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Social Perception of the Environmental  
Management of New Projects in the Oil and  
Gas Industry in Russia and Norway

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The research is a comparative study of the environmental management of oil and gas projects in Norway and Russia. The paper relates to the theory of social actors by A. Touraine and analyzes 4 groups of actors in Norway and Russia: government, oil and gas companies, environmental organizations and researchers in geopolitical, legal and environmental issues. The point of the paper is to analyze the extent to which actors are involved in the decision-making process in the sphere of the environmental management of oil and gas projects as well to examine the peculiarities of actors' cooperation within the country as well as in bilateral projects. The environmental management of oil and gas projects in Norway and Russia is also analyzed with the help of the theory of global risk by U. Beck. The evidence for the existence a high level of responsibility is to be found in the readiness of actors to rapidly respond to environmental catastrophes (oil spill in the Mexican Gulf, April, 2010) and learn the lessons from them in the planning of new projects as well as participate in joint assessment of risks in oil and gas projects in the Barents Sea. The study is mainly based on qualitative methods and the conclusions are based on 29 semi-structured interviews with experts whose area of professional activity is related to the oil and gas industry. The issues that were analyzed in this paper seem relevant for further consideration since the Norwegian-Russian relationship is developing rapidly nowadays. The result of this relationship is the signing and ratification of a delimitation agreement between the two countries.

**Key words:** social perception, environmental management, oil and gas project, actor



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## CHAPTER 1. INTRODUCTION

From the beginning of this project, the choice of research theme was determined by the desire to explore oil and gas companies' policies and the significance of environmental management for decision-making; to what extent can public opinion influence it, what actors play the most important roles when new deposits are discovered and developed, and whether economically profitable activity can be stopped if it proves harmful to the environment. Moreover, decisions regarding the discovery of new deposits, and building equipment for oil transfer presuppose responsibility on the international level if these actions are carried out in a sea that has been explored and if resources are used on a common basis with another country, as is the case with Norway and Russia. The Barents Sea which is included in this research is an example of such cooperation.

Several countries have access to the Arctic region, hence, environmentally non-friendly activity influences the rest of the countries and decisions about planned activities in this region are only possible using an ecosystem-based approach, taking into account the share of resources by all countries.

In the 21<sup>st</sup> century such issues as environmental sustainability, the preservation of natural resources, and a focus on climate change are not merely empty words but an internationally growing concern. There is a growing necessity to preserve natural resources and ensure open access to information, to allow more actors to participate and more opinions to be taken into account in the decision-making process, especially if it concerns environment.

The oil and gas industry is known to be the most profitable sphere in countries rich in natural resources. The policies of oil and gas companies are characterized by the strong influence of government and economic profit surpasses all environmental concerns - any activity can be explained and justified by the demand to feed the global demand for fossil fuels, develop infrastructure and provide more people with better socio-economic conditions.

In this respect it is interesting to find out what actors participate in the decision-making process when it comes to new oil and gas projects in different countries,

whether states follow different strategies in environmental management, and how they assess risks connected with offshore oil and gas activities.

The choice of countries for comparison was not defined clearly at the initial stage. It was logical to choose Russia as it is one of the countries rich in natural resources and the native country of the researcher. I then decided to take Norway as another example. When one compares Norway and Russia both challenges and benefits are inherent in this particular comparison. Firstly, it is a challenging task to compare these two countries as their sizes are completely different. However this did not prevent Norway from becoming one of the international leaders in oil and gas offshore activities. Starting from the 1970s, Norway managed to achieve the highest rate of welfare provision for its population and showcased one of the most reasonable ways of allocating profits from oil and gas activities in order to maintain the prosperity of the state (Nordvik F., 2010: 14). The Norwegian approach to petroleum resource management provides a template for rivals to follow; its focus on promoting the environmental friendliness of oil and gas projects has now become a standard recommended and applied internationally.

A new era of Norwegian-Russian cooperation connected with the signing and ratification of a delimitation agreement last year has provided researchers with the opportunity to explore the relationship between these two countries on a different level and to observe the international and domestic consequences of such a significant step.<sup>1</sup>

The maritime boundary between Norway and Russia in the Barents Sea having been established, there are new opportunities for both countries to cooperate.

The delimitation agreement allows one to evaluate the results of research from a different angle. One of the experts whom I interviewed said the following:

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<sup>1</sup>Norway ratified the agreement on the 8<sup>th</sup> of February, 2011

[http://www.regjeringen.no/en/dep/ud/press/news/2011/delimitation\\_treaty\\_approved.html?id=633135](http://www.regjeringen.no/en/dep/ud/press/news/2011/delimitation_treaty_approved.html?id=633135)

Russia ratified the agreement on the 25<sup>th</sup> of March, 2011  
([http://www.duma.gov.ru/news/273/68989/?sphrase\\_id=123485](http://www.duma.gov.ru/news/273/68989/?sphrase_id=123485))

*'With the signing of the delimitation agreement the political part has been solved'  
(expert interview, KLIF)*

This opinion proves that the unsettled territorial dispute between Norway and Russia was solved on the level of Norwegian and Russian governments. Perhaps this positive step forward can lead to closer environmental cooperation of two countries in the Arctic. The aim of this research is to compare the peculiarities of the participation of different actors in the environmental management of oil and gas projects in Norway and Russia.

The research aims at analyzing the 'social perception' of the environmental management of oil and gas projects by different actors which, in my opinion, means the ability of actors to cooperate and produce mutual decisions. Concrete actions reveal a higher level of responsibility in the assessment of risks regarding offshore oil and gas projects.

The research has the following objectives:

- to study the ability of actors to cooperate on a national and bilateral basis;
- to study the potential of every group of actors to carry out concrete actions that influence the environmental management of oil and gas projects;
- to study the peculiarities of environmental management from the viewpoint of actors' participation;
- to compare the response of Norwegian and Russian actors to the catastrophe in the Mexican Gulf;
- to evaluate the prospects of bilateral cooperation amongst the groups of actors in the Barents Sea;
- to identify the challenges in Norwegian-Russian cooperation and offer possible solutions to overcome them.

The hypothesis of the research states that:

The environmental management of oil and gas projects in the Barents Sea can be better organized, providing that

- Actors from both sides are involved equally;
- The fruitful international cooperation of actors is established and experience is shared in order to reach better joint results;
- Actors from both countries feel responsible for decision making on the national and international levels;

- The level of responsibility is adjusted during the process of international cooperation in organizing environmental management in the Barents Sea;
- A joint approach to the perception of risks is found and implemented for the Barents Sea.

### ***Research questions***

The issues surrounding the Norwegian-Russian relationship in offshore oil and gas activities are drawing more attention than previously, the reason for this being the recent signing and ratification of a delimitation agreement by both countries.

When designing research questions I tried to make them unique and concentrated on the less frequently studied region where the Norwegian-Russian relationship is developing nowadays, namely, the Barents Sea. This region provides great prospects for cooperation but for now the issue of joint environmental management has not yet been settled.

The interest that my research garnered among experts whom I met for interviews proves that the theme is topical and that the results of the research will be useful.

This research is partially descriptive, exploratory and predictive.

The following research questions are to be answered:

1. What are the peculiarities in terms of the cooperation of Norwegian and Russian actors in the oil and gas industry? What opinions are expressed on the issues of the relationship within the countries and between them?
2. What peculiarities of environmental monitoring as a stage of environmental management can be found?
3. What is the response to the oil spill in the Mexican Gulf by Norwegian and Russian actors? How did the assessment of offshore oil and gas risks change after this accident?
4. What are the prospects of Norwegian-Russian cooperation in the assessment of risks on the example of the 'Barents-2020' standard?

5. What challenges of Norwegian-Russian cooperation can be identified, what are the possible ways out?

### ***Dissertation structure***

The thesis is divided into six chapters. In the first chapter I state the overall issue of the Norwegian-Russian relationship and why it is relevant to study it; the aim of the research, its objectives, hypothesis and research questions are also defined.

The second chapter presents the theoretical basis of the research, the application of which seems to be relevant to find answers to the research questions. I utilize the theory of social actors by A. Touraine (Touraine, 1983) and the theory of risk society by U. Beck (Beck, 2009).

The third chapter deals with a method of research that is generally comparative - the cases for comparison are Norway and Russia. The main data source is semi-structured interviews with experts that offer a wide range of facts to be explained further on. The analysis of mass media sources and relevant articles also seem to be worth mentioning.

The fourth chapter presents the results of the research based on the data: interviews, mass media sources, articles, and the results of previous relevant research. Reference to the interview passages is made in this part of the thesis and this allows me to analyze the relevant opinions obtained by interviewing experts.

The fifth chapter aims at discussing controversial issues identified from the results of data analysis. . The chapter also contains a review of the challenges that accompany the Norwegian-Russian relationship. At the end I give possible solutions to overcome the challenges and present prospects for further development.

Conclusions and references as well as 4 appendixes accompany the thesis.

## ***Background information***

This research is of an interdisciplinary character: it comprises the analysis of environmental, geopolitical, and legislative issues related to oil and gas activities in Norway and Russia.

Interest in the Arctic from the Russian side was revealed in 2007 when the expedition headed by A. Chilingarov planted the Russian flag in the North Pole thus claiming rights to the Lomonosov ridge. This incident evoked a noticeable response from Canada, the USA, as well as Denmark which also showed interest in the region (Quiring M., 2010).

Norway and Russia and the positions taken by their respective actors, fall within the boundaries of this research. Environmental issues come to the fore when the Arctic is discussed since this region is said to be highly sensitive to exploration and development of new oil and gas projects due to its climate and weather peculiarities. In this respect it seems relevant to look at environmental cooperation in the management of oil and gas projects.

Unsettled issues and a 'grey zone'<sup>2</sup> between Norway and Russia that were not successfully managed for forty years have now been solved. The signing and quite speedy ratification of the delimitation agreement contributed to the emergence of a partnership relationship between Norway and Russia in the Arctic. The rest of the Arctic countries now see a pattern to follow: it is possible to settle disputes and it is better to have the issues settled than left open<sup>3</sup>.

*'The interest in the Arctic from Norway is explained by depleting resources in the North Sea and the necessity to look for new opportunities in order to apply the huge experience of working in the North Sea to similar conditions in the Arctic' (expert interview, researcher).*

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<sup>2</sup> Lebedev. I. Granitsa nefi. 'Seraya zona' Rossisko-Norvezhskih otnoshenii. Neft Rossii № 3, 2003  
[http://www.yabloko.ru/Publ/2003/2003\\_05/2003\\_neft\\_3.html](http://www.yabloko.ru/Publ/2003/2003_05/2003_neft_3.html)

<sup>3</sup>According to the words of J. Stoltenberg, Prime Minister of Norway 'It's a new chapter in the relationship of Norway and Russia. The most important unsettled issue-delimitation line-has now been solved' (<http://inotv.rt.com/2010-09-16/Stoltenberg-Rossiya-i-Norvegiya-razrubili>)

Norway and Russia cooperate in the *Shtokman* gas field<sup>4</sup> that is situated in the Russian sector of the Barents Sea. *Total* has a 25% stake in the project and it participates in the *Shtokman together* with *Statoil* which has a 24% share. In March, 2011 the companies made their first investment decision.<sup>5</sup>

### ***Theoretical approach***

#### ***A. Touraine and the sociology of actors***

The research is based on the study of actors involved in the environmental management of oil and gas projects in Norway and Russia.

It seems reasonable therefore to refer to the French sociologist, Alain Touraine, and his 'sociology of actors' - the idea of 'sociological intervention'.

With the help of his theory it has become easier to answer the following questions:

- Who is a social actor? Who can be considered an actor? What are the peculiarities of a social actor?
- What is the aim of an actor?
- On what levels does the actor operate?
- Who can be considered an actor?

According to A. Touraine either an individual or a group can be treated as a social actor (Touraine, 2000). In this research I take into account the following actors: government ministries and agencies that deal with oil and gas projects and make decisions related to their environmental management. The second group which I consider is that of business representatives - namely companies operating in the oil and gas industry in Norway and Russia. Particular attention is paid to companies working in the Arctic region. I will refer to *Gazprom* as a state

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<sup>4</sup> *Shtokman* is a gas deposit situated in the Russian part of the Barents sea; its estimated reserves are 3.8 trillion. cubic meters of natural gas and more than 30 million. tones of gas condensate (<http://www.regnum.ru/news/1391846.html>)

<sup>5</sup> 'The parties shared the opinion concerning the significance of the timely realization of the *Shtokman* project and showed readiness to continue its development' (<http://www.regnum.ru/news/1391846.html>)

company that is allowed to work on the continental shelf of the Russian federation. This company is of particular interest because it is involved in cooperation with Norwegian *Statoil* within the framework of the *Shtokman* project which is situated on Russian territory. I will also refer to other Russian companies such as *Lukoil* when it becomes necessary to demonstrate actors' cooperation with the help of an example.

The second group of actors also includes companies which provide risk assessments and other services related to oil and gas activities.

The third group is representatives of ENGOs in Norway and Russia. Some organizations have their regional departments both in Norway and in Russia. An example is *Bellona*, a Norwegian environmental organization that works actively in Russia and has several regional centers in the country.

The last group includes researchers in fields related to the oil and gas industry and encompasses political, legal and environmental issues.

The next question deals with the peculiarities of an actor's position: what makes an actor? The peculiarity of a social actor is that he possesses the 'ability to construct' (Touraine, 2000: 906).

An actor is characterized by his/her being 'involved in negotiations' (ibid.,908). This fact seems valuable for this research as negotiations related to opening new oil or gas deposits result in decision making; all of the aforementioned actors participate in this process in different ways.

According to A. Touraine, actors do not merely conform to existing norms and rules, they possess the 'capacity to constitute themselves as actors, capable of changing their environment' (Touraine: 2000, 902). An actor is defined through relations with other actors and during this process he constructs himself as an actor (Touraine, 2000: 911). Moreover, actors 'define the meaning which they contribute to their actions (Martel, 1996:2). This is how Touraine defines sociological intervention.

If we comment upon the aim of an actor it is to change the social environment and to take active part in decision-making. Those actors who have less power are more active in negotiations.

Actors can function on three main levels: the organizational level which means stating the rights and obligations of actors; the institutional level which means transforming the way an organization functions; and on the the level of the cultural orientation of a society and its power relations (Touraine, 2000: 912).

Scott remarks that Touraine presents society as ‘a terrain occupied by actors acting as collectivities via recognition of common interests and common cultural orientations’ (Scott, 1996:79).

According to Touraine, inequality makes actors compete and the result is a changed reality that a certain active actor manages to achieve by means of his deeds: ‘actors compete from positions of unequal strength, with other such groups for control over the systems of norms which govern or influence the rule of the games’ (Scott, 1996: 79).

My research relates to the highest level on which actors function and includes governmental agencies (ministries prepare and improve environmental laws) and ENGOs (they mainly aim at making the public aware of the problems that emerge as a result of oil and gas activities). Public access to information about the environmental management of oil and gas projects is one of the main criteria if we evaluate whether environmentalists have reached their aim. ENGOs are the most active actors and they try to influence the government position and to introduce law projects that prevent the harm often done by oil and gas projects (emissions to sea, oil spills, influencing biota with platform building).

### ***U. Beck and World Risk society***

In 1992 the German sociologist Ulrich Beck introduced his approach to the study of risks in contemporary society in his “Perception of risks’ (Beck, 1992).

Beck points out the different peculiarities of the notion of ‘risk’ including ‘not only destructive consequences’, but also its ‘potential element’ the ‘future

component,'as well as threatening anticipation'' and he believes that risks are present in our lives in the form of probable reality (Beck, 1992: 33).

'Risks signify a future that is to be prevented'. Risks are treated as 'projected dangers of the future' and thus they demand 'preventive actions' (ibid., 34). This approach to risks demonstrates a high level of responsibility since every actor is supposed to guarantee the reasonable use of resources and prevent activities that do harm to nature. In this respect it seems possible to evaluate the level of responsibility demonstrated by Norwegian and Russian actors in their attitude to the probability of risks.

*'Being at risk is the way of being and ruling in the world of modernity; being at global risk is the human condition at the beginning of the 21<sup>st</sup> century' (Beck, 2008:1).*

The overall idea is that in the 21<sup>st</sup> century we have to put up with the existence of risks and find a way of dealing with them. This is one of the main features of risks nowadays: they cannot be avoided. Moreover, not knowing about them only increases their global character.

Beck further studied the notion of global risk and referred to its cosmopolitan character in his later works (Beck, 2008).

There are several features of the perception of global risks: they are omnipresent, spatially and temporally; they are incalculable which means they are related to consequences; and they are non-compensatable, which means we cannot change the situation if catastrophe occurs, hence it is reasonable to act according to the principle of precaution by prevention (Beck, 2006:5).

Beck concentrates on the role of actors in science, the state, and business and stresses that they try to anticipate risks but that more often risks are impossible to anticipate. He argues that global risks as 'a global force in the present and in the future ... open up new opportunities of action for states, ...civil society actors' (Beck, 2006:3).

Risk does not mean real catastrophe but anticipation of a catastrophe. The phenomenon becomes real to the extent that it is anticipated. Risks are socially

constructed by certain groups of actors for other groups in order to promise provision of security. It is 'the irony of the promise of security made by scientists, companies, governments' (Beck, 2008:2). In this respect the issue of social accountability comes into play. The more responsible the actors behave the more attention they pay to the probability of risks.

Beck also distinguishes three types of reaction to risks, namely, denial, apathy and transformation (Beck, 2006:3). The third type of reaction presupposes a call for a new beginning derived from the shocks of danger. 'When there is a new beginning, action is possible' (ibid., 2006: 3). I will attempt to look for examples of transformation demonstrated by Norwegian and Russian actors as a response to catastrophes in oil and gas activities.

The global character of today's risks means they are omnipresent, hence, coping with them can also be organized on a joint basis. 'The logic brought by world risk society: no nation state can cope with its problems alone' (Beck, 2006: 8). Global risks require global responses and coordinated action is the only means of managing them nowadays. 'Risk exposure ... as the principal inequality of modern society... enables powerful actors to maximize risks for others and minimize risks for themselves' (Beck, 2008:2).

In this research I draw attention to the fact that the level of risk perception is a sign of the level of responsibility demonstrated by the state. The response to risks from the state is revealed in the reaction of actors.

Such an approach to the evaluation of risks is within the precautionary principle of the organization of any activity. I shall also take into account that 'the tangibility of need suppresses the perception of risks' (Beck, 1992: 45). This is especially relevant in the case of oil and gas activities. In Norway, which is rich in oil and gas resources, there are heated debates regarding the dangers of oil dependency. Environmentalists argue that such dependency will be overcome. The more deposits that are tapped the more dependent the nation and the state's economy tend to become on oil and gas resources. Hence, there is a dilemma as to whether to go on pumping or to concentrate more on alternative energy

sources. It is possible to state that in Norway both directions are developed sufficiently, and an alternative to full dependency exists.

It seems appropriate to assess the reaction of Norway and Russia to risks using Beck's approach; the aim is to ascertain if there is denial, apathy or a readiness to transform the existing state of affairs, and more specifically, a readiness to learn lessons from such accidents as the catastrophe in the Mexican Gulf, the most recent serious accident connected with offshore oil and gas activities.

Thus, the opinions of experts on this issue will be cited and analyzed in order to present an objective picture of a country's response to the catastrophe as constituted by the positions of the most influential actors. 'The same risk becomes 'real' in different ways from the perspective of different countries and cultures – and is assessed differently' (Beck, 2009: 12).

### ***Method of research***

Initially the idea was to compare oil and gas deposits developed in Norway and Russia. However it seemed rather difficult to find two projects developed on more or less similar terms. Indicators of comparison lacked reliability and systems of environmental management are specific in every country. Many documents necessary for such an analysis are still in the process of approval because many issues discussed in the work were not even planned from the beginning but appeared in the process and changes can occur every day.<sup>6</sup>

My research is based on the use of the comparative method. The cases selected are Norway and Russia and the countries are compared on the basis of the following indicators:

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<sup>6</sup> Initially I planned to take the first Russian offshore project - *Prirazlomnoye* - for analysis, then this turned out to be impossible because the Environmental Impact Assessment for this deposit cannot be accessed; this controversial project is under discussion by different actors. The director of the conservation policy of WWF wrote a letter to the head of *Gazprom нефть shelf* in order to express disagreement with the environmental management of the *Prirazlomnoye* field and claims that a WWF representative should be included in the group responsible for environmental management of the project (Shwarz, 2010).

- Actors involved in environmental management in both countries, their interaction;
- Attitude to environmental disasters with no direct influence on Norway and Russia;
- Ability to demonstrate a quick response to an environmental disaster connected with offshore oil and gas projects;
- Adherence to international environmental standards and regulations.

### ***Data sources***

This research is a qualitative study; from the very beginning priority was given to analysis of literature - relevant scientific reports and conference papers were thoroughly studied.

When an organization willing to provide an internship placement was found –the Norwegian Institute of International Affairs at the Russian and Eurasian Department in Oslo - new opportunities appeared. NUPI could provide me with a good chance to organize interviews with representatives of different groups of actors involved in the oil and gas business in Norway. I am thankful to the NUPI for this invaluable help. Norwegians actors are always ready to help and share the opinions and results of completed research.

I found experts for interviews by means of studying the internet sites of the relevant organizations and emailing the relevant experts. If I addressed the wrong person I received an answer with an offer to email another expert who was competent in the issues I was studying. I received materials, presentations and booklets that helped me to gain access to the last portion of information about the issues that interested me. Thus, I had no problems with obtaining materials for my research.

As for Russian experts I encountered problems gaining access to them. Representatives of the oil and gas business are not allowed to give interviews; governmental agencies are difficult to approach. That is why I mainly consulted internet sites of Russian ministries and oil and gas companies and obtained

information from these sources. I also resorted to the analysis of articles in journals that discuss relevant issues in the oil and gas industry.

Semi-structured interviews serve as the basis of my research design.

I grouped actors whom I managed to interview in the following way:

- Actors from governmental agencies who deal with oil and gas issues (Ministry of Petroleum and Energy, Norwegian Petroleum Directorate, Petroleum Safety Authority; Ministry of Fisheries and Coastal Affairs, Ministry of Foreign Affairs, Ministry of Environment, Climate and Pollution Agency);
- Business representatives (oil and gas company, Norwegian-Russian Chamber of Commerce, INTSOK foundation, company dealing with the assessment of risks for oil and gas activities; company developing infrastructure for *Teriberka*<sup>7</sup>);
- Representatives of environmental NGOs;
- Researchers in political, legal, environmental issues (Appendix 1).

The results are based on 29 semi-structured interviews. The first group of experts was less ready to share information since many issues that I proposed for discussion were rather controversial and decisions were going to be announced further in 2011. That is why representatives of government were not free to give an opinion on certain issues. In Norway I was a bit more successful. I compensated for lack of information by the use of other methods - literature analysis, review of articles on relevant topics etc.

The second group, business representatives, was most difficult to meet and talk with. The constraint at work here is that in Russia employees of oil and gas companies are not allowed to give interviews. Representatives of ENGOs were eager to talk and make their opinions known. Researchers gave me the most

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<sup>7</sup>*Teriberka* is a village in Murmansk oblast that is planned to become part of the infrastructure for the *Shtokman* project.

detailed approach to the problems I am interested in. They are generally extremely competent in these issues and ready to share ideas.

Mass media analysis is considered to be one of the most important sources of information as it gives up-to-date information about the latest changes in the cooperation of actors in oil and gas activities. The mass media informs stakeholders about the plans of companies and public hearings on projects (Tetelmin, 2009: 91).

This source of information mainly helped me to keep updated with the current events in the oil and gas sector. Articles in newspapers helped me to identify the reaction of Norwegian and Russian actors to the oil spill in the Mexican Gulf and analyze it during the period 2010-2011.

The newsletter that I subscribed provided by the INTSOK<sup>8</sup> foundation and about recent events in the oil and gas industry also helped me to keep track of the latest publications on the relevant topics.

I looked through relevant articles from the Norwegian newspaper *Aftenposten* and used the Russian journals, *Neft Rossii* and *Neftyanoye Hozyaistvo*; I also consulted the sites of Norwegian and Russian Ministries, environmental organizations (*WWF*, *Bellona*), and oil and gas companies (*Gazprom*, *Lukoil*, *Statoil*). Moreover, it seemed relevant to look through examples of joint environmental monitoring programs, assessments of standards for offshore activities (NORUEC 2009, *Barents-2020*), as well as legal documents (Petroleum Act of Norway, Project of the Law 'On preventing oil pollution of seas').

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<sup>8</sup> INTSOK is a foundation of Norwegian oil and gas companies working internationally (*INTSOK*, official site).

## **CHAPTER 2. RESULTS**

This part represents results of analysis that aim at finding answers to the research questions. The chapter contains interview passages, citations from speeches of actors obtained from Mass Media as well as from the conferences visited by the author during 2010-2011. The results are presented in the following way: the first section deals with the roles of actors in environmental management of oil and gas projects, examples of cooperation and concrete actions. Section 4.2 describes the peculiarities of environmental monitoring of oil and gas projects as a part of environmental management and its significance. Participation of actors in Norway and Russia in monitoring and its organization is the aim of the section.

The 4.3 section deals with evaluation of risks and different approaches of Norway and Russia based on comparison of country's response to the oil spill in the Mexican Gulf in April, 2010. Possible prospects of cooperation are presented in the analysis of the 'Barents-2020' program where both countries took joint efforts to approve common standards for the Barents Sea and oil and gas activities there.

### **Norwegian and Russian actors involved in the environmental management of oil and gas projects and their interaction**

#### ***Russian actors***

Different actors are involved in initiating and developing new oil and gas projects. Activities related to environmental management take place at different stages of the development of new projects. The focus of this section is to describe the role of actors, emphasizing the reasons for cooperation and collective actions.

The Ministry for Protection of the Environment and Natural Resources of Russia (*Minprirody*) is the main federal authority that participates in the environmental management of oil and gas activities. It develops normative legal regulations on

the research, use, reproduction and protection of natural resources; controls the utilization of subsoil resources; participates in negotiating licenses and drilling programs; and deals with issues concerning reserves and geophysics. The agencies under the *Minprirody* that deal with oil and gas activities are the following: *Rosnedra* that issues licenses for developing new oil and gas deposits; the Federal Inspectorate on Supervision in the Sphere of Wildlife Management (*Rosprirodnadzor*) that is responsible for environmental protection policy and provision of environmental security; the Federal Inspectorate on Hydrometeorology and Environmental Monitoring that conducts monitoring of the continental shelf of the Russian Federation and takes part in activities related to climate change on the state level as well as in international activities (The Federal Inspectorate Hydrometeorology, 2010). The Russian Federal Mining and Industrial Inspectorate (*Rostekhnadzor*) that used to be under the *Minprirody* and was responsible for the industrial safety of production facilities has recently been given different functions – it now reports directly to the Russian government and has received the additional authority to control atomic energy issues. The agency obtained a new title – Federal Environmental, Technical and Nuclear Inspectorate. The Inspectorate's role is to inspect oil and gas constructions as well as the oil and gas industry in general (Barents-2020, 2009: 90).

When organizing different kinds of environmental monitoring *Minprirody* is instrumental in cooperating and dealing with the Ministry of Public Health and Social Development of the Russian Federation (*Minzdravsocrazvitia of Russia*), the Ministry of Civil Defense and Emergencies and the Federal Space Agency (*Roskosmos*). *Minzdravsocrazvitia* is responsible for social and hygienic monitoring according to the federal law. It provides normative regulation for public health services, social development, labor protection and employment. The Federal Inspectorate for Health and Social Development (*Roszdrazvnadzor*) is the enforcement authority that implements control and supervision in the aforementioned sphere (Barents-2020, 2009:90).

The Ministry of Civil Defense and Emergencies deals with the supervision, control, and protection of the population and territories from extreme situations

(maintenance of fire safety, safety of people on water objects); the assessment of emergency preparedness plans including oil spill mitigation plans; and with the coordination of efforts connected with accidents and rescue operations.

A significant part of the development of oil and gas projects presupposes the delivery of mineral resources to the place of destination - a highly risky process. Hence, the Ministry of Transport of the Russian Federation's Technical Regulation and Metrology Department (*Rostekhnregulirovanie*) - a national standardization body which inspects compliance with technical regulations - represents Russia in the International Standards Organization. This agency takes part in joint work on risk assessments.

*Gosmorspasssluzhba* has as its main task the job of coordinating actions connected with marine transport, mainly search and rescue services. It cooperates with foreign services of the same kind regarding the rescue of people and ships suffering as a consequence of shipwreck at sea. It also organizes and coordinates the work of specialized organizations after oil spills and controls the fulfillment of obligations under international agreements concerning search and rescue, ships suffering shipwreck as well as the response to oil spills (Barents-2020, 2009: 90-91).

According to the aims of the research it is important to analyze the internal cooperation of actors as well as what countries have achieved on bilateral basis.

The importance of cooperation with Norway was highlighted at the annual international conference 'Cross-border cooperation: The Russian Federation, the European Union and Norway' held in St. Petersburg in September, 2010.<sup>9</sup>

The position of the Russian government is that cooperation with other Arctic countries is a good way to overcome challenges<sup>10</sup>.

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<sup>9</sup> 'Cooperation with the Kingdom of Norway is very important for us' (Gryzlov B. Speech...).

<sup>10</sup> 'It is difficult to survive in the Arctic alone. ... The Arctic region can serve as a place for uniting forces, for genuine partnership in the economic, security-related, scientific and educational spheres... current arctic problems can be solved ...by means of negotiation, on the basis of current legal norms... as an example I can cite the recent signing of the 'Agreement...' by

The significance of cooperative approach to all actors was mentioned by the Minister of Regional Development of the Russian Federation, V. Basargin, when he defined the aims of the ‘Strategy of Developing the Arctic Zone of the Russian Federation and Providing National Security for the Period until 2020.’<sup>11</sup>

As an appropriate example of the long-term interaction of Norway and Russia it seems relevant to mention the Norwegian-Russian Joint Environmental Commission that has been operating since 1988 when the countries signed an agreement on cooperation in the sphere of environmental protection. The agreement was renewed in 1992 and the priorities of cooperation involve environmental monitoring as well as preparedness and response to environmental accidents (*NORUEC, 2009*).

Russian actors involved in the work of the Norwegian-Russian Joint Environmental Commission take part in the work of different groups and projects within the framework of the commission’s activity.

*Minprirody* together with the Ministry of Environment in Norway supervise the work of the group ‘Marine environment’. *Rosprirodnadzor* and *Rostekhnadzor* are involved in the ‘Post-project Analysis of Offshore Activities of Oil and Gas Objects’<sup>12</sup> that deals especially with the influence of platform construction on the ecosystem of the Barents Sea.

*Roshydromet* participates in the project ‘Oil and Gas Activity’ in cooperation with the aforementioned agencies. The project aims at adjusting monitoring methods and promoting the exchange of experience with the inspection of environmental security between Norway and Russia.

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Russia and Norway... this is a good example that demonstrates the ability to find a compromise, suitable for both sides’ (Putin, 2010).

<sup>11</sup> ‘The strategy aims at... the harmonization of the interests of all actors in national Arctic policy – state, civil society institutions, business representatives, researchers as well as indigenous peoples’ (Basargin, 2010).

<sup>12</sup> The project is implemented within the group ‘Marine environment’ within the work of the Joint Norwegian-Russian Environmental Commission (*NORUEC, 2009*)

*Roshydromet* supervises the work of the group 'Research in Radioactive Contamination' from the Russian side. One of the aims of the project is to identify possible consequences connected with oil and gas activities in the northern seas.

*Rosnedra* and *Rostekhnadzor* participated in the project on managing radioactive substances connected with oil and gas activities on the continental shelf (*NORUEC, 2009*).

It is important to mention that regional authorities take part in the activity of the groups dealing with oil and gas issues. The regional authorities in Murmansk and Arkhangelsk can also be considered actors in the environmental management of oil and gas projects. They take part in the work of the Norwegian-Russian environmental commission on the project 'Environmental Monitoring after Oil Spills'. The project is supervised by the *Rosprirodnadzor* of Arkhangelsk region (*Territoria Neftegas, 2011*).

When it comes to a certain region (e.g. *Shtokman* is connected with Murmansk region) regional authorities can found a working group with representatives of the actors in order to take mutual decisions. Recently such an environmental group consisting of the representatives of Murmansk regional authorities and environmental experts from *Shtokman Development AG*, agreed to set rules for companies working with waste utilization. Members of the group agreed that such utilization factories must comply with international as well as with Russian requirements of environmental safety. Hence, the requirements are different and have not been united (*Territoria Neftegaz, 2011*).

The second significant actor for my research is business, namely oil and gas companies and companies that deal with risk assessments for oil and gas projects.

As my attention is focused on the Barents Sea and the actors allowed to work there, I take into account *Gazprom* and *Rosneft* as these companies have the right to carry out activities in this region according to Russian legislation. *Gazprom* is of special interest because it has the majority share in the *Shtokman* project.

During the research it was difficult to find out with which actors Russian oil and gas companies cooperate. State authorities have a great influence on this industry as it is the most profitable one in the state<sup>13</sup>.

The third group of actors is environmental organizations. In Russia they are now speeding up their activities. This has become an indicator of a greater willingness to follow international recommendations. One of the respondents said the following about their work:

*'We organize public hearings for oil and gas projects and in this way we manage to be heard (expert interview, ENGO representative).'*

In this research I mainly dealt with *WWF Russia* which is considered by many experts to be the most influential environmental organization in Russia. They have offices in Moscow, Murmansk and Arkhangelsk and WWF experts deal with the Barents Sea region. This organization has a separate department that is responsible for the environmental policy of oil and gas projects in particular.

As for cooperation with other actors, one respondent said the following:

*'We submit the projects of laws to the government. They try to appeal to oil and gas companies by different means. We use public environmental expertise as an instrument in order to change the state of things ... to be heard by subsoil users (Interview, ENGO representative).'*

An appropriate example of cooperation with ENGOs in Russia is the letter sent to the Minister of Foreign Affairs of the Russian Federation requesting a full moratorium on oil and gas activities in the Arctic region. The Social-Ecological Union of Russia, the Cola Ecological Centre (*Kolskii Ekologicheskii Zentr*) in particular, *Bellona-Murmansk*, as well as the Arkhangelsk Regional Youth Organization '*Etas*' all signed the letter<sup>14</sup>.

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<sup>13</sup> 'The state is our main shareholder (more than 50%), hence, it defines our strategic goals..... we take managerial decisions on the level of company ....this we consider to be our significant advantage.' (Interview with A. Miller, 3.01.2011).

<sup>14</sup> 'We take joint action together with environmental organizations from Canada, Norway, the USA' (Ivanov, 2011).

The fourth group of actors, the importance of which cannot be underestimated, is researchers,

The scope of this research comprises the environmental management of offshore activities in the Barents Sea. Hence attention is given to research organizations dealing with this region. I decided to refer to researchers from different fields of study: geopolitical, legal, and environmental. This choice is explained by the fact that international environmental cooperation involves all of the aforementioned areas and decisions are taken on the highest level.

When looking for the most significant actors from this group I evaluated participation in joint Norwegian-Russian projects and picked the most suitable examples.

*Sevmorgeo* is one of the leading organizations that deal with geological monitoring of the Barents Sea. *Sevmorgeo* fulfills state monitoring of the continental shelf of the Russian Federation (*Sevmorgeo*, official site).

*'Our main government agencies are Rosnedra and Rosprirodnadzor' (Sevmorgeo, expert interview).*

It actively cooperates with Norwegian actors, such as the Climate and Pollution Agency and the Petroleum Safety Authority. *Sevmorgeo* took part in projects related to oil and gas activities within the framework of the Norwegian-Russian Joint Environmental Commission, including, 'Oil and Gas Activity', 'Research in Radioactive Contamination', and 'Environmental Monitoring after Oil Spills.' This research organization was also actively involved in the development of the 'Barents-2020' common system of standards along with their Norwegian counterparts.

The *Oil and Gas Research Institute* and the *Russian Academy of Sciences* are also involved in providing recommendations on strategies for the development of the oil and gas sector.

The *Murmansk Marine Biological Institute (MMBI)* and the *Polar Research Institute of Marine Fisheries and Oceanography (PINRO)* provide regional environmental monitoring of the Barents Sea. These institutes are also active

participants in the Norwegian-Russian Joint Environmental Commission. They both participate in the project 'Oil and Gas Activity' and PINRO is also involved in the projects 'Research in Radioactive Contamination', 'Environmental Monitoring after Oil Spills.'<sup>15</sup>

The analysis of the activities of Russian actors seems to be important on different levels within the country as well as in terms of international cooperation. I can note the less frequent participation of Russian research institutes in oil and gas projects than is the norm in Norway. Such a peculiarity as lack of access to information about the activities of oil and gas companies is also one of the typical characteristics of this actor.

Norwegian actors interact in a different way; they represent a different set of rules that is interesting to study in order to compare with the Russian approach.

### ***Norwegian actors***

The Norwegian approach to the management of mineral resources provides a model to follow.

'The approval of the authorities is required in all stages of petroleum activities' (Nordvik F. Facts 2010..., 18). This fact is proved by the system of SDFI - the State's Direct Financial Interest - that allows the state 'to receive a substantial portion of the revenues from the petroleum activities' (ibid., 19).

In Norway we see enhanced coordination between ministries involved in environmental management. I take into account the activities of the following ministries: Ministry of Environment, Ministry of Fisheries and Coastal Affairs, Ministry of Labour and Social Inclusion, Ministry of Foreign Affairs, and the Ministry of Petroleum and Energy.

Norwegian actors find it significant that the work of the Norwegian-Russian Joint Environmental Commission establishes connections with Russian governmental

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<sup>15</sup> The first project works within the group 'Marine Environment', the second project relates to the group 'Radioactive Contamination' (NORUEC, 2009: 7-8).

agencies that deal with inspection (Regjeringen, 2010: 22). The Norwegian government considers this to be the most significant part of the commission.

Major strategies for the industry are developed in the Ministry of Petroleum and Energy. One of the respondents states the following:

*'We ensure good management of petroleum resources for the benefit of society. ... It was decided to seek different opinions. ...We take into account fisheries' interests, environmental impacts. ...We have a close dialogue with the Ministry of Environment... we consult a lot of scientific knowledge bases, namely IMR (Institute of Marine Research), NIVA (Norwegian Institute of Water Research), NINA (Norwegian Institute of Air Research), and Akvaplan.niva' (expert interview, Ministry of Petroleum and Energy, Norway).*

The Norwegian Petroleum Directorate provides information and data management including an environmental network and data on offshore waste that it manages jointly with the Control and Pollution Agency. The NPD has cooperated with Russia since 1992. It represents the Ministry of Petroleum and Energy in the work of the Norwegian-Russian Commission and participates in the following joint projects: 'Oil and Gas Activity', 'Post-project Analysis of Offshore Activities of Oil and Gas Objects', as well as 'Assessment of Environmental- and Bio-resources'. The last example seems especially significant. In Norway environmental and energy issues are not separate as is the case in Russia. The approach to resource management in Norway involves different actors equally. Representatives of Russian counterparts - Ministry of Energy - do not participate in the work of the Norwegian-Russian Commission; only *Minprirody* with its inspectorates is represented in the joint commission.

The Ministry of Environment supervises the activity of the Norwegian-Russian Joint Environmental Commission on the Norwegian side. It has two directorates that are involved in oil and gas projects – the Climate and Pollution Agency deals with pollution, gives recommendations for monitoring activities, and issues permits for oil production and exploration. The second branch is the Directorate of Nature Management that is responsible for the protection of species.

One of the respondents describes the process of cooperation regarding the activity of *KLIF* in the following way:

*'KLIF is not really powerful. We give facts to debates. We do not take part in politics. ...We cooperate with IRIS and the OLF collects monitoring data. The DNV converts all data in to a new system. With the Russians we have successful, open and direct dialogue. (Expert interview, KLIF).*

The Ministry of Labour and Social Inclusion coordinates issues of health, safety and the environment. It also allocates finances for the Barents programs.

The Petroleum Safety Authority reports to the Ministry and coordinates the work of the Health, Safety and Environment sector with assistance from other authorities and inspectorates. The PSA played a leading role in providing response to the Mexican Gulf oil spill in April, 2010. It headed the commission that carried out measures of response, checking if Norwegian standards should be improved and determining what lessons should be learned from the accident.

The Ministry of Fisheries and Coastal Affairs represents not only the second biggest industry in Norway but also Norwegian culture and tradition. One respondent characterizes its work in the following way:

*'The Fishing industry is politically powerful. Our opinion is taken into account when it comes to opening a new oil or gas project. There is a real conflict of interests' (expert interview, Ministry of Fisheries and Coastal Affairs, Norway).*

The Ministry of Fisheries and Coastal Affairs is responsible for oil spill contingency measures. These issues are tackled by the Norwegian Coastal Administration which defines who should pay what and determines the amount of damage caused by an oil spill. They are responsible for the coastal monitoring that takes place after spill has occurred.

*'We are quite influential. Oil exploration is organized so as not to disturb fisheries too much.... We have a joint Norwegian-Russian commission for the Barents Sea which was established thirty five years ago. ...We have a formal agreement with PINRO. The cooperation is very good. We are not so happy with the EU. We are the owners of the Institute of Marine Research and we provide regulations regarding what kind of monitoring they have to provide. We finance the institute. Fisheries and environmentalists are on the same side, it makes them powerful. We deal with the Ministry of Petroleum and Energy (expert interview, Ministry of Fisheries and Coastal affairs).*

The Ministry of Foreign Affairs has a section called the High North and Russia that deals with issues of Norwegian cooperation with Russia in the Arctic.

Cooperation takes place within the High North Strategy that is pursued by the current Prime Minister of Norway.

The specific interest in this Ministry is its position regarding the relationship with Russia. The ministry serves as a mediator between Norwegian and Russian actors in different spheres of cooperation.

*'We have dialogue with Russia. The Ministry of Energy in Russia and the Ministry of Petroleum and Energy in Norway deal with each other in matters of energy efficiency and particularly clean energy. This is quite a substantial step forward. We are strategic partners. We develop common resources in the Barents Sea. Norway is equally interested in developing resources in the Barents Sea. In a way we are competitors. Norway and Russia continue to be the two biggest suppliers of gas to Europe. We hope the delimitation agreement will be a comprehensive treaty - a milestone that will open a new area promising big breakthroughs after forty years' (expert interview, Ministry of Foreign Affairs, Norway).*

In the case of the second group of actors - that is to say, business representatives - I took into account the Norwegian petroleum company - *Statoil* - as well as the company that deals with the assessment of risk for oil and gas activities - *Det Norske Veritas*. This company has long-term experience of working in Russia and was responsible for the assessment of standards within the 'Barents-2020' program, the analysis of which is presented in section 4.3.2.

*Statoil* is the leading oil and gas company in Norway. For my research it is important that *Statoil* is involved in the project 'Oil and Gas Activity' within the group 'Marine Environment' within the framework of the Norwegian-Russian Joint Environmental Commission.

The next actors - ENGOs – are represented on the Norwegian side in this research by three organizations in Norway which were visited during the internship period in Norway: *Nature and Youth*, *Bellona*, and *Friends of Earth (Norway)*. One respondent points out the strong and weak points of environmental organizations, taking into account the influence they can exert on public opinion:

*'Environmentalists are so active that they are able to create awareness of a certain issue and make people discuss it' (expert interview, researcher).*

Another respondent refers to the important theme of opening up the traditional fishing regions around the Lofoten and Vesteralen islands for drilling:

*'ENGOS in Norway are influential. They participate in public hearings on oil and gas projects and provide reports on the issues. In general they are not able to change the government's opinion though recent debate about permission to drill in the Lofoten and Vesteralen islands, which used to traditionally be reserved for fishermen and tourists, shows that environmentalists are able to change opinions regarding drilling (expert interview, KLIF).*

Several respondents make a link to Russian ENGOS and point out the difference between their roles in Norway and Russia:

*'ENGOS in Norway are quite strong, they get many column inches in the mass media, mostly they are listened to and seem professional. ... ENGOS in Russia work differently, the mentality is different, in Norway the participants are actively involved' (expert interview, KLIF).*

*'Environmental organizations are easily heard. They are the main opponents of the oil and gas industry. They influence public opinion. They are definitely more influential than in Russia'. (Expert interview, Statoil).*

One respondent remarks that some ENGOS in Norway are equipped with the necessary expertise:

*'ENGOS have, in my opinion, more influence than in Russia. Bellona, unlike others who mostly protest, tries to give scientific reasons' (expert interview, Ministry of Petroleum and Energy, Norway).*

More respondents come to the conclusion that in oil and gas activity it is difficult to influence the decision of the government if it decides to open a certain region for drilling:

*'ENGOS are not so much involved in bilateral cooperation. The media likes to put them on the front page. They have influence but they will not change the opinion of the government' (expert interview, KLIF).*

The last focus is research organizations as an actor involved in the environmental management of oil and gas activities. When I studied the topic of my research I found out that mainly four fields of research are interconnected and deal with oil and gas projects in different ways: political, economic, legislative and environmental. Researchers from NUPI and FNI deal with political issues and carry out research within projects connected with the political framework of Barents cooperation in the oil and gas industry. The Bodo Graduate School of

Business<sup>16</sup> carries out research on the peculiarities of the management of oil and gas projects in Norway and Russia.

The legal basis is also very important when it comes to offshore oil and gas projects. The Department of Maritime Law at the University of Oslo carries out research in this sphere.

*NIVA*, *Akvaplan.niva* and the Institute of Marine Research are involved in environmental studies and have been officially designated by the government as organizations that implement environmental monitoring. The Control and Pollution Agency provides guidelines to *NIVA* and *Akvaplan.niva* on what kind of monitoring to conduct.

Cooperation with Russian research organizations is broad. *Akvaplan.niva* has research centers in all cross-border regions: Murmansk (PINRO, MMBI, Hydrometeorological institute), Kola Peninsula (Institute of Industrial Ecology of the North (Kola Peninsula), and St. Petersburg (Zoological Institute, Institute of Arctic Studies, *Sevmorgeo*, VNIIO of Oceanology).

The emphasis in this chapter is on the study of cooperation in the Arctic region. 'Today there is close collaboration between oil companies, research institutes, the supply industry and the authorities when it comes to technology and research' (Nordvik F. Facts 2010, 2010:19).

If we analyze the cooperation of Norwegian and Russian actors on the bilateral level, the delimitation agreement that was recently signed and ratified is proof of similar strategies that are followed by the Norwegian and Russian governments. The Russian government approved a program on Arctic exploration that will have great significance for Russia (Appendix 3). As the exploration and development of resources in the North Sea have passed their peaks, the current Norwegian

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<sup>16</sup> One of the strategic areas of research of the Bodo Graduate School of Business (University of Nordland) is energy management in the High North (<http://www.english.hhb.no/index.php?ID=4832&lang=eng>)

government is pursuing the High North Strategy<sup>17</sup> that presupposes exploring new regions and developing new oil and gas fields.

*'There are no political obstacles to further cooperation on the level of governments' (expert interview, KLIF).*

Norwegian and Russian oil and gas companies also cooperate. An example is the *Shtokman* project that was managed by Norwegian *Statoil* and French *Total* at the first phase of its development. In 2007 *Gazprom*, *Statoil* and *Total* signed a Memorandum of Understanding<sup>18</sup> though this group of actors are more driven by economic interests and pursue their own strategy of cooperation.

The position of Norwegian actors regarding *Shtokman* is clearly stated by the opinion of the following respondent:

*'Shtokman is a totally commercial decision. It is not the government's decision. It is very important that the government does not assess risks. I do not think that we do not want to have it developed. It is for companies to decide if they can take the risks. The only caution is that nothing goes wrong' (expert interview, Ministry of Foreign Affairs, Norway).*

### **Conclusion**

The information presented in this section seems of great importance because it provides a basis for an understanding of the involvement of actors in environmental management and allows us to assess their ability to cooperate in domestic and bilateral projects and predict prospects for further cooperation. The analysis of the working program from the Norwegian-Russian Joint Environmental Commission proved to be useful and gave necessary insights in to the matter. Norwegian actors tend to be more active in bilateral cooperation;

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<sup>17</sup> 'It is one of the government's most important priorities to take advantage of the High North' (<http://www.regjeringen.no/upload/UD/Vedlegg/strategien.pdf>).

<sup>18</sup> 'The partnership between Gazprom and StatoilHydro is based on long-term experience and advanced technologies possessed by our companies that are capable of guaranteeing success to any of our projects' Alexei Miller, head of *Gazprom* (<http://www.subseaworld.com/industry/gazprom-and-statoilhydro-sign-mou-03076.html>)

'*StatoilHydro* has been developing offshore fields in harsh conditions for 40 years. We possess efficient technologies and valuable project execution experience which we are prepared to share and further develop in cooperation with our Russian partners. We are looking forward to further cooperation with *Gazprom* for the mutual benefit of our companies and the two nations' Helge Lund, head of *Statoil*. (<http://www.subseaworld.com/industry/gazprom-and-statoilhydro-sign-mou-03076.html>)

representatives from the Norwegian Petroleum Directorate as well as representatives from the oil and gas business in Norway participate in the work of environmental groups. The Russian actors are mostly represented by *Minprirody* with its corresponding agencies as well as by researchers from relevant fields of study.

## **Environmental management – comparison of Norwegian and Russian approach**

It seems appropriate to start with a definition of the term 'environmental management' in order to point out what aspects are important within the scope of this research.

Environmental management is 'a tool to improve environmental performance. It addresses the immediate and long-term impacts of products, services and processes on the environment...; provides a framework for an organization .. to address environmental concerns ... through the assignment of responsibility It also evaluates products processes and focuses on the continual improvement of the system. The stages of environmental management presuppose planning, implementation, checking and review (Environmental Sustainability Resource Center, 2011).

It seems unnecessarily specific to describe the whole system of environmental management in a piece of sociological research. I concentrated on two stages of the process: namely environmental monitoring and the assessment of risks during the phase when the project is about to be opened.

In this research special attention is paid to offshore oil and gas projects. In order to conduct offshore activities such as the building of platforms, there is a need to establish a system of sea monitoring. It is important to provide a safe environment for sea mammals as oil activities result in problems with feeding (Tetelmin, 2009: 176-177).

Monitoring is a long-term procedure that provides reliable information about the influence of a certain activity on the environment. It presupposes long-term

observation in order to use the results in a systematic environmental impact assessment, in particular, in the prediction and evaluation of risks.

A project can be characterized as having a high level of cooperation between developers and the public. Monitoring ensures of the improved interaction of actors in oil and gas activity because more reliable information is given.

The evaluation of risks that is carried out at the early stage of project planning yields information as to what type of monitoring is necessary to conduct.

An environmental Impact Assessment is provided at the initial phase of the project. According to the results of a bilateral project to harmonize Russian and Norwegian EIA standards a common approach to EIA has been approved.

One of the respondents says the following:

*'We approve of the EIA provided for Shtokman' (expert interview, Ministry of Environment, Norway).*

This actually means that, from the environmental viewpoint, there should be no obstacles for Norwegian-Russian cooperation in the *Shtokman* project.

### ***International Recommendations***

An international approach to the design of EIAs (adopted due to EU Directive) means that any project that presupposes 'potentially significant environmental impact' must procure an EIA in order 'to minimize pressure on the environment' and to 'provide public participation' (Berglund, 2007:8).

Convergence with EU environmental legislation (the EIA Directive) ensures the implementation of the following principles:

1. Access to information, one of the core principles of the democratic approach. Information is treated as 'a precondition for participation' (Berglund, 2007: 8).

The results of environmental impact assessments should be made public in order to be known and accessible to all interested parties.

The public needs access to environmental information in order to make decisions about their way of life, contribute to informed debate about environmental

protection activities, support measures to improve the environment, and provide greater awareness in environmental matters (ibid.,13).

2. Participation in decision-making, the reality of which can enhance transparency and increase legitimacy of the project.

In this respect the administrative procedures that take place in the countries are important. General recommendations are interpreted via governmental decisions (ibid.,9). Thus, the efficiency of decision-making is improved when there is coordination between government agencies and stakeholders by means of public hearings.

According to the EU environmental legislation EIAs should be strengthened by means of the Strategic Environmental Assessment - the examination of environmental impact during the design phase of a project. The SEA presupposes a systematic review of environmental impact and that a balance is reached between environmental, social and economic factors (Berglund, 2007: 9). The SEA as an example of systematic evaluation is said to improve decision-making (ibid.,12).

The main aim of the EIA is to influence the decision-making process and provide a better framework for legal agreements.

### ***Peculiarities of the environmental monitoring of offshore oil and gas projects in Russia***

The Russian government has significant plans to develop oil and gas projects in the Arctic region where, according to estimates, huge reserves of resources remain untapped. The government considers it to be important that a consistent environmental policy, in accordance with international regulations, is pursued.<sup>19</sup>

It seems reasonable to evaluate preparedness to follow environmental requirements and identify the level of responsibility demonstrated regarding new

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<sup>19</sup> 'No industrial project in the Russian Arctic will be approved for realization until the most stringent environmental requirements will be considered'(Putin V., 'Peculiar Region', 2011)

oil and gas projects. Environmental monitoring is one of the stages of the environmental management of oil and gas projects. Its realization requires significant financial investment because many types of monitoring should be conducted repeatedly at all stages of projects' implementation. Moreover, monitoring data can provide information that can be used in the assessment of the risks involved in offshore oil and gas projects.

'In Russia monitoring is one of the stages of the environmental management of a project based on the following federal laws: 'On Protection of the Environment', 10.01.2002, and 'On Hydrometeorological Service', 19.07.1998'. (Tetelmin, 2009:58).

Monitoring is a system of supervision of environmental changes and its aim is to provide stakeholders with information as to how the environment has reacted to the new activity and to provide predictions of possible negative changes in the future (Tetelmin, 2009:63-64). *Minprirody* is responsible for regulating the activities of other ministries in order to organize and implement environmental monitoring; it works together with the Ministry of Public Health and Social Development, the Ministry of Civil Defense and Emergencies as well as with *Roskosmos* (Russian Federal Space Agency) (Appendix 4).

In Russia there is one more procedure called environmental control (*ekologicheskyy kontrol*) that aims at finding out if the rules of environmental protection are being followed. It is implemented on different levels:

- on the state level (*gosudarstvenny kontrol*),
- on the company level (*proizvodstvenny kontrol*),
- on the societal level (*obshchestvenny kontrol*).

The difference between environmental monitoring and *ekologicheskyy kontrol* is that the former has no juridical power (Tetelmin, 2009: 66).

'The provision of environment protection is based on environmental monitoring and environmental control' (Tetelmin, 2009: 156).

One of the main challenges for Russia is that ‘there is a lack of a systemic approach to the organization of monitoring. Many companies have no monitoring system of their own’ (Tetelmin, 2009: 147). The reason is perhaps financial since the provision of monitoring is expensive.

*‘Russian standards for maximum concentration limit are stricter if we compare them with Norwegian standards but in Russia it is easier to break these rules and then simply pay the fine. In Norway if the Climate and Pollution Agency finds discrepancies, then a company is given time to solve the problems before legal action is taken (Expert interview, Akvaplan.niva)’.*

In Russia monitoring types differ according to the object monitored. It is obligatory to conduct environmental monitoring of air, animals, the continental shelf of the Russian Federation, internal sea waters and of the territorial sea (Appendix 4).

The second type of monitoring differs according to the level of its fulfillment: : there is a system of state monitoring - oil and gas companies conduct industrial monitoring and environmental organizations carry out the third kind of monitoring by means of public hearing.

There are several kinds of environmental monitoring on the state level:

- state monitoring of air and surface waters that is carried out by *Roshydromet* as a trusted organization;
- state geological monitoring that is carried out by *Rosnedra*. This agency is responsible for the implementation of this type of monitoring and gives instructions to the research organization *Sevmorgeo* which in turn carried out the required procedures.

In Russia there is no responsible authority for biota monitoring<sup>20</sup>.

The Federal Agency of Fisheries conducts environmental monitoring regarding fish. The specificities of the Barents Sea and Arctic region (taking into account different kinds of mammals, e.g. white bears) are not included in any program.

The second level of environmental monitoring is the company level.

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<sup>20</sup> The term ‘biota’ means ‘a combined flora and fauna of a certain region’ (The Free dictionary)

Companies and their environmental departments organize monitoring activities. Companies plan and conduct monitoring according to the aims of the company. The monitoring itself is often dependent on how much companies can afford to spend on environmental policy. Some companies have well-established monitoring systems and information about such procedures is accessible on the internet sites of the companies. These companies are well equipped in terms of appropriate technologies. I can cite the examples of *Gazprom* and *Lukoil*. These companies are considered to be global players on the international oil and gas market (Bereznoi, 2011).

Companies conduct the following kinds of monitoring: water monitoring, biota monitoring and baseline study.

*Rosprirodnadzor* makes decisions regarding industrial environmental monitoring (*proizvodstvenno-ekologicheski monitoring*); gives approval to perform activity; and implements environmental control.

At first companies have to obtain permission to perform activities in water according to the Water Act of the Russian Federation. Activities in water are monitored on a regular basis. The monitoring program must be approved at the investment stage of the project.

A system of industrial environmental monitoring does not exist in Norway.

The provision of monitoring for oil and gas projects or regional monitoring of a part of the sea is expensive. For example, satellite monitoring which gives the most reliable information about possible spills or other accidents is notoriously expensive. The main condition of monitoring is that it must be organized on a constant basis. The provision or non-provision of monitoring activities shows whether companies are responsible towards the environment when they perform activities for the development of oil and gas projects.

The third level of monitoring is organized on the level of public participation. It presupposes the open discussion of projects with stakeholders involved in the

activities of the project, whose living conditions could be affected in the case that the project is developed.

In Russia a negative decision at the level of public hearings will not change the decision on a project's implementation.

The problem of monitoring offshore activities is controversial since Russia has no substantial experience with offshore oil and gas projects. It has been working mainly onshore for many years. The Barents Sea region is a new place and standards and monitoring programs have still not been fully approved.

If we wish take a Russian oil and gas company and analyze its approach to monitoring, a relevant example of an approved and functioning monitoring program can be found at *Lukoil*.

Though *Lukoil* has no oil and gas projects in the Barents Sea it can offer experience in organizing and implementing environmental monitoring in the *Kravtsovskoye* oilfield in the Baltic Sea. The company is famous for being one of a few that works according to the 'zero discharge' principle - 'all industrial and regular waste ...is collected and shipped out onshore for further utilization' (Volodkovich, 2009: 2). This principle is implemented in Norway regarding oil and gas activities.

The system of monitoring as it is defined in *Lukoil* documents of is 'a system of regular observations of the environmental conditions aimed at monitoring the anthropogenic impact effect, consequences and implementation of appropriate protection measures...' (Volodkovich, 2009: 3).

It is possible to enumerate three types of monitoring that are conducted in the *Kravtsovskoye* oilfield: local, regional and intact area monitoring. The aim of local monitoring is to detect changes in the sea environment near to the industrial facilities and to control and enforce the appropriate environmental regulations and rules. Regional monitoring aims at examining long-term trends in the basic ecosystem parameters under the influence of anthropogenic factors as well as the effects and consequences that are slowly accumulated and detected only

with difficulty. Intact area monitoring takes place in pelagic zones<sup>21</sup> and concerns habitats of rare and disappearing species. It is carried out in areas where industrial activity should be prohibited or minimized and serves to provide information on the quality of the marine environment or on the state of vulnerable flora and fauna species (Volodkovich, 2009: 3).

***Peculiarities of the environmental monitoring of offshore oil and gas projects in Norway***

Environmental management presupposes a significant number of stages and operations at every stage. Within this research I chose environmental monitoring and the risk assessment of offshore projects in order to identify the peculiarities of these environmental activities in Norway and Russia.

*'We follow and apply EU directives. We have the same requirements for impact assessments ...' (expert interview, Ministry of Petroleum and Energy, Norway).*

As I concentrate on the first phases of project implementation, when geological surveys and the preparation of an environmental impact assessment take place, it is important to see when monitoring is actually carried out and in what way it is connected with the EIA.

The EIA is a document that must be provided for any project that can presuppose harm to environment. The EIA is completed at the initial stage of project implementation and contains guidance for further monitoring.

Monitoring aims at checking whether any harm to the environment predicted in the EIA has become reality. .

*'As for the application of international standards the Norwegian take on this became a pattern for OSPAR<sup>22</sup> and was adopted. The problem is that conventions provide recommendations but have no legislative force. That is why it is not an obligation for the parties of OSPAR' (expert interview, NIVA, Norway)*

According to the requirements two types of monitoring must be conducted in Norway. The first is a baseline environmental survey which is mandatory before any offshore drilling can take place. It is organized seasonally. The survey's

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<sup>21</sup> Pelagic zone is a 'surface water level relating to the upper layers of the open sea' (Oxford dictionary)

<sup>22</sup> OSPAR is a 'convention aimed at identifying threats to the marine environment' (OSPAR, official site)

function is to provide information about the environmental situation before any activity occurs. The second type is monitoring of fish quality whereby samples are taken for assessment.

When drilling takes place, other types of monitoring are implemented together with the aforementioned kinds: monitoring of the impact of and waste from drilling and water column monitoring. For the first kind experts check the state of the sea floor by taking samples and describing chemical contaminants. Water column monitoring involves the analysis of discharges made into water.

There are organizations recommended by the government and eligible to conduct environmental monitoring and companies use their services.

One respondent makes the following important remark on the organization of monitoring in Norway:

*'In Norway oil companies are not allowed to have their own system of monitoring service. They need independent assessment according to the law (expert interview, Akvaplan.niva).*

In Norway there is a system of environmental control that is carried out on the state level; companies are required to resort to the services of certain companies that deal with monitoring procedures.

*'Monitoring is done by industries themselves; this develops a 'culture' of obeying the law. The key point is to make industries accountable' (expert interview, Ministry of Environment, Norway).*

One of the respondents makes the following comment on the frequency of monitoring activities in Norway:

*'All activities are monitored within regional monitoring every third year. This can take place after an oil spill in order to assess how long it takes for nature to recuperate' (expert interview, Akvaplan-niva, Norway).*

Environmental monitoring is a part of the environmental management of oil and gas projects. It is a source of information for the environmental control which is one of the procedures in the whole system of environmental management. Monitoring helps to measure the volume of waste produced as a result of industrial activity.

In this respect the precautionary principle - which is one of the leading principles in the organization of environmental management in Norway - works at its best. It is always better to predict danger than to find ways to solve a problem. One of the respondents confirms this opinion:

*'In Norway monitoring aims at pinpointing the problems that might occur, and what should be paid attention to' (expert interview, Akvaplan.niva).*

KLIF administers the Norwegian Pollution Monitoring Program. Environmental Monitoring actually starts at KLIF.

There are several research institutes that provide environmental monitoring and data and projects are financed by KLIF.

NIVA and IMR check species, biomarkers and water quality when this is ordered by KLIF. The OLF collects monitoring data. The DNV is instrumental in converting old data into a new system according to the rules regarding data management from 2010.

Companies carry out monitoring for platforms according to the recommendations of KLIF if it finds that this type of monitoring is essential.

There are efforts to provide joint monitoring with Russia on a bilateral basis. KLIF deals with a Russian research organization which provides monitoring for offshore projects - *Sevmorgeo*.

The international basis for the monitoring of oil and gas projects in Norway is the OSPAR convention. KLIF reports to OSPAR regarding the volume of discharges and it follows OSPAR recommendations.

Another common European program is the Coordinated Environmental Monitoring Program which serves as an attempt to unite recommendations for monitoring systems under the auspices of OSPAR.

MAREANO is a monitoring program conducted in the Institute of Marine Research in Norway. The aim is to study the influence of oil on fish and larvae as well as to simulate oil spill effects.<sup>23</sup>

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<sup>23</sup> MAREANO, Institute of Marine Research. [http://www.mareano.no/english/about\\_mareano/activities](http://www.mareano.no/english/about_mareano/activities)

The provision of monitoring by government is also observed by other actors. One of the respondents said the following:

*'ENGOS take into account what kinds of monitoring KLIF deems necessary, and then ENGOS can claim that not enough kinds of monitoring were required' (expert interview, KLIF).*

### **Conclusion**

The information regarding systems of monitoring is relevant because the attitude to and peculiarities of the organization of this process help us to assess the overall level of environmental responsibility of actors involved in the development of oil and gas projects. This analysis will help to answer the second research question and contribute to testing the hypothesis.

The main difference in approaches to the organization of monitoring is that in Russia the system is multi-level, including industrial environmental monitoring provided by companies which use their own monitoring services. In Norway there is a state system of monitoring and certain research organizations that companies can contact to order specific services.

The provision of monitoring is expensive, hence the presence (or lack) of monitoring is an indicator of a high level of responsibility demonstrated by the companies as well as of a readiness to work according to international standards in order to enter the global oil and gas market.

Within the work of the Joint Environmental Commission, Norway and Russia work at expanding the possibilities of the environmental monitoring of the Barents Sea for the fishing industry and adjusting the systems of monitoring in order to develop a joint system (Regjeringen, 2010: 23).

## **Differences in the evaluation of risk in offshore oil and gas projects and Norwegian-Russian joint experience**

### ***Response of Norwegian and Russian actors to the oil spill in the Mexican Gulf and influence on environmental management***

It seems reasonable to assess how an environmental catastrophe in oil and gas activity influenced Norwegian and Russian actors: what measures were implemented in order to prevent similar accidents?

It is important to refer to the Arctic region and assess what consequences such a catastrophe could have here, even though water temperature differs to a great extent - it is warm in the Mexican Gulf and the after effects are not serious to the extent that they could be in cold waters.

In this respect it seems appropriate to assess the influence of this accident on the environmental policy of Norway and Russia with the help of the theory of risks. The reaction of different actors can thus be characterized as denial, apathy or transformation (Beck, 2006:3).

If we evaluate the positions of the actors regarding this accident in Norway on the governmental level, the response to the accident in the Mexican Gulf was to establish a working group in May, 2010, a month after the accident. This commission assessed the consequences for the Norwegian shelf in the case of such an accident occurring in Norway and came to the conclusion that the system of spill response needs improvement. A joint analysis of the system of the environmental management of oil and gas activity was conducted by a special commission - the Petroleum Safety Authority was at the head of the working group.

As for the comments at the moment when I interviewed experts (July-August, 2010), some respondents refrained from early comments until the USA had reported on the accident:

*'As for the Mexican Gulf, ENGOs say we should stop oil activities. We have to wait for the final report from the USA. One can never predict. Perhaps it is a lack of*

*regulations. Nothing is on a new licensing round. We will not say more before we know more' (expert interview, Ministry of Petroleum and Energy, Norway).*

The position of business representatives was described by one respondent in the following manner:

*'The Mexican Gulf incident caused the Norwegian government to rethink its plans. It is a reason for all of us to take a break and rethink' (expert interview, Statoil).*

It was obvious that researchers on different levels would assess the accident and analyze the consequences for other countries which develop offshore oil and gas projects. For instance, Norway and Russia have to assess their projects in the Barents Sea.

The opinions of researchers as to whether the accident in the Mexican Gulf resulted in serious consequences differ; one of the respondents states the following:

*'Oil is not terribly harmful for water. There are special microorganisms which eat oil and purify water. When some years have passed the consequences of this accident will not be as acute as they are now, right after the accident' (expert interview, NIVA).*

Other experts in environmental study consider the accident to be very dangerous for fish:

*'Oil is considered to be very harmful for certain kinds of fish. Serious harm can be done to their living conditions as a result of such an accident' (expert interview, Akvaplan.niva).*

Researchers find it important to analyze catastrophes in order to predict possible future hazards and be ready to respond to the consequences (Laverov, 2011: 27).

The reason for analyzing possible consequences of an accident for the cold Arctic is obvious. One respondent stated that

*'Such a catastrophe would have undoubtedly worse results there' (expert interview, Akvaplan.niva).*

The accident undoubtedly influenced the decision-making process regarding exploration activities.

*'The speed of exploration was lowered after the accident' (expert interview, Akvaplan.niva).*

The accident in the Mexican Gulf evoked even more heated debate over the issues surrounding the Lofoten and Vesteralen islands. Before the accident in the Mexican Gulf took place, Norway observed the debate concerning these islands which are traditionally considered to be a place for fishing and tourism. The Storting did not declare its final decision as to the region will be opened for drilling or not. According to the preliminary assessments there are invaluable resources of hydrocarbons in the area. Following the Deepwater Horizon accident environmentalists now have a stronger position in the debate than before because they are able to refer to the accident and warn that the same could happen in this region, resulting in damage to the Norwegian fishing industry as well as to tourism.

One of the respondents states the following:

*'LOVE<sup>24</sup> appeared before. It is not the Mexican Gulf that initiated the discussion' (expert interview, Statoil).*

In Russia the accident is still being discussed among the representatives of government at every conference connected with oil and gas activity. In this respect plans in the Arctic are perceived in a more responsible way and the idea that new oil and gas projects should be environmentally friendly prevails among actors.

According to the president of the Russian Federation the catastrophe in the Mexican Gulf could change the prevailing attitude to authority. The President is in favour of an international approach to risk security in light of the Deepwater Horizon accident.<sup>25</sup>

In October, 2010 the Committee for Natural Resources, Nature management and Environment organized parliamentary hearings on the 'Legislative Provision of

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<sup>24</sup> LOVE stands for Lofoten and Vesteralen islands. It is a region in Norway not yet opened for drilling as it is a traditional place for fishermen and tourism.

<sup>25</sup> 'Such an accident can undermine anything, including the authority of government... we have to find a new way of distributing accountability regarding risk security... a new international approach has to be found. We shall consolidate our efforts in this respect' (Interview, D. Medvedev, 'Wall Street Journal' <http://www.kremlin.ru/news/8082>).

Protecting Seas from Oil Pollution’ where the issue of developing law projects was discussed. The chairman of the Committee mentioned that ‘this law shall establish a clear system of environmental risk assessment as well as requirements for industrial safety’ (Tugolukov, 2010). It would not be correct to claim that it was only the accident in the Mexican Gulf which sparked the appearance of the new legislation. In November, 2007 there was an accident in the Kerch strait when more than 1,500 tons of oil products poured out into the Kerch Strait (Fashuk D., 2008). This accident also made the Russian authorities initiate a new piece of legislation to regulate the level of accountability of companies. It is possible to state that the accident in the Mexican Gulf was one more ‘wake-up call’.

In his message to the Federal Assembly, the president of the Russian Federation addressed the different actors who take part in solving environmental issues and distributed recommendations for them<sup>26</sup>.

Russian oil and gas companies also revealed much about themselves in the light of the oil spill in the Mexican Gulf. A letter was sent by the head of *Rosneft* to the Deputy Minister of *Minprirody* asking for changes to the laws ‘On the Internal Sea Waters, Territorial Sea and the Adjacent Zone of the Russian Federation’, and ‘On the Continental Shelf of the Russian Federation’ regarding the mechanisms of oil spill response. The industry wants to take the legislative initiative. *Gazprom* has also introduced proposals to improve the environmental policies of the Russian Federation and placed emphasis on the increase of

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<sup>26</sup> ‘It is necessary to establish a modern efficient system of management of nature conservation; to prepare proposals for private-state partnerships regarding environmental issues; to develop criteria for the nature quality assessment; to strengthen the part civil society plays in its decisive role in the activity of nature protection; to take into account the importance of an environment-oriented upbringing and education in new educational standards; to regard the quality of the environment as the main indicator of life quality and the level of socio-economic development of any region as well as the criterion for assessing the effectiveness of regional government; to provide a constructive dialogue and options to take mutually effective decisions’ (on the part of ENGOs) (Medvedev D., 30.11.2010).

environmental responsibility for the dissemination of information. The examples show that oil and gas companies are looking forward to changes to the old-fashioned Russian legislation regarding work on the continental shelf of the Russian Federation (Trifonov, 2011).

Russian environmentalists joined the discussion with a very sound argument. One of the respondents gave a very concrete example of how the accident could change the existing state of things:

*'If we seek examples of the concrete steps taken in light of the accident, one of them is the draft law project 'On the Prevention of Sea Pollution by Oil' though it has not yet been accepted. The project is under discussion though a year has passed since the catastrophe in the Mexican Gulf' (expert interview, WWF representative).*

Environmentalists from several organizations wrote a letter to the Ministry of Foreign Affairs before the meeting of the Arctic Council explaining the arguments and asking for the initiation of a moratorium on drilling in the Arctic.<sup>27</sup>

Researchers in Russia take a sensible approach, as one of the respondents states:

*'Measures in Russia are not adopted in a fast manner. This is perhaps due to financial difficulties. The financial side is a very important indicator of how important it is for the country' (expert interview, Sevmorgeo).*

To sum up, the Mexican Gulf accident is still referred to by those actors who see the use of such a reference in order to promote their agenda. Now the accident seems less 'fresh' in comparison with the current catastrophe in Fukushima.

### ***Harmonization of standards of risk assessment for offshore oil and gas activities in the Barents Sea***

It seems relevant to start with the main peculiarities of the Norwegian and Russian systems of risk assessment. In Norway the system is based on the precautionary principle. In Russia the system of risk assessment is included in

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<sup>27</sup> 'The oil spill in the Mexican Gulf reminded us once more of the serious risks involved in offshore drilling. We ask ...to take the initiative at the coming meeting of the Arctic Council ...and discuss the necessity to declare a moratorium on offshore drilling in this region...in the Arctic region warming takes place twice as fast as in other parts of our planet. No effective means of cleaning oil spills offshore can be applied especially in a region containing ice(Ivanov Y., 2011).

the Environmental Impact Assessment and there is no separate methodology from the Environmental Risks Assessment. The ERA is included in the EIA (observation, control and assessment of negative factors). One of the respondents compares the Norwegian and Russian approach in the following way:

*'The main difference is that Norway is primarily concerned about how to prevent oil spills and discharge of harmful waste, whereas in Russia the risk of accidents and the measures to implement after such accidents matter more' (expert interview, Akvaplan.niva).*

Russian oil and gas companies that want to work on an internationally recognized level, such as *Gazprom*, use the approved methods of *DNV*, a Norwegian company that deals with the assessment of risk for oil and gas projects. This company has a good deal of experience working in Russia.

In Russia there are no approved levels of waste assessment regarding water, baseline study, and biota. An approved system exists only for fisheries.

In the Norwegian-Russian Joint Environmental Commission program for 2011-2012 there is a recommendation to approve a joint index of assessing bio systems based on long-established European standards for oil and gas activity.

As a result of the joint cooperation in order to devise a common approach to the Barents Sea management, the 'Barents-2020' report on the safe exploration, production and transportation of oil and gas in the Barents Sea was issued. It includes Norwegian, Russian and international standards that are recommended for oil and gas activities in the Barents Sea.

One of the basic assumptions is that the 'protection of the environment and the resources in the Barents Sea is a shared responsibility between Norway and Russia' (Barents-2020, 2009: 11).

According to the 'Barents-2020' final report 130 standards from international, Norwegian and Russian systems and other Arctic countries have been approved for use.<sup>28</sup>

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<sup>28</sup> 99 standards out of 139 are international. The main organizations are: ISO, IEC, IMO, ILO

The work of experts on 'Barents-2020' was organized in 7 working groups. The fields of work for the groups were the following:

1. Internationally recognized standards for use in the Barents Sea.
2. Standards for design of stationary units against ice loads in the Barents Sea.
3. Standards for risk assessment of major hazards in the Barents Sea.
4. Standards for escape, evacuation and rescue of people from ships and offshore units; standards for rescue equipment.
5. Standards for working environment and safety of operations in the Barents Sea.
6. Safety standards for loading, unloading, and ship transportation of oil in the Barents Sea.
7. Standards for operational emissions and discharges to air and water in the Barents Sea (Barents-2020, 2009:18-22).

Group 1 aimed at approving a basic list of international standards for the use in the Barents Sea which are common for Norway and Russia. Approximately 16 Russian standards were considered as input to the 'Barents-2020' initiative; 4 Norwegian standards were also taken, as well as 4 international standards from ISO, IMO.

Group 2 identified the basis for ISO standards that should be used on the national level. A common Russian-Norwegian supplement to ISO 19906 has been designed. One of the tasks was to propose recommended amendments to approved standards. The group identified the shortcomings of ISO regarding the design of stationary units against ice loads. Its update is planned to start in 2014 and they are not included in this report. The group also identified what issues to analyze as future priorities. These concerned ice data collection and ice management.

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20 Norwegian standards, 9 Russian standards were included in the list (Barents-2020, 2009: 95).

The task of group 3 was to identify the need for changes to existing offshore oil and gas standards. Group 3 dealt with the risks of fire, explosion and blow-out on offshore drilling, production and storage units. In order to prevent the occurrence and escalation of incidents, special attention is given to harsh Arctic conditions. It is important to note which stages of risk management are taken into account: identifying, assessing and describing the risk factors; prioritizing risk contributors; evaluating risk against risk tolerance criteria; and implementing measures to control the risks in the areas of the highest benefit. With respect to the Barents Sea the main challenges are the harsh Arctic climate and the remoteness of the region (Edmundo E., 2010).

ISO 3100 was chosen as a standard to follow. Experience of offshore activities in the North Sea was considered to be appropriate to a certain extent. The decision of group 3 was to assess the applicability of technical standards used in the North Sea for application in the Barents Sea (Barents-2020: 2009, 38). The Barents Sea has its own specific conditions. It is not possible to apply standards for the North Sea to the Barents Sea.

The main issue is in what way Arctic conditions impact the functionality of the technical safety barriers to prevent and mitigate major hazards.

The following factors were taken into account in assessing the risks for offshore activities: low temperature, snow, slush, icing, fog, and remote location (Barents-2020:2009, 36).

As a result the group selected a set of standards that were already used in similar conditions in the North Sea. The standards selected were used as a basis for the development of recommendations suitable for the Barents Sea.

International standards such as ISO, IMO as well as relevant Norwegian standards were approved for offshore activities in the Barents Sea and proposed for further harmonization. An exchange of experience regarding the methods of risk assessment was recommended at the joint Norwegian-Russian workshops.

Certain differences have been identified between the Norwegian and Russian approach to risks: use of risk terminology, approach to the management of data, tools of risk modeling, and the performance of risk assessments in the design and approval process.

The main recommendations concerned the comparison of Russian and Norwegian data sets on incidents and accidents in order to analyze and apply these cases in the assessment of risks.

A special proposal from the Russian side is to develop recommendations on how to use the results of risk analysis in the phase of platform design. The group planned to decide the use of recommendations together with Russian regulatory bodies (Barents-2020:2009,49).

Group 4 dealt with escape, evacuation and rescue operations that take place with offshore oil and gas activities in the Barents Sea. The conclusion was that no single international, Norwegian or Russian HSE standard is fully suitable for the Barents Sea. A certain minimum of key standards is recommended for 'upgrading' and use in Norway and Russia (Barents-2020, 2009: 51).

Group 5 worked with standards related to human performance and decision making for operations in the Barents Sea. Mainly it concerned standards regarding the activities of people who work on vessels and installations in the Barents Sea.

The result was the use of Norwegian standards and the use of Russian normative documents. On the basis of the aforementioned Norwegian and Russian documents the participants decided to work out a recommendation for the relevant ISO standard. Experts from the group decided that additional research is needed in order to study the stress factors that influence workers.

The task of Group 6 was related to the minimization of risks from accidental oil spills (Barents-2020, p.18-22).

For the activities analyzed by this group - loading, unloading, and transportation of oil in the Barents Sea - the following standards were recommended:

international (IMO Guidelines for ships operating in the Arctic) as well as the Norwegian standards for navigation in ice used by the *DNV*.

Regarding Russian standards for the Russian part of the Barents Sea they were said to be sufficient though not easily accessible and translatable (Barents-2020,2009: 70).

Group 7 dealt with operational emissions and discharges to air and water in the Barents Sea. The group designed standards for recommendation. As for international standards, they are based on MARPOL and OSPAR both of which Norway complies fully with (Barents-2020, 2009: 87).

Environmental monitoring of the Barents Sea and the in force are defined by this group. Both countries have their own monitoring systems, though Russia is advised to align its rules with the specificities of offshore oil and gas projects. Norway needs to adjust the system to the conditions typical of the Barents Sea. (Barents-2020, 2009: 86).

According to the recommendations of the joint report it is necessary to provide transparency in monitoring and data exchange.

### ***Conclusion***

Sections 4.3.1, 4.3.2 aimed at finding out how Norway and Russia respond to risks and whether they have established systems of risk assessment and analysis.

The reaction to the oil spill in the Mexican Gulf seems to be significant to analyze because countries reveal their level of responsibility regarding the accident by means of the subsequent actions of their actors in the field. According to the theory by U. Beck, risks in the 21<sup>st</sup> century are of a global character - they are spatially and temporarily omnipresent' (Beck, 2006).

The analysis of a joint report, assessing risks connected with exploration activities for the Barents Sea, shows the readiness of countries to cooperate and adjust to the standards recommended in the report. Both countries' experience of working in the Arctic was taken into account. The report can serve as a

recommendation for the further work necessary in order to achieve the common environmental management of the resources of the Barents Sea, though the weak point is that this report has no legal force.

### **CHAPTER 3. DISCUSSION**

In the previous chapter I presented data related to the issues of the cooperation of actors whose activity is related to the environmental management of oil and gas projects and mainly to its two stages: environmental monitoring and the assessment of risks. I analyzed the peculiarities of environmental monitoring as well as the possibilities to develop a joint system of standards for the assessment of risks for the Barents Sea. I also analyzed the response of Norwegian and Russian actors to the oil spill in the Mexican Gulf that took place on the 20<sup>th</sup> of April, 2010 and that helped to evaluate what level of responsibility was demonstrated by actors in Norway and Russia.

Similar groups of actors involved in the environmental management of oil and gas projects and their activities were taken into account. I can state that representatives of government tend to be less open in expressing their position, whereas representatives of business are ready to clearly outline challenges. ENGOs seem to take an active position but they are less influential in terms of decision-making, thus their aim is to be heard by as many actors as possible. The contributions made by researchers were the most helpful for finding answers to my research questions.

In order to find answers to the research questions and test the hypothesis I resorted to the opinions of actors obtained from expert interviews as well as mass media sources, conference materials and the results of research on relevant topics.

The first research question related to the peculiarities of the cooperation between Norwegian and Russian actors within the country and in bilateral projects.

It became obvious that Norway demonstrates more of a joint approach to the environmental management of oil and gas projects. The fact that the Ministry of Petroleum and Energy is represented in the Norwegian-Russian Joint Environmental commission by the Norwegian Petroleum Directorate proves this fact. The NPD takes part in a project carried out by the environmental experts called 'Assessment of the environment and bio resources of the Barents Sea'. The example accentuates the overall attitude of Norwegian actors to environmental issues regarding the oil and gas industry - mineral resources are managed in order that the nation prospers; everybody is responsible for the effects produced by certain activities.

*Statoil*, the Norwegian oil and gas company, is also a participant in the Norwegian Russian Joint Environmental Commission in the project 'Oil and Gas activity'. 'State control and the requirements placed upon trade unions and ENGOs make companies provide a system of protection against oil spills on a high level. Otherwise, the company's reputation will be spoiled' (Bambulyak, 2005: 85).

In Norway researchers tend to be more involved in the environmental management of oil and gas projects. The state recommends certain research institutes to companies which can carry out different kinds of monitoring – *Akvaplan.niva*, Institute of Marine Research etc.

Thus, Norwegian actors form 'government-business-research' clusters that work in order to pursue the common goal of increasing the prosperity of the country and keeping the same high level of responsibility regarding the management of mineral resources.

Norwegian actors also benefit from cooperation with Russian actors. The Norwegian Ministry of Fisheries and Coastal affairs has established long-term cooperation with PINRO and the Russian research institute.

I proceed with an analysis of the activities of Russian actors and the peculiarities of their cooperation. I can point out less involvement of Russian research organizations, Russian government actors and business in managing mineral

resources. Companies tend to form their own research centers that work separately and are not easily accessed for cooperation.

It is important to point out that Russian companies that plan to work according to international standards follow the relevant regulations. They organize open public hearings in the process of the development of a new project, where all actors and stakeholders can express opinions.

As an example I can refer to the *Shtokman* project that is managed by ‘*Shtokman Development AG*’. In September, 2009, the company established cooperation with *WWF Russia* (Zagorovsky, 2010); the environmental and social assessment for *Shtokman* was carried out by the PINRO research institute in Murmansk.

In the work of the Norwegian-Russian Joint Environmental Commission on the project ‘Oil and gas activity’, the Russian side is represented by government (*Minprirody* together with the corresponding agencies) and researchers (*Sevmorgeo*, PINRO, MMBI). From the Norwegian side the Commission include participants from government (Ministry of Environment and its agency, *KLIF*, Ministry of Petroleum and Energy and its directorate NPD, Ministry of Labour and Social Inclusion and its directorate PSA), researchers (NIVA, IMR) as well as the oil and gas company, *Statoilhydro*.<sup>29</sup> The Ministry of Energy of the Russian Federation does not take part in the work of this commission and this proves the lower level of involvement by Russian actors in cooperation with actors from Norway. Russian oil companies also did not take part in the work of the Commission. All in all, the Norwegian side is represented by more actors.

The main difference is that researchers in various fields - geopolitical, economic, legal, environmental – are more involved in oil and gas projects in Norway than in Russia. Researchers in Norway officially participate in the process of environmental management; governmental agencies refer to them in order to provide services for companies, for instance, regarding monitoring activities.

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<sup>29</sup> As a result of merging of two Norwegian oil and gas companies *Statoil* and *Hydro* in 2009 there is one state oil and gas company *Statoil* now.

The second research question is related to the peculiarities of environmental management in Norway and Russia. Environmental monitoring was chosen as one of the most significant stages of environmental management because its organization requires a lot of effort from different actors as well as significant financial investment.

The peculiar feature of the Russian system of environmental monitoring is that it is carried out on several levels. In Norway there is no industrial environmental monitoring. Russian oil and gas companies have their own, in-house monitoring services which give them the opportunity to plan its work according to the aims of a company as well as its financial capabilities. Environmental monitoring is expensive and only a few oil and gas companies can afford to regularly conduct the sort of monitoring that is an indispensable part of effective procedure together with constant data analysis. Monitoring of projects on a regular basis is provided by so-called 'global players' - companies that occupy a significant place in the international oil and gas business – e.g. *Gazprom*, *Lukoil*.

The peculiarity of the Norwegian approach to environmental monitoring is that in Norway it is implemented by region. Oil and gas projects that are situated in a region are not monitored separately but as a part of regional monitoring.

Division into regions is effected due to the necessity to open a region for exploration by the government before any activity can be initiated (Nordvik, 2010).

On the level of monitoring, the difference lies in the approach to the use of the results from monitoring in Norway and Russia. Russian standards for the maximum concentration of discharge are stricter if we compare them with their Norwegian equivalents, though in Russia it is easier to simply break the rules and then pay the fine. In Norway if the Climate and Pollution Agency finds discrepancies with regards to discharges, the company responsible for the discharge is given time to solve the problems before legal action is taken.

The third research question is connected with the response of countries to an environmental catastrophe and the example used is the oil spill in the Mexican

Gulf that occurred in April, 2010. By the reaction of countries to a catastrophe I mean what changes they introduced in order to improve the system of risk assessment. This analysis allows me to evaluate the level of environmental responsibility shown by actors from Norway and Russia.

The response from the Russian government was to strengthen the efficiency of environmental control (Medvedev D., 2010).

The reaction of oil and gas companies was notable, though we see that only global players reveal their positions. The example of a typical response is to ask for changes and introduce proposals to the old-fashioned environmental laws regarding work on the continental shelf.

NGOs behave actively in this case, cooperating with their counterparts from northern countries; the result of this cooperation was the letter from Russian NGOs to the Ministry of Foreign Affairs, supported by environmentalists from other Arctic countries. The aim of the letter was to initiate a moratorium on drilling in the Arctic at the meeting of ministries of Nordic countries within the Barents Euro Arctic Region.

In general, environmentalists evaluate the Russian system of response to similar disasters as not satisfactory. For instance, one of the respondents remarked:

*'Russia has no response mechanism to damage done to mammals in the Arctic as a result of an oil spill' (expert interview, WWF representative).*

In Russia the possibility to introduce the law 'On prevention of sea pollution by oil' is the example of a change that is to be accepted.

Norway demonstrated a quick response to the accident in the Mexican Gulf. They established a commission headed by the Petroleum Safety Authority that worked to apply lessons from the accident. Norway also provided help to the USA.

*'The oil spill did have an effect on Norwegian plans regarding further exploration activities. The region near Lofoten and the Vesteralen islands which has already become a reason for heated debate will not be opened for drilling in the nearest future (expert interview, Nature and Youth, Norway)*

Though experts say such accidents do occur, no company can provide a 100 % guarantee that such an unfortunate incident will not occur. It is better to have a well established system of environmental management organized according to the precautionary principle.

As for the catastrophe that happened in the Mexican Gulf, it resulted in an analysis of the level of responsibility that actors from states show towards the adoption of an effective safety system in oil and gas projects. Country response matters a lot because it shows the level of common preparedness for an accident as well as the level of responsibility.

The next research question deals with the way countries assess risks in offshore oil and gas activity. In general much work was done and a common approach was found. International, Norwegian and Russian standards were approved on the basis of their relevance in Arctic conditions.

The main problem is that the recommendations of the report 'Barents-2020' have no legal status and can be only be advised for use – a fact that is stated in the report itself (Barents-2020, 2009: 23). By analyzing approaches to the assessment of risks it is possible to say that countries differ in their approach. Thus, Norway and Russia demonstrate different levels of responsibility in the prevention of risks.

The answers to the aforementioned research questions provided the basis to evaluate the prospects of the Norwegian-Russian relationship and cooperation in joint projects in the Barents Sea, and allowed me to identify the challenges that lie ahead and propose possible ways out.

1. The challenge that Norway experiences when it deals with its Russian counterparts is to coordinate actions with various Russian governmental agencies as well as federal and regional authorities.
2. The Norwegian and Russian systems of environmental management are different and this variation is due to the following: historical development, and the role of public participation in decision-making.

3. Technological differences. Russia needs Norwegian technologies because Norway has significant experience of working in the North Sea. Norway needs to apply its technologies to offshore oil and gas projects.

4. Different expectations of project participation regarding the *Shtokman* project. Norwegian actors would like to have more rights concerning participation in *Shtokman*. It is considered to be a political project by many actors. The first reason is that the project is no longer as necessary as it used to be when it was planned to satisfy the future need for gas of the USA. *Statoil* needs *Shtokman* because the company is pursuing a strategy to be an international leader and aims at finding new ways of using its technologies and expertise in other projects since the Norwegian oil and gas industry has passed its peak with domestic projects.

The demand for *Shtokman* gas will be defined by the general demand for gas and is dependent on the economic situation in the world, not on a concrete state.

5. There is a need to work out a new approach to environmental monitoring. Regionalization of the methods of evaluation is necessary. The challenge for the Barents Sea is that the climate and weather peculiarities of this particular region were not fully studied. For instance, there is a practice of applying already established standards in the new unexplored regions (transfer of risk evaluation methods from the South to the North). Methods approved on the governmental level are applied from one region to another. The question may thus arise as to whether a particular method is relevant. Experts in environmental studies say that a new approach is needed to establish new methods that correspond with the peculiarities of this concrete region (such characteristics as temperature and climate change make a big difference).

6. Difference in the involvement of actors. In Norway actors who participate in developing oil and gas projects are involved more or less on an equal basis. Government has meetings with the representatives of business, ENGOs, and researchers (especially in environmental issues) are consulted as well. In Russia ENGOs are more detached from the process of decision making and this results

in more opaque process of public hearings and a lack of transparency in the work of joint committees. Russian ENGOs cooperate with their international counterparts and receive financial support. Research organizations in Russia seem to be detached from the decision making process but they cooperate with research institutions in Norway, hired by Norwegian business in order to carry out activities.

7. Environmental management is defined by some overall principles. In Norway the principles is a precautionary one. The economic and social aspects of a project are evaluated on an equal basis, the prosperity of every citizen is important, and economic profit is not considered if it is associated with environmental harm. In Russia industry and environmental representatives are opposite parties whereas in Norway all actors work in the same direction. When it comes to environmental control and monitoring, the issues of the economic profitability of a project comes into play: if a project is too expensive because of environmental procedures it will not be promoted.

On the basis of the analyzed data, certain ways out can be offered in order to overcome the challenges mentioned.

1. Signing a delimitation agreement is said to be profitable for both sides.

Firstly, it is better to have the issues settled than to leave them open.

Secondly, this case is a chance to show the rest of Arctic countries that cooperation is possible; Norway and Russia have proved this. Still I can point out unsettled issues in the Russian-American relationship and common Arctic problems concerning the claim for the Lomonosov Ridge (Ragauskas R., 2011).

With the signing of the delimitation agreement Russia is said to lose in regards to its fishery areas. It seems worth mentioning that Norwegian-Russian fisheries cooperation was on a good level even in the times of the Cold War. Now after the signing of the agreement this area became the most controversial and brought about more challenges than it had before.

2. Norway and Russia have cooperated since 1988 on the level of ministries of environment and the joint fishery commission has existed since 1976. Such experience can help to overcome emerging challenges in the bilateral relationship.
3. The existence of the Norwegian-Russian Chamber of Commerce assists businessmen from Norway and Russia to establish connections and ease the burden of getting accustomed to cultural, economic and other kinds of challenges.
4. INTSOK, the foundation of oil and gas partners, also provides help for Norwegian companies wishing to enter the Russian market.

## CHAPTE R 4. CONCLUSION

The analysis of the actors involved in the oil and gas sector in Norway and Russia was carried out with the help of the ‘actors’ approach’. The role of every actor was assessed in the following way: an evaluation of their ability to cooperate with other actors in order to produce joint opinions that lead to concrete actions; description of what actions were taken and if they can possibly change the general process of decision-making and the ability of actors to influence decision-making process. The conclusions are presented in the following tables and organized according to the issues that were analyzed:

### *Cooperation of actors*

Norway	Russia
State refrains from influencing <i>Statoil</i> , respondents insist on differences in the positions of <i>Statoil</i> and Norwegian government	Government is involved in the activity of oil and gas companies to a high extent; activities are controlled especially on the continental shelf
Cluster ‘government–business research’; cooperation in a traditionally effective way;	Oil and gas companies have own system of monitoring; system of monitoring is

government recommends research organizations to carry out monitoring for oil and gas companies	complicated, many kinds of environmental monitoring are financially difficult to carry out; companies choose what types of monitoring to conduct; only a few companies can afford this expensive activity, others work 'following old traditions'
Research institutes are involved to a high extent	Research institutes are less involved
ENGOS are influential, they are heard, their positions are taken into account	ENGOS are less involved in oil and gas projects, though they demonstrate active positions, interact with government; are sometimes involved in cooperation with business ( <i>Shtokman</i> )
Norwegian actors involve Russian research institutes in joint projects	Russian government is less active in cooperation with other actors, prefers to interact with Norwegian actors of the same kind (Russian ministries interact mostly with Norwegian ministries and directorates)

The involvement of actors in the environmental management of oil and gas projects was assessed according to the following indicators: what actors participate in environmental monitoring, in what way; what are the legal peculiarities of the organization of environmental management. The results of the comparison are presented in the table below:

***Peculiarities of the organization of environmental monitoring***

Norway	Russia
Oil and gas companies use only services of research institutions for environmental monitoring approved by the government according to the law	Oil and gas companies can resort to the services of research organizations for certain kinds of monitoring, mostly use their own system organized within the company

Companies carry out monitoring at their expense, state defines what kinds of monitoring is to be conducted	Companies conduct monitoring according to their aims; procedure is not strictly defined by the state; monitoring is conducted mainly by 'global' players ( <i>Gazprom, Lukoil</i> ) in order to show adherence to international standards
There is no industrial environmental monitoring conducted on the level of companies	Industrial environmental monitoring is conducted by companies
Public hearing at the opening stage of the project is a chance for all groups of actors to state their opinion	Public hearing takes place, they are often closed, not all actors have access to it

The response to risks and the systems of risk assessment were compared and analyzed with the help of the following indicators: quick and active response to the accident by different actors, amount of standards used in joint report, examples of transformation.

### ***Response to the oil spill in the Mexican Gulf***

<b>Norway</b>	<b>Russia</b>
Government established joint commission to analyze the reasons and consequences of the accident	Claim on behalf of the government about more stringent approach to environmental management of Arctic projects
Business had to rethink plans for further projects; initiation of improvement in the system of environmental regulations is not necessary because the system is effective	Business initiated legislative and environmental regulations
ENGOS organized demonstrations in order to evoke public disapproval to drilling in LOVE	ENGOS pushed the law project 'On prevention of sea pollution by oil'
Actors demonstrate joint response	Actors demonstrate different reactions pursuing their interests in the light of the oil spill

As for the prospects of further research in this direction, it seems fruitful due to the signing and ratification of the delimitation agreement by Norway and Russia. The relationship will evolve and the predicted oil reserves in the Fedyn Arch that lies within the former unsettled zone will provide additional reasons for cooperation between Norwegian and Russian actors and the study of the geopolitical, environmental and legal dimensions of this cooperation will undoubtedly be of high necessity.

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## Appendix 1. List of interviewed experts

### Government

1. Ministry of Petroleum and Energy (Norway), Assistant Director General
2. Ministry of Foreign Affairs (Norway), Section for the High North, Resources and Russia, Senior Adviser
3. Ministry of Environment (Norway), Adviser
4. Ministry of Fisheries and Coastal Affairs (Norway), Senior Adviser
5. Norwegian Petroleum Directorate, Adviser
6. Petroleum Safety Authority (Norway), Chief Engineer
7. Climate and Pollution Agency (Norway), International Section, Senior Adviser
8. Norwegian Barents Secretariat, Head of the Secretariat

### Oil and Gas Business experts

1. *Statoil*, analyst
2. *INTSOK*, Regional Director for Australia, Russia, China and Korea
3. *INTSOK*, Local Oil and Gas Advisor
4. *Sherpa Konsult*, Head of Management Board
5. Norwegian-Russian Chamber of Commerce, Head of Representative office in Russia, Moscow
6. *Det Norske Veritas*, Manager

### Environmental NGOs

1. *Bellona*, Head of the Russian Department
2. *Nature and Youth*, Deputy Chair person; *Bellona*, Adviser for Oil and gas Sector
3. *FoEN (Friends of Earth, Norway)*, Head of International Cooperation
4. *WWF Russia*, Head of Department of Environmental Policy of oil and gas companies

### Researchers

Political Sciences



1. Fridtjof Nansen Institute, Senior Researcher
2. Norwegian Institute of International Affairs, Russian and Eurasian department, Researcher
3. Norwegian Institute of International Affairs, Russian and Eurasian Department, Senior Research Fellow

Business, Management

4. Bodo Graduate School of Business, Professor PhD, Project manager
5. Bodo Graduate School of Business, PhD Fellow
6. Lillehammer University College, Head of Research

Environment:

7. Norwegian Institute for Water Research (NIVA), Senior Research Scientist
8. Akvaplan.niva, Department of Marine Environment, Department Manager
9. Sevmorgeo, Centre of Geoecological Monitoring, St. Petersburg, Adviser
10. Institute of Oil and Gas, Russian Academy of Sciences, Researcher

Legal issues

University of Oslo, Department of Law, Institute of Maritime Law, PhD Fellow

## Appendix 2. Interview guide

1. Norwegian-Russian relationships in the oil and gas industry are evolving nowadays and there are plans for joint projects. Are there any obstacles to the future cooperation of business enterprises from different perspectives?
2. How much is cooperation with Russian companies important to Norwegian ones?
3. To what extent are stakeholders' interests in Norway taken into account in the case of the development of a new oil or gas project?
4. Are Norwegian government, oil and gas companies interested in developing the Shtokman deposit or it is not the only priority?
5. What does Norway (business) expect from and what is it cautious about regarding the Shtokman project?
6. Will Norway push stricter environmental standards in the case of the Fedyn arch oil and gas deposit than in the case of the Shtokman deposit, especially if we take into account that the Fedyn arch is situated on the delimitation border?
7. Could you comment upon the situation with Lofoten and Vesterålen? Is it possible that the Norwegian government can support Statoil plans for drilling there later?
8. What kind of impact did the recent accident in the Mexican Gulf and the situation at BP have on the management of oil and gas resources in Norway?
9. Could you estimate the impact that environmental organizations have on the perception of oil and gas issues by society in Norway? Are they influential? What are the most influential ones?



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