Teil noch gar nicht erschlossen sind
44	Rus	<ul style="list-style-type: none"> • das Land nutzt diesen natürlich Reichtum und ist der mit Abstand größte Erdgasexporteur
45	N	<ul style="list-style-type: none"> • das norwegische Ölzeitalter hat seinen Höhepunkt überschritten
46	N	<ul style="list-style-type: none"> • das größte Industrieprojekt in der Geschichte Norwegens (Snøhvit) • wo der beschönigende Name Snøhvit herkommt weiß in Hammerfest niemand so genau • erst jetzt sei ein langer Traum wahr geworden • in Hammerfest ist indessen der Goldrausch ausgebrochen
47	N	<ul style="list-style-type: none"> • Im „Kuwait des Nordens“ sind die Boomzeiten vorerst vorbei • Norwegen, hinter Saudi-Arabien der weltweit zweit größte Erdölexporteur • wie problematisch die monoindustrielle Ausrichtung des Landes ist • der Rohölpreis entscheidet in Norwegen über Hausse und Baisse: Der Rohstoffreichtum kann somit auch zum Fluch werden
48	N	<ul style="list-style-type: none"> • Er fiel zusammen mit Ölbohrungen vor der norwegisch Küste, die Norwegens Zukunft grundlegend verändern sollte • Fluch und Segen zugleich

49	Rus	<ul style="list-style-type: none"> als Stützen des russischen Wohlstands nannte Putin neben dem Export von Öl und Gas
50	Rus	<ul style="list-style-type: none"> Russland ist der zweitgrößte Ölexporteur der Welt
52	Rus	<ul style="list-style-type: none"> setzt für die Zukunft auf die riesigen Gasvorkommen
53	Rus	<ul style="list-style-type: none"> Gasriesen dem weltweit größten russischen Gasförderer Gazprom Gasmonopolisten heute ist Gazprom der größte Gaslieferant für den deutschen Markt die Kooperation mit Gazprom birgt ein großes Potential auch wenn Gazprom mit vielen Problemen zu kämpfen hat ...wird es wegen seiner mangelnden Transparenz kritisiert
54	Rus	<ul style="list-style-type: none"> das Moskau als massiven Angriff auf seine Interessen ansieht Russland wirbt indessen für die schon bestehende Pipeline von Baku nach Noworossisk. Diese ist allerdings zur Zeit unterbrochen. Sie führt durch Tschetschenien
55	Rus	<ul style="list-style-type: none"> die sibirischen Vorräte zu dessen Befriedigung
57	Rus	<ul style="list-style-type: none"> unterstützt Washington den Anspruch Russlands, Saudi-Arabien als größten Ölexporteur abzulösen Zudem ist das russische Erdöl technisch schwieriger zu fördern und erfordert zur Wirtschaftlichkeit einen Preis von mindestens 14 Dollar
58	N	<ul style="list-style-type: none"> was kommt nach dem Öl? alles dank des Öls der Rausch, in dem sich Norwegen einige Jahre dank seines Ölreichtums befand, weicht daher der Ernüchterung In etwa 25 Jahren wird das Öl nicht mehr fließen das staatliche Öldirektorat schraubt seine Schätzung über Reserven erstmals nach unten Norwegen kann indes weiter auf Erdgas bauen Fast die Hälfte seines Warenexportaufkommens bezieht Norwegen aus Öl und Gas
59	N	<ul style="list-style-type: none"> Der mit regenerativen und fossilen Energieressourcen gesegnete Staat zeigt seine technische Leistungsfähigkeit mit Schneewittchen betritt Norwegen technisches Neuland das LNG-Projekt ist für Norwegen ein Referenzprojekt und eine Option für die Zukunft so begann Mitte der siebziger Jahre Norwegens Aufstieg zum heute zweitgrößten Erdöl- und Erdgasexporteur der Welt
60	Rus / N	<ul style="list-style-type: none"> Die Hauptförderländer von Gas Russland und Norwegen
62	Rus	<ul style="list-style-type: none"> doch nun ist der russische Multimillionär und Ölmagnat Abramowitsch vom Dunkeln ins Licht gerückt der jüngste der russischen Oligarchen des großen Ölkonzerns „Sibneft“
64	N	<ul style="list-style-type: none"> die Ölscheichs des Nordens man knausere nicht mit den vielen Millionen Kronen, die aus dem Ölgeschäft kommen für die Wirtschaft wichtig sind Öl und Gas Öl und Gas machen 40 Prozent des norwegischen Gesamtexports aus
66	Rus	<ul style="list-style-type: none"> Russland spielt mit dem Öl Russland will der weltweit größte Exporteur von Erdöl werden mit dem Ablauf dieses Jahres will man sich an die Spitze setzen russischer Ölgigant 40 Prozent des Exports und 13 Prozent des BIP hängt allein am Öl die Ölfelder sind schlecht erschlossen, das Gerät veraltet, die Leitungen müssen erneuert werden ... das betriebene Spiel mit Öl und Gas als Sackgasse für das Land erweisen
68	Rus	<ul style="list-style-type: none"> Japan und China buhlen um Pipelines in den russischen Osten die Erschließung von riesigen Ölvorkommen um die Stadt Angarsk

69	Rus	<ul style="list-style-type: none"> • gewaltige Lagerstätten von Erdgas und Rohöl in der südlichen Barentssee • es gilt als sicher, dass Europa im kommenden Jahrhundert einen Grossteil seines Energiebedarfs aus der russischen Arktis decken wird • das Arktis-Öl ist also recht teuer
71	Rus	<ul style="list-style-type: none"> • Russland nach Saudi-Arabien der zweitgrößte Ölproduzent
72	Rus	<ul style="list-style-type: none"> • der Rolle Russlands in der internationalen Politik und in der Weltwirtschaft, insofern es um Öl und Gas geht • so wird Russland heute als stabilisierender Faktor auf dem Energiemarkt gesehen • die Vorstellung, dass Russland zur Weltenergiemacht aufsteigt und etwa die Rolle Saudi-Arabiens als Rückrat des Ölexports einnehme, schreckt kaum noch jemanden
73	Rus	<ul style="list-style-type: none"> • Staat im Staate: Der riesige Gazprom-Konzern • Was für Gazprom gut ist, ist auch für Russland gut • der Kreml vermutet Misswirtschaft bei Gazprom • müsse der Kreml bei den Riesen-Unternehmen nach dem Rechten sehen • die Monopolstellung des Kraken Gazprom behindere die Reform der Wirtschaft • der Konzern kontrolliert 25 Prozent der weltweiten Gasproduktion • der Konzern ist ein politisches Schwergewicht
75	Rus	<ul style="list-style-type: none"> • der baltische Staat kappt die Erdölversorgung aus Russland
76	Rus	<ul style="list-style-type: none"> • rohstoffreiches Russland • Förderung und Nutzung einschließlich Export von Rohstoffen seien die entscheidende Grundlage für die Existenz, den Wohlstand und die Macht Russlands und damit von strategischer Bedeutung
77	N	<ul style="list-style-type: none"> • Saugmonster in der Nordsee
78	Rus	<ul style="list-style-type: none"> • russischen Erdgasmonopolisten Gazprom
79	Rus / N	<ul style="list-style-type: none"> • andere Länder in den vergangenen 10 Jahren als Öllieferanten an Gewicht gewonnen haben, z.B. Norwegen und Russland
81	Rus	<ul style="list-style-type: none"> • ohne Rohstoffe wäre das Land zu einer produktiveren wirtschaftlichen Struktur gezwungen
82	N	<ul style="list-style-type: none"> • und die Norweger stehen sowieso über allem: Gegen ihren Ölreichtum ist kein Kraut gewachsen
86	N	<ul style="list-style-type: none"> • die Versenkung der Brent Spar wäre die ökologischste Lösung gewesen
87	Rus	<ul style="list-style-type: none"> • auch wenn Russland noch so dringend mehr Geld aus Erdgasverkäufen gebrauchen könnte • Wie groß die politischen Spannungen selbst in Zeiten des Kalten Krieges waren, geliefert hat Russland immer
89	Rus	<ul style="list-style-type: none"> • kaltes Land, heiß umworben • Russland muss seine veraltete Energiewirtschaft modernisieren
90	Rus	<ul style="list-style-type: none"> • ob Dürre, Waldbrände oder geborstene Erdöl- oder Gasleitungen • ebenso wie der Ölzar Roman Abramowitsch
93	Rus	<ul style="list-style-type: none"> • der russische Ölkonzern Yukos investiert 4 Milliarden Dollar im Ausland • das Monopol der dominierenden Gazprom gebrochen wird • allmählich gelingt es dem Unternehmen, sich von dem unseriösen Ruf zu befreien, den es sich in den neunziger Jahren durch Betrug der Minderheitenaktionäre, Bilanzmanipulation und fehlender Transparenz erworben hat • heute steckt Yukos viel Geld in Öffentlichkeitsarbeit und schreibt sich Transparenz, Fairness und Demokratie zu
94	Rus	<ul style="list-style-type: none"> • Russland gibt Gas • Kraft aus der Kälte • dem vom Kreml kontrolliertem Monopolisten Gazprom • er soll Anfang der neunziger Jahre russisches Erdgas auf eigene Rechnung verkauft haben
95	Rus	<ul style="list-style-type: none"> • jetzt geht es nur noch aufwärts • das Interesse an den riesigen Gasvorräten wird daher weiter steigen • Immerhin trägt die Gazprom etwa ein Viertel zum russischen Staatsaufkommen bei
96	Rus	<ul style="list-style-type: none"> • wenn russisches Erdöl- und Erdgasunternehmen sich am Wettbewerb in der Region beteiligen ist das dagegen normal. Es kann nur der Stabilität dienen

98	N	<ul style="list-style-type: none"> • den Zugang zu den reichen norwegischen Erdgasvorkommen in der Nordsee
99	N	<ul style="list-style-type: none"> • in Hammerfest soll Gas gefördert werden – sehr viel Gas • schließlich schafft das Projekt Arbeitsplätze – viele Arbeitsplätze
100	Rus	<ul style="list-style-type: none"> • Saudi-Arabien beunruhigt, dass Russland den Anteil am Weltölmarkt anpeilt, den einst die Sowjetunion gehalten hat
101	N	<ul style="list-style-type: none"> • dank der Öl- und Gasfelder der Nordsee der größte Energieexporteur Europas • europäisches Ölscheichtum
103	Rus	<ul style="list-style-type: none"> • Er gilt als klassisches Beispiel eines in den ökonomisch wilden russischen Aufbruchsjahren reich und mächtig gewordenen Industriemagnaten mit guten politischen Verbindungen • zeugt der Schritt von der Finanzkraft und den Ambitionen des russischen Erdölsektors

