

REGIME FORMATION IN THE ARCTIC

The possibilities of an Arctic regime for offshore hydrocarbon activities

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Preface

My interest in international environmental policy has arisen throughout my years at Utrecht University. To choose the Arctic as a topic of study for this thesis was an idea which first came to my mind during the course 'international environmental law' in which the Polar Regions were discussed. The fact that such a pristine region as the Arctic is not adequately protected against offshore hydrocarbon activities is something I am truly concerned about. I hope this thesis will increase awareness on this issue and might even contribute to the Arctic states finding the right way to govern the Arctic.

For arousing my interest and enthusiasm with environmental policy I wish to thank the university teachers and lecturers who have instructed me the past two and a half years. For guiding me through the last phase of my education, I wish to thank dr. Carel Dieperink, who provided me with some valuable insights and advised me on which course to take in the process of writing this thesis.

There are several people who helped me in gaining insight in the Arctic situation and who contributed to this thesis by way of interviews. For this, I would like to render thanks to Maja Sofie Burggaard, Bob Dekker, Harm Dotinga, Louwrens Hacquebord, Tim Holder, Gert Polet, Alexey Knizhnikov, Tatiana Saksina, and Frits Schlingemann. Especially, I would like to thank Steinar Andresen, who advised me in setting up the criteria to assess regime effectiveness, and Erik J. Molenaar who helped me with the juridical questions I faced and who provided some valuable ideas on the regime proposal I developed.

My friends and family have been very supportive during the 10 month period it took to write this thesis. By showing their interest in my project and sharing experiences they motivated me to carry on but also to take some rest when needed. Pieter Broos helped me through the stressful periods, was patient when I needed to share my thoughts, and helped me solving the problems I faced.

During the process of writing this thesis I also learned a lot about myself. It confirmed my ideas about the field in which I would like to work when graduated. I hope this thesis helps realising my ambitions.

Ilse Dankers

Utrecht, June 2010

Summary

Climate change has a severe impact on the Arctic region, causing sea ice, snow coverage and permafrost to decrease rapidly. These changes to the Arctic environment gradually increase access to the hydrocarbon resources below the Arctic Ocean seabed. However, there is hardly any regulation in the Arctic region to adequately protect its environment from increasing hydrocarbon activities. The aim of this thesis is therefore to make recommendations for an Arctic Regime for Offshore Hydrocarbon Activities (AROHA) which can effectively protect the Arctic environment from the negative effects of offshore hydrocarbon activities.

The set up of this research entails examining policy systems and practices in order to learn and draw inspiration from them. Assessment criteria are established to assess the effectiveness of the current regime applicable to the Arctic and of several 'comparable policy models'. These criteria are: stringency, level of collaboration, implementation and compliance. As a point of departure, a gap analysis based on the four criteria is performed for the Arctic Council Offshore Oil and Gas Guidelines, an important part of the current regime. This leads to a list of 'options for improvement'. Next, four comparable policy models are assessed using the same criteria: the OSPAR Convention, CRAMRA, the Helsinki Convention, and two regional agreements between Arctic states. Based on the assessments of these policy models a list of 'lessons learnt' is established which provides for the elements and aspects that could make an AROHA strong or weak, effective or ineffective, successful or unsuccessful.

Based on these lessons a proposal is developed for an AROHA. It has as objective to prevent and eliminate pollution from offshore hydrocarbon sources; to protect the Arctic maritime area; and to ensure that both present and future generations are entitled to the social and economic benefits arising from offshore activities. The proposed contracting parties are the Arctic coastal states; Canada, Denmark (Greenland), Norway, Russia, and the US. The agreement will roughly apply to the sea and seabed within national jurisdiction of the contracting parties, excluding a part of the OSPAR area. It is further proposed that a commission is established with the mandate to focus on regulating offshore hydrocarbon activities and protecting the marine environment. It can take legally binding decisions and recommendations and has far-reaching competences.

A next step in this research is to investigate the feasibility of regime formation in the Arctic. For this, a list of fifteen factors which influence regime formation has been distilled from regime theories. An assessment of these factors reveals that the formation of an environmental protection regime for offshore hydrocarbon activities in the Arctic is an unlikely thing to happen at this moment.

Nevertheless, several recommendations can be made to increase chances for the formation of an AROHA. Making the compliance mechanisms and institutional structure less intrusive on state sovereignty makes a regime more acceptable to the Arctic states. Feelings of sovereignty should be mitigated by setting clear delimitations for the continental shelf and by solving territorial disputes. Furthermore, the cooperation between the Arctic states should be maintained as should the Arctic Council. Research efforts should continue and the international community should keep investing in epistemic communities, which form an important link between scientists and policy makers. NGOs should keep pushing for regime formation in order to increase feelings of priority and political will among the Arctic states. Last, NGOs and the international community should emphasise that a large part of the Arctic Ocean is beyond state sovereignty. It is the common heritage of mankind and the Arctic states have obligations under the Law of the Sea to preserve the Arctic marine environment.

Chapter 1 Introduction

The Arctic is a vital and vulnerable component of the Earth's environment and climate system. It is the region around the Earth's North Pole, opposite the Antarctic region around the South Pole. The Arctic includes the Arctic Ocean (which overlies the North Pole) and parts of Canada, Greenland (a territory of Denmark), Russia, the United States (Alaska), Iceland, Norway, Sweden and Finland. The 10°C mean isotherm in July, marked by the red line in figure 1.1, is commonly used to define the Arctic region border. However, there are many other definitions of the Arctic in use.

Figure 1.1: Arctic region

Source: Central Intelligence Agency (2009)



Climate change has a severe impact on the region, causing sea ice, snow coverage and permafrost to decrease rapidly. These changes to the Arctic environment gradually increase access to Arctic non-living resources. The US Geological Survey and the Norwegian company StatoilHydro estimate that

the Arctic could hold as much as one-quarter of the world's remaining undiscovered oil and gas deposits (Borgerson, 2008). These hydrocarbon resources are mostly to be found offshore, under less than 500 meters of water (Gautier et. al, 2009, p. 1175). Many states see the economic opportunities climate change brings in the Arctic. The Arctic coastal states are underpinning their sovereign rights and jurisdiction from their coastlines seaward. Non-Arctic states are looking for a more profound role in the governance of the Arctic and are designing Arctic policy strategies of their own. Also military interests are rising (Berkman and Young, 2009). The Arctic environment is increasingly at risk from climate change and increased human activity in the region.

Currently, environmental protection in the Arctic region is mainly based on the national environmental laws of the Arctic states (Canada, Denmark, Finland, Iceland, Norway, Sweden, Russia and the United States). These may implement international environmental obligations. Furthermore, in 1989 the Arctic states began cooperation on measures to combat threats to the Arctic environment, which could not effectively be addressed individually. This resulted in the adoption of the (non-legally binding) Arctic Environmental Protection Strategy (AEPS) (Sands, 2003, p. 727). In 1996 the Arctic Council was established; a high-level intergovernmental forum designed to provide a mechanism to address the common concerns and challenges faced by the Arctic governments and the people of the Arctic. It also oversees the programmes established under the AEPS (Sands, 2003, p. 711). Offshore hydrocarbon activities are an important topic of environmental concern. It means all activities relating to oil and gas resources at sea, especially the search for and exploitation of oil and gas. Regarding offshore hydrocarbon activities, the Arctic Council established the Arctic Offshore Oil and Gas Guidelines. However, there exists a lot of scepticism in the literature about these Guidelines; they are non-legally binding and do not seem to have had much effect.¹

The possibilities of drilling for oil and gas in the Arctic region attract many states. However, there is hardly any regulation in the Arctic region to adequately protect its environment from increasing human activity. The strategic significance of oil and gas resources has led to reluctance among the Arctic states to place this issue on the agenda of the Arctic Council (Stokke, 2006). And even when it was placed on the Arctic agenda, an effective regulatory regime² would probably not be created since the Arctic Council cannot impose legally binding obligations - it is not an operational body - and participation is limited – non-Arctic states can only obtain observer status.

The approach currently envisaged for the environmental protection of the Arctic only provides a first step. It is necessary to establish appropriate institutional arrangements and substantive rules, to protect the Arctic from further environmental degradation (Sands, 2003, p. 731). Arrangements should be in place before severe environmental degradation can occur and before conflicts of interest become all too difficult. In developing regulation for the Arctic, institutional fragmentation should be prevented (Berkman and Young, 2009, p. 340). There is a pressing need for an overall regime for the protection of the Arctic environment which includes fisheries, shipping and mineral

¹ “the Arctic Council does not have a follow-up or compliance mechanism to determine whether plans are being implemented or guidelines are being followed” (de La Fayette, 2008, p. 561).

“The Arctic Council is project-driven and is not empowered to impose legally binding obligations on any of its participants. While a number of useful non-legally binding guidelines are produced within the framework of the Arctic Council, the impacts of these are difficult to determine given that the Council does not systematically evaluate whether these are being followed.” (Koivurova and Molenaar, 2009, p. 5).

² In this thesis a regime is defined as a social institution, created to respond to the demand for governance relating to specific issues arising in a social setting that is anarchical in the sense that it lacks a centralised public authority or a government in the ordinary meaning of the term (Young and Zürn, 2006, p. 121).

resource activities; the ultimate aim is to develop a multilateral governance system for the Arctic aimed at integrated ecosystem management. Because this is beyond the scope of this research, a start will be made by developing a part of such a regime focused on offshore hydrocarbon activities.

Several proposals for what such a regime should entail have already been done. One could for example take the Antarctic as an example. The Antarctic regime³ is very extensive and its environment is well protected. Some lessons can be learned from this regime, however one should also take the different circumstances into account. According to Borgerson (2008) the best way to manage the Arctic would be to develop an overarching treaty which can guarantee an orderly and collective approach to extract the resources to be found in the region. He suggests that the treaty should include relevant provisions of the United Nations Law of the Sea (UNCLOS) and that it should take into account all of the important emerging issues in the Arctic (Borgerson, 2008, p. 7). Again others suggest to extend OSPAR to a greater part of the Arctic Ocean (Casper, 2009) or to build on from the Arctic Council (Young, 2002 and Koivurova, 2009).

1.1 Research objective, research questions and relevance

The objective of my research project is to make recommendations for an Arctic Regime for Offshore Hydrocarbon Activities (AROHA) which can effectively protect the Arctic environment from the negative effects of offshore hydrocarbon activities. This will be done by providing an overview of the gaps in the current regime and by investigating possibilities in comparable policy models to protect the marine environment against the negative effects of oil- and gas mining. The term 'policy model' will be used interchangeable with the term 'regime' in this thesis. Then a regime proposal will be developed based on the lessons learnt from the assessment of the comparable policy models, and an analysis of the feasibility of regime development in the Arctic will be made. I have chosen this focus because the issue of mining is currently poorly covered by international regulations and because major problems will emerge in this field when no regulation is developed. Also, hydrocarbon activities currently seem to be the most controversial issue.

Based on the research objective the following central research question can be defined: *“What are the features of a regime which can effectively protect the Arctic environment from the negative effects of offshore hydrocarbon activities?”*

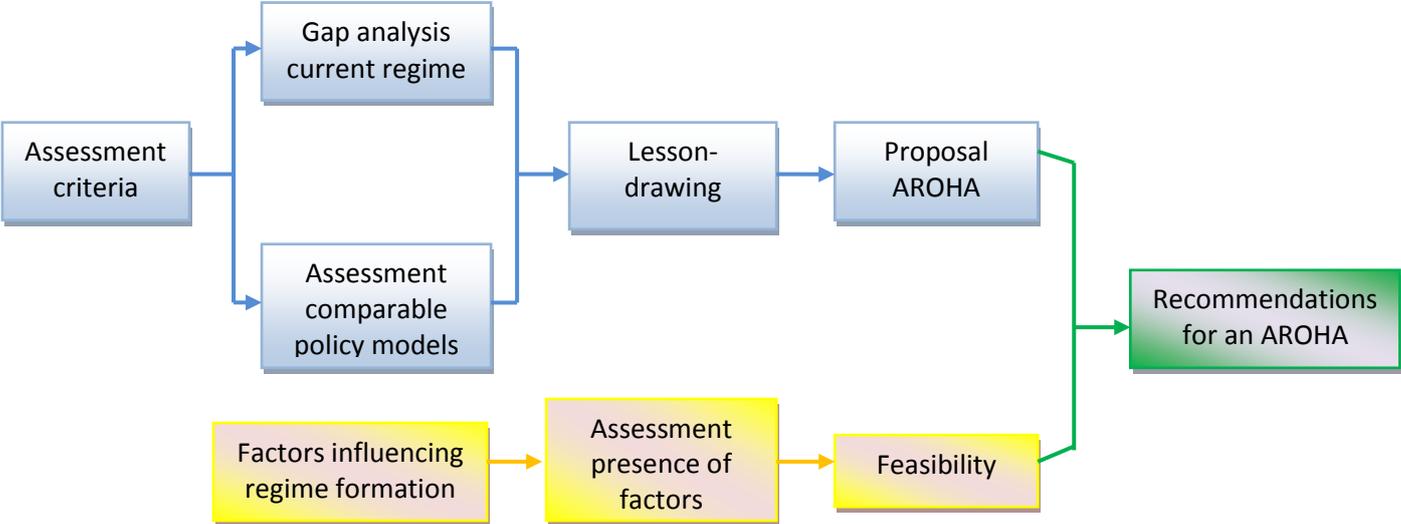
In order to answer this research question a research framework has been developed according to Verschuren and Doorewaard (2005). It is meant to come to a general understanding of the different steps that need to be taken in order to realise the research objective as described above and will be used in establishing the sub-questions for this research.

The set up of this research is inspired by the Japanese method of policy development which entails carefully examining foreign policy systems and practices in order to learn and draw inspiration from them (Geul, 2005, p. 59). The reproduction of policy models can also be called “lesson-drawing”. A lesson can be positive or negative; the conclusion of a negative lesson is how not to deal with a problem, positive lessons can be adopted, modified or taken as inspiration for a new policy

³ The Antarctic regime comprises the 1959 Antarctic Treaty, the 1972 Convention on the conservation of Antarctic Seals, the 1980 Convention on the Conservation of Antarctic Marine Living Resources, the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities, and the 1991 Protocol on Environmental Protection to the Antarctic Treaty.

model (Geul, 2005, pp. 62, 63). This method of lesson-drawing will be used in this thesis. The research framework as presented below is inspired by the Japanese method.

Figure 1.2: Research framework



The blue boxes represent the first part of the research which focuses on developing a regime proposal, the yellow boxes represent the second part in which the feasibility of regime formation is researched. Bringing them together leads to the goal of this research; making recommendations for an AROHA. The far left of the framework represents the first steps of my research. First of all, assessment criteria will be established to assess regime effectiveness. Secondly, a gap analysis will be performed of the current regime by assessing it with the criteria established in step one. The third step in this research comprises finding and assessing comparable policy models. By keeping in mind the gaps identified in the current regime, the assessment of the comparable policy models will lead to a number of lessons to be taken into account when developing a regime proposal.

The second part of the research comprises investigating literature on regime formation to identify factors which are relevant in regime formation processes. A second step is to investigate the current (political) situation in the Arctic to assess whether these factors are present and how they might influence the formation of an AROHA. This will lead to a judgement of the feasibility of regime formation in the Arctic. Together with the outcomes of the first part of the research this should lead to some well substantiated recommendations for establishing an AROHA.

This research framework implies that the following sub-research questions need to be answered in order to be able to answer the central question:

1. Which assessment criteria for regime effectiveness can be derived from regime theory?
2. What strengths and weaknesses can be found in the current regime?
3. What strengths and weaknesses can be found in comparable policy models?
4. Which conditions have to be met by an AROHA in order to be effective and suitable for the Arctic situation?
5. Which factors have an influence on regime formation processes?
6. Which factors influencing regime formation are present in the Arctic situation?

When the steps as presented in the research framework have been carried out, this research fills up a gap in the theory about regime development in marine areas beyond national jurisdiction. Currently, there is very little literature available on the possibilities for regime development in areas such as the Arctic, where economic possibilities are arising and where there are tensions between countries which might lead to conflict. Most relevant literature about the Arctic focuses on the current gaps in its governance, there is almost nothing to be found on filling up those gaps. Furthermore, most literature on regime theory is about existing regimes, it often evaluates their effectiveness and formation. However, there is little literature available on the absence of governance resulting from ineffective agreements and non-compliance. Also, there are little studies to be found on cases in which states fail to create effective institutions in the first place. Nevertheless, the absence of regimes to address certain global problems provides a valuable opportunity to improve our understanding of collective action and regime formation in the international society (Dimitrov et al., 2006, p. 231).

Moreover, the increasing pace of climate change and the rising economic interests of several countries make it of international importance that the environment of the Arctic is being adequately protected. The Arctic is one of the most pristine and untouched environments on the globe and can be considered to be the common heritage of human kind. Recommendations for a regime for offshore hydrocarbon activities can contribute to the protection of the Arctic environment.

1.2 Methods

This research is first of all a combination of a comparative case study and desk research. During the study I try to gain a profound insight into several policy models which could serve as an example for an AROHA. All policy models I assess contain provisions regarding offshore mining. They were chosen based on a literature review on Arctic governance and on their comparability with the Arctic situation. The policy models to be assessed include the Convention for the protection of the marine environment of the North-East Atlantic (OSPAR), the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) – which falls under the Antarctic Treaty System, but has not been ratified -, the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention), and two regional agreements between Arctic states. These policy models are the case studies. Of course, there are more regimes which deal with offshore hydrocarbon activities, but an assessment of these regimes should give enough information to fill up the gaps to be identified in current Arctic governance. The focus is on agreements between states. Because of reasons of time and the number of pages available, it was chosen not to evaluate other methods of governance, such as self-governance, governance initiated by NGOs or environmental protection via protected areas. The emphasis is on comparing these different policy models and filtering out positive and negative lessons in order to gain insight in the possibilities for developing an effective multilateral governance framework regarding hydrocarbon activities for the Arctic region.

The primary sources of information I used were books and articles. The theoretical framework is based on a literature review of theories on regime effectiveness and on regime formation. Much research on this was done in the 1990s, but also some more recent publications from the beginning of this decennium were used. Furthermore, information found in the literature has been complemented by an open interview with an expert on regime effectiveness, prof. Steinar Andresen.

For the gap analysis and assessments of the policy models open interviews were held with experts on these policy models in order to verify the information found in the literature and to complement findings. An interview was held on the Arctic Council Offshore Oil and Gas Guidelines

with Mr. Gert Polet, Arctic expert at the Arctic Programme of the WWF the Netherlands, and with Mr. Alexey Knizhnikov, Oil and gas environmental policy officer at the WWF Russia. Regarding OSPAR an interview was held with Mr. Bob Dekker, water director at the Dutch Ministry of Traffic and Public Works. Dr. Davor Vidas, senior research fellow and programme director at the Fridtjof Nansen Institute in Oslo, was contacted by email regarding the Antarctic Treaty System and CRAMRA. Mr. Harm Dotinga from the Netherlands Institute for the Law of the Sea (NILOS) was interviewed concerning the Law of the Sea, which is the main regulatory framework in the Arctic Ocean and the other oceans and seas on this globe.

For assessing the feasibility of regime formation in the Arctic, policy documents from the Arctic states were studied. Since little literature is available on this subject, also interviews were held. For this purpose prof. Louwrens Hacquebord, professor of Arctic Archaeology at the Arctic Centre at the University of Groningen, was interviewed. On the position of the US, Mr. Tim Holder of the US minerals management service was interviewed. Also, Dr. Tatiana Saksina who is Arctic governance officer at the WWF and Mr. Frits Schlingemann, previous Director at the UNEP Regional Office for Europe, were interviewed. Last, at two moments during the writing of this thesis I met with prof. Erik Molenaar of the NILOS to discuss the juridical aspects of this thesis and the proposal for an AROHA.

1.3 Outline

As a first step in this research, a framework will be developed in chapter 2 to assess the current regime and the comparable policy models. This framework is based on theories on regime effectiveness which will be investigated in order to derive a set of criteria for measuring regime effectiveness. Chapter 3 will focus on the current Arctic regime for offshore hydrocarbon activities. The regulations in place will be investigated and with help of the criteria established in chapter 2 a gap analysis will be performed. Chapter 4 up to 7 will then investigate four comparable policy models; regimes which all deal with offshore hydrocarbon activities. These regimes too will be assessed by the criteria established in chapter 2. In chapter 8 the lessons learnt from these assessments will be outlined after which a proposal will be developed for an Arctic Regime for Offshore Hydrocarbon Activities. In chapter 9 we will look into regime formation theories. These will be investigated and compared which leads us to a set of factors which have an influence on regime formation. In chapter 10 the Arctic (political) situation will be investigated in order to assess the presence of these factors and the feasibility of regime formation. This thesis will then end with a discussion in chapter 11, and chapter 12 contains a conclusion.

Chapter 2 Development of assessment criteria

2.1 Introduction

In this chapter I will explain in what way I conducted the first part of my research and on which theoretical methods it is founded. The first sub-research question will be answered: “*Which assessment criteria for regime effectiveness can be derived from regime theory?*” By systematically reviewing the available literature on regime theory, several criteria for assessing regime effectiveness are discerned which will be used in later chapters to assess the current Arctic hydrocarbons regime and to assess comparable policy models.

After a short introduction to the topic, the second paragraph is devoted to theories on measuring regime effectiveness; the leading authors in this field of study will be discussed. Paragraph 2.3 then gives a synthesis on the criteria for measuring regime effectiveness and describes the criteria to be used in this thesis.

Regime literature was developed since the 1980s and important contributions have been made to the research of regime effectiveness since. Although several attempts have been done to formulate a method to measure the effectiveness of international environmental regimes, no perfect method has been found yet. The debate concerning this issue was mainly held in the (late) ninety nineties and the beginning of this decennium, and deals with the ability of international regimes to solve the problems that encouraged their establishment. The most discussed methods are the so-called “Oslo-Potsdam solution” developed by Helm and Sprinz (2000); the method of Oran Young and Marc Levy as described in the book ‘the Effectiveness of International Environmental Regimes: Causal Connections and Behavioral Mechanisms’ (1999); and the method developed by Underdal (2002) in the book ‘Explaining Regime Effectiveness: Confronting Theory with Evidence’. In this chapter I will outline these methods and some other contributions to the debate with the pro and con’s of the methods developed. By a systematic review of the available methods for measuring regime effectiveness I hope to find assessment criteria suitable for the purposes of this thesis.

2.2 Measuring regime effectiveness; a systematic review

The Oslo-Potsdam Solution

As many other methods for measuring regime effectiveness the logic pursued by Helm and Sprinz (2000) follows the conceptual steps proposed by Underdal (1992, pp. 228-229): “(1) What precisely constitutes the *object* to be evaluated? (2) Against which *standard* is the object to be evaluated? (3) *How* do we operationally go about comparing the object to our standard; in other words, what kind of measurement operations do we perform in order to attribute a certain score of effectiveness to a certain object (regime)?” By choosing emission reductions as the object of evaluation, the method developed by Helm and Sprinz confines itself to regimes concerning environmental problems with measurable indicators such as the amount of CO₂ in the atmosphere or the acidification of a body of water.

A lower and upper bound are to be chosen as a standard to which the object can be evaluated. The lower bound is represented by the “no-regime” counterfactual; the hypothetical state of affairs that would have come about had the regime not existed. This counterfactual is to be established by

standardised interviews with different groups of actors and experts and a game-theoretic construct called the Nash equilibrium⁴. The upper bound is called the “collective optimum”. This is reached when actors in an international regime cooperate to maximise their joint welfare. The collective optimum is to be derived by way of another counterfactual; the hypothetical state of affairs that would have come about with a perfect regime. This counterfactual is to be derived by game-theoretical reasoning from knowledge of the no-regime counterfactual (Helm and Sprinz, 2000). Then, the effectiveness of a regime can be measured as being the relative distance that the actual performance has moved from the no-regime counterfactual towards the collective optimum. This score falls into the interval [0, 1] (Helm and Sprinz, 2000).

Although this is a very progressive method for measuring regime effectiveness there are some comments to take into account. For establishing the no-regime counterfactual Helm and Sprinz suggests to make use of standardised interviews with a number of actors, this, however, brings along a number of questions. Who to interview? Who selects the persons to be interviewed, and how can they avoid selection bias? How many actors should be consulted, and how can you reconcile divergences in their opinions? Also it is doubtful whether experts will be able to calculate the actual abatement costs and the actual damages arising from environmental problems (Young, 2001). There is another problem in determining the no-regime counterfactual. If the no-regime counterfactual is treated as a representation of the situation that would have come about had the regime not existed, then you need to distinguish between effects to be attributed to the operation of the regime and effects to be attributed to contextual factors. However, establishing the causal links between the operation of regimes and changes in the problem situation is a very difficult task since a variety of demographic, economic, political, social and technical forces are in operation at the same time as the regime (Young, 2001). All authors trying to establish methods for measuring regime effectiveness run into this problem of establishing causal links at some point, also the authors described later in this chapter. Therefore, I will not extensively mention this problem again when discussing the other methods.

Furthermore, also the use of the Nash equilibrium brings along some doubts. Some games can have multiple Nash equilibria, and some of these equilibria produce outcomes that are worse for everyone than the outcomes associated with other feasible combinations of individual choices. Overall, the Nash equilibrium constitutes an extreme case in that it assumes that all possible outcomes can be captured in a game-theoretic payoff space and that participants make their choices in a fully individualistic manner. This would lead to a “worst case scenario” for a no-regime outcome. It can be assumed that this procedure therefore tends to overstate any contributions a regime may make to solving the environmental problem for which it was established (Young, 2001).

Also the measurement of the actual performance brings along some concerns. As long as the actual performance is an easily quantifiable variable, such as emission output, it is reasonably measurable. However, this leaves out a number of effects of regimes such as social learning and improved understanding of the regime and therefore may undervalue the overall effectiveness of a regime (Young, 2001). Furthermore, this measurement task can only be applied to regimes with clearly measurable effects, such as emission reductions. Many environmental regimes do not have such clearly measurable indicators though.

⁴ In a Nash equilibrium, no player has an incentive to deviate from the strategy chosen, since no player can choose a better strategy given the choices of the other players (Lønberg, and Weisstein, 2009).

Also the collective optimum is a contested concept since it involves estimating the social benefits and social costs of emission reductions. Measuring this is a difficult task in itself, but one can also disagree on the values to assign to these variables. Further, all other consequences of a regime besides emission reductions are not being taken into account (Young, 2001).

Young's six dimensions of effectiveness

In the course of his work, Young has found that in dealing with regime effectiveness we are dealing with a suite of related variables, or ideally, with a multidimensional variable. In his book 'International governance: protecting the environment in a stateless society' (1994) he has identified six distinct dimensions of effectiveness which will be described below.

First there is effectiveness as problem solving, the most obvious dimension. When evaluating regime effectiveness, often the question arises whether regimes operate to solve the problems that motivated their establishment. However, the problems that stimulate the formation of regimes are diverse, can be framed differently by various parties and might change over time (Young, 1994, p. 143).

A second dimension is effectiveness as goal attainment. It is a measure of the extent to which a regime's stated or unstated goals are attained over time. It differs from problem solving in that attaining a certain goal (such as controlling trade in endangered species) might not be enough to solve the related problem (protecting species from going extinct). There are also often unstated goals behind regimes which are not even linked to problem solving. These unstated goals typically deal with distributive concerns in contrast to the pursuit of some common good. States advocating expanded coastal state jurisdiction for example, often emphasise conservation. However, mostly they are equally motivated by a desire to protect their own fishers from foreign competition (Young, 1994, pp. 144-145).

Third, Young distinguishes behavioural effectiveness. When thinking about effectiveness one could ask whether the operation of a regime causes one or more of its members (or individuals, corporations, and organisations operating under their jurisdiction) to alter their behaviour. They could do things they would not do was it not for the regime, or stop or redirect earlier patterns of behaviour. Behavioural change could be a step towards goal attainment or problem solving, but this is not always the case. The behavioural effects attributable to the operation of a regime might as well lead to a form of behaviour which creates a new problem (Young, 1994, p. 146).

Many administrators, lawyers, and political scientists like to think of effectiveness as a matter of the extent to which the provisions of a regime are implemented in national legal and political systems of the state parties and as the extent to which those subject to a regime actually comply with its requirements. One can relatively easily determine whether individual states have ratified conventions or treaties setting forth the provisions of regimes and whether they have implemented legislation to put these provisions into practice. However, monitoring compliance is a more difficult task. Further, perfect compliance is no guarantee for solving problems when the key provisions of a regime are insufficient or out of place. On the other hand, problem solving could also occur when levels of implementation and compliance are low. There is also a divergence between process effectiveness and behavioural effectiveness in that some changes of behaviour are clearly intended to alleviate the impact of a regime's rules without actually violating them. Other behavioural changes might not be captured in data relating to implementation and compliance, while they certainly are consequences of a regime (Young, 1994, pp. 146-147).

Fifth is constitutive effectiveness, which focuses on the rise of certain social practices involving the expenditure of time, energy, and resources by a regimes' members. However, the emergence of a social practice which takes up significant amounts of time or energy does not guarantee that members actually act to implement the provisions of a regime or that they will comply to the rules (Young, 1994, pp. 148-149).

Last, some take the view that effectiveness is fundamentally a matter of performance rather than a simple measure of the consequence following the operation of a regime. They do not ask whether a regime has made a difference in some generic sense, but want to know whether the regime produces results that are efficient, equitable, sustainable or robust. A regime that seems to be effective in solving a certain problem might be perceived by some to operate in an inefficient or inequitable manner (Young, 1994, pp. 149-150).

This method of Young takes a whole different point of departure regarding regime effectiveness. It cuts loose from the three questions posed by Underdal (1992) and does not involve complicated establishments of counterfactuals. Instead, Young offers six aspects one can investigate when wanting to assess regime effectiveness. Although there are some difficulties with the clarity of definitions and an overlap among the six dimensions, this method makes an important contribution to the analysis of regime effectiveness and how to measure it (Zacher, 1995, p. 310). The overlap between the dimensions poses some questions regarding the dimensions being dependent variables on their own, or more determinants of regime effectiveness as problem solving. Several dimensions – behavioural effectiveness, process effectiveness and constitutive effectiveness – can also be regarded steps towards problem solving.

Young distinguishes himself from other authors by acknowledging that behavioural changes do not always lead to problem solving. Many authors see behavioural change as an important step towards problem solving, however it can also have a negative effect on the problem solving capacity of a regime or even worsen the problem.

Young and Levy's causal connections and behavioural mechanisms

In the book 'The effectiveness of international environmental regimes – causal connections and behavioral mechanisms' (1999) Young and Levy describe an effective regime as one "that channels behaviour in such a way as to eliminate or substantially improve the problem that led to its creation" (Young and Levy, 1999, p. 1). This definition implies that the concept of regime effectiveness is a continuous variable. Young also sees effectiveness as a concept that is hard to pin down, one that can have a number of meanings. A distinction is made between five meanings:

1. The problem-solving approach - this is the most intuitively appealing sense of effectiveness which centres on the degree to which a regime eliminates or alleviates the problem that prompted its establishment;
2. The legal approach - the degree to which contractual obligations are met;
3. The economic approach - incorporates the legal approach plus an efficiency criterion, effectiveness is whether a regime generates the right outcome and whether it does so at the least costs;
4. The normative approach; effectiveness is assessed in terms of normative principles, such as fairness, justice, stewardship and participation; and

5. The political approach; regimes are directed at behavioural complexes. Effectiveness implies changing the behaviour of actors and their interests, policies and performance of their institutions.

By conducting three case studies, it is attempted to demonstrate the political effectiveness - thus behavioural impacts - of regimes and through these impacts the contributions of the regimes to problem solving (Young and Levy, 1999, pp. 5, 6). Three dimensions of effects are distinguished: (1) effects within the behavioural complex (i.e. the constellation of actors, interests, and interactions) and effects external to the behavioural complex; (2) direct and indirect effects; and (3) effects that help to solve the problem and effects that make it worse. The effects of greatest interest to Young and his project team are the direct effects that are internal to a behavioural complex and that make a problem easier to solve (Young and Levy, 1999, pp. 10, 15).

Young used two types of techniques of analysis to sort out the effects of international regimes. The first technique is natural or quasi-experiments in which a comparison is made across different issues areas or over time within a single evolving regime. One can examine situations that are comparable except for the presence or absence of a regime, or situations that remain largely unchanged over time except for changes in the character of the existing regime. The second technique is to conduct thought experiments; it is similar to the method of counterfactuals as used by Helm and Sprinz. It implies reconstructing the flow of events as it would have unfolded when some key factor (a regime) was absent (Young and Levy, 1999, pp. 17, 18).

Again, some comments can be made on the method just discussed. By setting up these behavioural models Young and Levy take a step in the direction of establishing the explanatory routes for regime effectiveness in the empirical domain. However, they “do not claim to have produced a set of empirically-tested generalisations about the sources of regime effectiveness that are valid across a range of issue areas” (Young and Levy, 1999, p. 3). According to Hunold (2001) subjectivity cannot be avoided in comparative case-study research, but the consistent analytical framework and cautious use of the counterfactual argument makes the findings trustworthy.

For conducting the natural or quasi-experiments it is suggested to examine situations that are comparable except for the presence or absence of a regime. However, in the situation of international regimes there are very little situations with many similarities. In how far should the situations be comparable in order to make valid judgements about effects generated by a regime? Furthermore, the use of thought experiments for establishing a no-regime counterfactual runs into the same problems as Young himself pointed out when commenting on the Oslo-Potsdam solution (see above).

Wettestad's key conditions for effective environmental regimes

Wettestad starts off from the question *to what extent* regimes have proved to be effective instruments. He estimates the importance of devoting considerable attention to the central determinants of regime effectiveness witnessed when trying to answer this question. He also wants to know *how* regimes possibly matter. He aims to investigate the types of regimes, and their specific regime features; whether these are likely to have more impact and contribute to higher effectiveness than others. By examining four cases – the Oslo and Paris Conventions on Marine Pollution, the Convention on Long-Range Transboundary Air Pollution, and the Vienna Convention and Montreal Protocol on Ozone Layer Depletion – Wettestad tries to find an answer to these questions (Wettestad, 1999, pp. 1-4).

Wettestad sees rules/procedures and regulations/programmes as the main components of regimes, and terminates them the 'structural' and 'regulative' components of regimes. Hence, the design of regimes is related to these two components. The focus is mainly on the structural aspects of regimes; the design and content of regime regulations are regarded as one of several indicators of regime effectiveness. Wettestad bases his assessment of regime effectiveness on the evolving debate in the 1990s and mainly on the contributions made by Arild Underdal. For practical reasons Wettestad emphasises the notion of 'relative improvement' and does not so much investigate the distance to the collective optimum (Wettestad, 1999, pp. 7-9).

Relative improvement is operationalised into a political effectiveness indicator. When assessing political effectiveness, Wettestad combines three types of data: first, the strength of regime regulations; second, the formal compliance data and reported changes in governmental policies; and third, implementation data, specifying the actual changes in the behaviour of sub-national target groups and the background for such changes. Although the last data are regarded as most relevant for tracing the political effects of regimes, Wettestad mentions that these are also the most difficult to obtain, therefore findings are supplemented by, and in some cases almost entirely rely on, the two former data sources (Wettestad, 1999, p. 9).

When assessing the strength of regime regulations, four dimensions are investigated: ambitiousness; legal status; specificity; and differentiation. Ambitiousness refers to the behavioural change required; a regime requiring an actual change in behaviour – for example 30% emission reductions - is perceived stronger, more ambitious and potentially more effective, than a regime simply requiring emission stabilisation. When investigating the legal status of regime regulations, one looks at regulations being legally binding and hence requiring national ratification procedures, and regulations which are not legally binding, stated as recommendations or political statements of intent. Since it is politically more difficult for states to disregard binding regulation, these are considered stronger and potentially more effective than non-legally binding regulations. Specificity means the degree to which behavioural implications of regime regulations are specified through quantified targets and timetables. More specific regulations are regarded stronger and potentially more effective than more general regulations. Differentiation has to do with the extent to which regimes have different targets and timetables for various types of parties, taking into account the variation in the capacity of actors and their environmental and political history. If there is great variation in the environmental and political backgrounds of parties, one can regard the development of more differentiated decisions as moves towards stronger regulations. At this stage however, Wettestad doubts whether to see the issue of differentiation as part of the independent variables, since it is related to more general institutional issues like access, participation and decision-making procedures (Wettestad, 1999, pp. 9, 10).

The second indicator for regime effectiveness is formal compliance data, which – according to Wettestad – are quite easy to measure. Most international environmental regimes have a reporting system and publish data on the parties' follow-up of regime decisions. However, these data are national products for external use and not always directly comparable, and are also often incomplete. Further, one again runs into the question of the causal linkages between the compliance data and the regime (Wettestad, 1999, p. 10).

Ideally, Wettestad would rely primarily on detailed implementation knowledge in order to trace the causal paths between the operation of a regime and its outputs and what takes place in practice at the national level. Identifiable impacts on the behaviour of target groups could help to interpret

the compliance data and are seen by Wettestad as the 'real' implementation test. However, specific knowledge on behavioural impact is scarcely available (Wettestad, 1999, p. 11).

Wettestad relates his ranking of the effectiveness of the regime studied primarily to the political effectiveness perspective and uses a simple 'high', 'medium', and 'low' ordinal scale. He takes notice of the time dimension and maturity issues when assessing regime effectiveness, since scoring and comparing the effectiveness of two or more regimes is only a straightforward exercise when they are measured at similar stages in their 'life cycles' (Wettestad, 1999, p. 12).

There are some limitations to the methods used by Wettestad. There is no theoretical justification for the selection of the cases, and there is no thorough procedure for assessing the relative improvement brought about by the regimes. These shortcomings are however admitted by the author (Young, 2000, p. 41). When possible, Wettestad would mainly rely on data about the behavioural impact of regimes. However, when assessing behavioural impact one would again run into the problem of causal linkages between changes in behaviour and the operation of the regime. How this problem could be tackled is not addressed by Wettestad.

Underdal's two answers

Why do some efforts at developing and implementing joint solutions to international problems succeed while others fail? This is the question which Miles et. al (2002) want to answer in their book 'Environmental regime effectiveness – confronting theory with evidence'. In a first methodological chapter Underdal suggests that there are two possible answers to this question. The first lies in the character of the problem itself: some problems are easier to solve than others. The second possibility focuses on the problem solving capacity of a regime: some efforts are more successful than others because more powerful tools are used or because greater skill or energy is used to solve the problem (Underdal, 2002, p. 1).

A regime can be considered effective to the extent that it successfully performs a certain (set of) function(s) or solves the problem(s) that motivated its establishment (Underdal, 2002, p. 4). Regime effectiveness is considered the dependent variable in this study, which will be measured using several independent variables. The design of the conceptual framework for measuring regime effectiveness is based on the three questions posed by Underdal (1992): "(1) what precisely constitutes the object to be evaluated? (2) against which standard is this object to be evaluated? and (3) how do we go about comparing the object to this standard – in other words, what kind of measurement operations do we have to perform to attribute a certain score of effectiveness to a certain regime?" (Underdal, 2002, pp. 4, 5).

Regarding the first question a distinction is made between the different stages of regime development. First, there is the stage of regime-formation in which the formal *output* of the regime is established, such as its norms, principles and rules. The second stage is that of regime implementation, the first product of which is behavioural change as a consequence from the implementation of, and adaptation to the regime. This is called *outcome*. The consequences of a regime that can be seen as changes in the state of the physical environment are called *impact* (Underdal, 2002, p. 6). The effectiveness of a regime is considered to be a function of the stringency and inclusiveness of its provisions, the level of compliance by its members, and the side effects it generates. At the output stage Underdal assesses regimes on the basis of their stringency, inclusiveness and level of collaboration established. For the outcome stage, behavioural change is considered.

As a standard against which to evaluate the regime, Underdal also opts for the hypothetical state of affairs that would have come about had the regime not existed, and the collective optimum; a solution that accomplishes, for the group of members, all that can be accomplished given the state of knowledge at the time (Underdal, 2002, p. 8). When it comes to assigning scores to regimes a set of guidelines (table 2.1) was formulated by the research team according to which each case study author assigned scores. Numerical scores are assigned to the regimes in order to obtain an ordinal-scale measurement.

Table 2.1: Guidelines for assessing effectiveness

Source: Underdal, 2002, p. 53

Regime versus no-regime counterfactual	Regime versus collective optimum
1. Look for available estimates or calculations from recognised expertise in the field. Consensual estimates are to be preferred over contested estimates, estimates from nonpartisan sources over those that come from partisan sources, and estimates actually used as a basis for the negotiations over other estimates.	1. Look for available recommendations or advice from recognized experts in the field. Consensual advice is to be preferred over contested advice, advice from nonpartisan sources over advice from partisan sources, and recommendations actually used as a basis for the negotiations over other pieces of advices.
2. If no such estimates can be found in documents to which you have access, see if you can yourself obtain estimates from independent (nonpartisan) and competent experts.	2. If no such advice can be found in documents to which you have access, see if you can yourself obtain assessments from independent (nonpartisan) and competent experts.
3. If neither of these two strategies works, try to make your own estimate. Business-as-usual scenarios derived from a theory-based model or empirical mapping of causal pathways are to be preferred to estimates based on linear extensions of (previous) trends. For systems characterised by high stability, you may – as a last resort – use the assumptions that the <i>status qua ante</i> (at time t_0) would have continued.	3. If neither of the preceding options is available, use the official purpose of the regime, as stated in its “constitution” (or the declared objective of the specific protocol or regulation), as your standard of reference. If the official purpose is contested, specify also competing views.
4. If neither of the options above is available, report ‘missing data’.	4. If neither of the above provides adequate guidance, report ‘missing data’.

The book of Miles et al. mainly focuses on the independent variables of regime effectiveness. How the dependent variable, being regime effectiveness, is to be measured is described in the methodological chapter by Underdal. However, this chapter is not very comprehensive and avoids some critical questions about causal linkages, the criteria used to assess the regimes and how to exactly attribute numerical scores to the regimes. Answers to these questions are not to be found in the case studies, which seem to avoid the method of measuring the dependent variable completely. It must be mentioned though, that the book of Miles is not an exception in this, there are hardly case studies in which counterfactuals were clearly described or extrapolations were made. One might wonder whether it is all just theoretical reasoning.

Furthermore, the research is based on a distinction among outputs, outcomes and impacts; these categories are not mutually exclusive. The consequences of effective regimes can fall into all three categories. Because problem solving is the ultimate measure of regime effectiveness, one

should take into account that success in the realm of outputs and outcomes does not assure effectiveness at the level of impact. Another difficulty we run into with the method of Underdal, already touched on above, is how to demonstrate the existence of causal connections between the operation of the regime and the outcomes and impacts we think are regime consequences. This becomes the more difficult when the “causal chain” becomes longer, then there can be more external forces responsible for changes in human behaviour and for changes in the state of the environment (Young, 2002).

Underdal also uses counterfactuals as a standard against which to measure regime effectiveness. Although this might be the best method at hand, it still comprises an educated guess. This should be taken into account when making statements about the effectiveness of a regime (Young, 2002).

2.3 Assessment criteria regime effectiveness

From the systematic review conducted above, several criteria can be collected for assessing regime effectiveness. Many of them overlap, therefore, in this paragraph it is attempted to come to a synthesis. This will be done by answering two questions; first, when is a regime effective? And second, what criteria for regime effectiveness are most often mentioned in the literature? The first question will be answered according to my own perception, keeping the literature in mind.

According to my view, a regime is effective when it is strong and inclusive, when it is implemented by its members and when it is complied with. A strong regime then means that there are strict rules and regulations formulated which make sure that behaviour that caused the problem, or deteriorates it, is not practiced anymore. The choice contracting parties have to display such behaviour should be limited as much as possible. A regime can be considered inclusive when all elements relevant for problem solving are included in the regime. Furthermore, the regime’s regulations and provisions should be implemented in the national policies of the member states, and complied with by its members and all actors situated in these member states. It is noticed that perceptions of implementation and compliance differ in the literature (the definition Wettestad and Underdal use for implementation and compliance is opposed to the definition used by Young). In order to avoid confusion, in this thesis ‘implementation’ is taken to mean the formal translation of international obligations in national laws and policies. ‘Compliance’ is the actual behavioural change to live up to a regime.

In the literature, many criteria for assessing regime effectiveness are mentioned. Since most authors take a different point of view when considering the subject of regime effectiveness, they came up with different criteria. However, when studying the literature more closely, it is noticed that many of them overlap. I have listed the most relevant criteria found in the literature:

- Problem solving
- Goal attainment
- Behavioural change
- Implementation
- Compliance
- Ratification
- Rise of social practices among regime members
- Performance (efficiency, equitability, sustainability, robustness)
- Normative principles (fairness, justice, stewardship, participation)
- Stringency
- Inclusiveness
- Level of collaboration
- Side effects generated

First, it is noticed that some criteria refer to the impact phase of regime development. These are problem solving, goal attainment and side effects generated. For reasons described earlier (i.e. the problem of establishing causal linkages) the impact phase will not be discussed, and therefore also these criteria will not.

What is left is still a considerable list of criteria, some of which overlap. Ratification and implementation could be considered separate steps in the process of regime development. Nevertheless implementation is considered to be most important; when a regime is implemented it is also ratified, and when a regime's rules and regulations have just been ratified by a member state it does not generate any more effects. Thus, implementation is chosen as an assessment criterion.

Also the criteria behavioural change and compliance can be considered to overlap. When target groups comply to a regime there are three possible situations: first, they could have never displayed behaviour that caused the establishment of the regime; second, the target groups changed their behaviour in order to comply with the regime; third, they changed their behaviour and now comply to the regime, but they did not do this because of the regime. Since the criterion 'compliance' is more closely related to the operation of a regime than 'behavioural change', it is chosen to use 'compliance' as an assessment criterion. In using this criterion the problem of causal pathways again arises and this is kept into mind. It can however not be excluded that some assumptions have to be made regarding compliance.

Also 'level of collaboration' is a very comprehensive notion. It overlaps with 'stringency', 'inclusiveness' and 'rise of social practices among regime members'. Stringency can, among other things, be defined as the degree to which a regime submits a system of activity to collective governance instead of individual decision making. The more authority is centralised, the stronger the regime (Underdal, 2004, p. 29). When considering the level of collaboration, one also has to look at whether there is collective governance. An important element in the six-point ordinal scale of Underdal (2002, p. 7) of the level of collaboration is whether there is central appraisal of effectiveness. When applying the scale of Underdal, one also has to check whether there are explicitly formulated rules or standards. Whether a regime is legally binding or not is another element which can both be considered under 'stringency' and 'level of collaboration'. Also 'inclusiveness' and 'level of collaboration' could be thought of in a way so that they overlap. Inclusiveness is about what elements are included in a regime, whether the activities targeted are in fact brought under the jurisdiction of the regime. Level of collaboration could also be considered in this way; when there are more elements brought under the jurisdiction of the regime, there is more collaboration. Inclusiveness could also be regarded as including as many states involved in the issue area in the regime. When there are more member states, there again is more collaboration. 'Rise of social practices' is another criterion that overlaps with 'level of collaboration'. The concept of 'social practices' is somewhat vaguely described by Young (1994, pp. 148-149) as being "the expenditure of time, energy, and resources by a regimes' members". This could for example mean the number of meetings agreed on by members, the funding of a secretariat, etc.

However, especially 'strength' is a very comprehensive notion, of which not all aspects can be captured under the heading 'level of collaboration'. Therefore 'stringency' will be considered to be an isolated assessment criterion, it will be more extensively described below. 'Inclusiveness' and 'rise of social practices' will be captured under the one heading of 'level of collaboration'.

Last, regimes can be assessed by their performance on characteristics as efficiency, equitability, sustainability, etc., and on normative principles such as fairness, justice, and stewardship. However,

these characteristics are not directly related to the effectiveness of regimes and therefore will not be considered here.

Currently, we are left with the four criteria that come to mind when answering the question ‘when is a regime effective?’ and four criteria that came forth from the syntheses of the literature. These two sets of criteria are broadly the same, except for ‘inclusiveness’, which came forth from answering the first question, and ‘level of collaboration’ which came forth from the synthesis. I have chosen to assess ‘inclusiveness’ under the heading of ‘level of collaboration’ which leaves us with the following four criteria when assessing regime effectiveness:

1. Stringency
2. Level of collaboration
3. Implementation
4. Compliance

Stringency

The notion of the strength of a regime focuses on properties of the regime itself, not on the consequences it produces. A certain minimum of strength can be considered a necessary condition for regime effectiveness. It goes without saying that stringent rules enhance effectiveness only when they prescribe or encourage behaviour that alleviates the problem and when members act in accordance with them. Strength enhances effectiveness, however, there also is some upper threshold for which more regulation and centralisation of governance is probably counterproductive (Underdal, 2004, p. 29).

The strength of a regime can be defined as the extent to which it constrains the freedom of legitimate choice open to the members of a regime. This definition can be applied both to the substantive as well as to the procedural components of a regime. For the substantive component a strong regime is one in which the substantive norms, rules and regulations considerably limit the behaviour that is considered legal or appropriate. When considering the procedural components of a regime, it is strong to the degree that it submits a system of activity to collective governance instead of individual decision making. The more authority is centralised, the stronger the regime (Underdal, 2004, p. 29).

When assessing the strength of regime regulations, three dimensions will be investigated: ambitiousness, legal status, and specificity. Ambitiousness refers to the behavioural change required; a regime requiring an actual change in behaviour – for example 30% emission reductions - is perceived stronger, more ambitious and potentially more effective, than a regime simply requiring emission stabilisation. When investigating the legal status of regime regulations, one looks at regulations being legally binding and hence requiring national ratification procedures, and regulations which are not legally binding, stated as recommendations or political statements of intent. Since it is politically more difficult for states to disregard binding regulation, these are considered stronger and potentially more effective than non-legally binding regulations. Specificity means the degree to which behavioural implications of regime regulations are specified through quantified targets and timetables. More specific regulations are regarded stronger and potentially more effective than more general regulations (Wetttestad, 1999, pp. 9, 10).

Level of collaboration

More cooperation could lead to better substantive results; it is assumed that the level of collaboration makes a positive contribution to regime effectiveness. This criterion refers, among

other things, to the extent to which the system of activities targeted by a regime is in fact brought under its jurisdiction or domain (Underdal, 2002, p. 8). It also means whether the states important for the success of a regime are involved and to what extent they are involved. Furthermore, this criterion refers to the expenditure of time, energy, and resources by a regime’s members (Young, 1994, pp. 148-149). This means the contact between regime members; do they meet on a regular basis? It also incorporates the funding of the regime; do members contribute enough financially to make the most of the regime? And the functioning of the secretariat; is there an active secretariat which facilitates activities under the regime?

Implementation

This is the actual change in national laws and policies according to the regimes’ regulations and provisions. It also incorporates whether rules regarding implementation have been incorporated in the text of the Convention or Agreement. According to Wettestad, formal implementation data are easily obtained. Most international environmental regimes have a reporting system and publish data on the parties’ follow-up of regime decisions. However, these data are national products for external use and not always directly comparable, and are also often incomplete (Wettestad, 1999, p. 10).

Compliance

The last indicator for regime effectiveness is compliance. It is regarded an important criterion for measuring regime effectiveness. When measuring compliance, the actual changes in the behaviour of sub-national target groups will be investigated if information is available on this. Although these data are regarded as the most relevant for tracing the actual effects of regimes, they are also the most difficult to obtain. Therefore, it will also be investigated whether the policy models have established compliance mechanisms. A compliance mechanism is a mechanism incorporated in the text of a Convention / Agreement which is used to determine the extent to which the regime is complied with. This mechanism can include for example a reporting obligation, institutions which monitor reporting, and consequences for non-compliance (Molenaar, E., personal communication, 24 March 2010).

Ranking

At the end of each assessment chapter the policy models assessed will be ranked according to its scores on the assessment criteria. This will be done based on the following five-point scale:

--	Policy model scores very low on the assessment criterion
-	Policy model scores low on the assessment criterion
+/-	Policy model scores medium on the assessment criterion
+	Policy model scores high on the assessment criterion
++	Policy model scores very high on the assessment criterion

The assessment criteria will furthermore be complemented by an overall assessment of the strengths and weaknesses of the current regime and comparable policy models, based on relevant literature.

2.4 Conclusion

The systematic review of the literature on regime effectiveness led to a comprehensive list of criteria. By answering the question when a regime is effective and by eliminating the overlap between the

criteria, a set of four criteria for regime effectiveness has been identified: stringency, level of collaboration, implementation and compliance. These criteria will be leading in the following chapters. They will be used to identify the gaps in the current regime regarding offshore hydrocarbon activities in the Arctic and to assess the comparable policy models. Based on these criteria, positive and negative lessons will be drawn from the comparable policy models to be assessed in chapter 4 up to 7 which will be guiding in developing a regime proposal in chapter 8.

Chapter 3 Overview and gap analysis current Arctic governance

3.1 Introduction

In this chapter the second research question as posed in the introduction will be answered: “*What strengths and weaknesses can be found in the current regime?*” In order to answer this question first the current regime will be described. This will be done by giving a short overview of the overall current regime for offshore hydrocarbon activities in the Arctic, which consists of several legal frameworks, agreements and guidelines. Since the current regime is so broad and consists of so many elements, we will focus on one part of this regime in paragraph 3.2. Nevertheless, it is important to keep in mind that the current regime consists of elements of several governance frameworks. In paragraph 3.3 a gap analysis is performed in order to make an overview of the elements to be improved in the current regime. The gap analysis is based on the assessment criteria established in chapter 2. The ‘points for improvement’ identified in this chapter will be guiding in the assessment of comparable policy models in the next chapters.

Environmental protection in the Arctic Ocean is currently mainly based on the national environmental laws of the Arctic states, although these may implement international environmental obligations. There are eight components to the environmental protection regime of the Arctic Ocean:

1. the United Nations Convention on the Law of the Sea (UNCLOS);
2. the Convention on Biological Diversity;
3. the Convention for the protection of the marine environment of the North-East Atlantic (OSPAR Convention);
4. the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);
5. several regional agreements between the Arctic states;
6. the Arctic Council Offshore Oil and Gas Guidelines;
7. the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC Convention); and
8. the Espoo Convention on Environmental Impact Assessment in a transboundary context.

A more elaborate description of these sources of regulation can be found in attachment 1.

Overall, the current governance framework for offshore hydrocarbon activities in the Arctic can be regarded as a collection of loose parts, in which not even all Arctic states are involved. Therefore, it was decided to take one part of this regime as a point of departure for the development of a new AROHA. The most logic choice then is to take the Arctic Council Offshore Oil and Gas Guidelines as a point of departure. There are three main reasons for this. First of all, these Guidelines are the most comprehensive part of the current governance framework focused on offshore mining. Secondly, all Arctic states are involved in them. Third, the Oil and Gas Guidelines already incorporate several important aspects of an AROHA. The Guidelines are, for example, tailor made for the Arctic and its extreme and sensitive environment. Also, the preference of the Arctic states clearly goes to a regional agreement in which no or little other countries are involved. The Arctic Council is self-standing and neither the Council nor its Guidelines are formally linked to UNCLOS or another global

agreement (Koivurova and Molenaar a, 2010, p. 12). Also, the Arctic Council currently is the main intergovernmental forum for the Arctic. It would not be wise to just throw out everything that has been achieved thus far within the Council. Last, indigenous peoples enjoy a status within the Arctic Council that effectively recognises their interests in the Arctic. A new regime that diminishes that status would probably lead to pressure by indigenous peoples on Arctic states (Koivurova and Molenaar a, 2010, p. 12). Nevertheless, currently the Guidelines do not provide for adequate protection of the Arctic environment.

It should be clear that the aim of this paper is not to revise the Oil and Gas Guidelines or to develop a new set of Guidelines. Rather, the aim is to develop an Arctic regime for offshore hydrocarbon activities which protects the Arctic environment from the negative effects of mining. The Guidelines are just taken as a point of departure in order not to start off from nothing. The 'points for improvement' identified in this chapter will be leading in the assessment of comparable policy models in the next chapter.

3.2 The Arctic Council Offshore Oil and Gas Guidelines

As mentioned earlier, the Arctic states began cooperation for environmental protection in 1989 with the adoption of the (non-legally binding) Arctic Environmental Protection Strategy (AEPS). As from 1996 the Arctic Council oversees the programmes established under this strategy. The Council functions as an intergovernmental forum to address the common concerns and challenges of the Arctic states (De Roo et al., 2008, p. 16). The establishment of the Arctic Council broadened the mandate of cooperation between the Arctic states to all common issues regarding the Arctic (except for matters related to military security), especially those relating to environmental protection and sustainable development (Koivurova, 2009, p. 47). The Arctic Council consists of eight members (the Arctic states), permanent participants (indigenous peoples), and parties with observer status (non-Arctic states, intergovernmental- and non-governmental organisations). Decisions are made by consensus of the members and the Arctic Council meets every two years at the ministerial level. There are a chair and secretariat which rotate biennially among the Arctic states, at the end of which a ministerial meeting is organised (Sands, 2003, pp. 727, 728). There is a group of high level officials, the Senior Arctic Officials (SAOs), which guides the work of the Council between the ministerial meetings (Koivurova, 2009, p. 47).

Most important with respect to offshore hydrocarbon activities are the 'Arctic Offshore Oil and Gas Guidelines'. They are an output of the Working Group on Protection of the Arctic Marine Environment (PAME) and are non-legally binding. In April 2009 PAME last revised these Guidelines, however there is no evaluation as to whether they are being followed (Koivurova and Molenaar, 2009, p. 8). The PAME working group is headed by a chair and vice-chair, which rotate among the Arctic states, and is supported by an international secretariat. PAME reports to the SAOs, and through them, to the Ministers of the Arctic Council who meet every two years (PAME b, 2009).

The starting point of the Guidelines is that "Arctic petroleum activities will be conditioned in compliance with applicable international law". The Arctic Offshore Oil and Gas Guidelines are "intended to be of use to the Arctic nations for offshore oil and gas activities during planning, exploration, development, production and decommissioning" (PAME a, 2009, pp. 3, 4). The Guidelines are to be used in order to help secure common policy and practices, and to encourage the highest standards currently available. The Guidelines are furthermore intended to "define a set of recommended practices and outline strategic actions for consideration by those responsible for

regulation of offshore oil and gas activities (including transportation and related onshore activities) in the Arctic” (PAME a, 2009, p. 4).

The Oil and Gas Guidelines were written in 1997 in response to the Inuvik Declaration; the output of the Third Ministerial Conference on the Protection of the Arctic Environment, where concern was expressed regarding the potential impacts of future increases in offshore petroleum activities in the Arctic region. In this Declaration much attention is paid to the Arctic environment. It is acknowledged that this environment is very sensitive and that changes in it might have significant impacts. The Arctic states acknowledge their responsibilities with respect to the protection, conservation and restoration of the Arctic environment, the need for sustainable development, the need for cooperation, and the need for pollution prevention. The 1989 Exxon Valdez incident in Alaska plainly demonstrated the Arctic’s potential vulnerability to pollution damage (Rothwell, 1995, p. 280). Therefore, PAME was asked to develop guidelines for offshore petroleum activities in the Arctic, especially guidelines for timely and effective measures regarding the protection of the Arctic environment (Inuvik Declaration, 1996).

The Arctic Offshore Oil and Gas Guidelines were developed in association with other Arctic Council working groups, permanent participants, observers, environmental organisations and industries. They were approved by the Arctic Ministers. The first version of the Guidelines was published in 1997, they were revised in 2002 to incorporate the principles of sustainable development and also in 2009 the Guidelines were updated (PAME a, 2009, p. 3). In the revisions several changes have been made to the substantial content of the Guidelines. These developments are described in attachment 2. Overall, when updating the Guidelines, additional research findings and other information is incorporated. The Guidelines came to be more considerate of indigenous people. Also the use of best available technology, best practices and international standards has become more important over the years. The use of waste management techniques is more extensively discussed; and there is more emphasis on monitoring for planning and management of offshore activities.

3.3 Gap analysis

In this paragraph a score will be given for each assessment criteria by which the current regime for offshore hydrocarbon activities is evaluated. This will be done based on the five-point scale as presented in chapter 2. The assessment criteria are discussed in more detail below.

Table 3.1 Assessment of the Arctic Council Offshore Oil and Gas Guidelines

Stringency	--
Level of collaboration	+/-
Implementation	--
Compliance	--

Stringency

The AEPS, the Arctic Council and its associated working groups are based on non-legally binding documents. The Arctic Offshore Oil and Gas Guidelines are therefore also non-legally binding. This means that the members of the regime, in this case the Arctic States, have all freedom of legitimate choice. There is furthermore no central authority which monitors compliance or evaluates the

Guidelines. This raises the question of whether the system currently in place is capable of responding to the challenges facing the Arctic.

Regarding the ambitiousness of the regime, no behavioural change is required. The Guidelines just define a set of recommended practices and outline strategic actions for *consideration* by those responsible for regulation of offshore oil and gas activities in the Arctic. The contents of the regime nevertheless are progressive and adequately detailed. The chapter on Environmental Impact Assessment (EIA) for example, carefully describes which effects should be considered in an EIA and the procedure that is to be followed when conducting an EIA. It is also prescribed what elements should be included in an EIA, Strategic Environmental Assessment (SEA) and Preliminary Environment Impact Assessment (PEIA) (Knizhnikov, A., personal communication, 03-02-2010). Also, the chapters on environmental monitoring, safety and environmental management, operating practices, and emergencies are sufficiently comprehensive. However, the Guidelines are not that specific to describe quantified targets and timetables. They are characterised by the word 'should' and therefore very descriptive.

Level of collaboration

Most important elements for protecting the Arctic environment are included in the Oil and Gas Guidelines, however they fall short in prescribing exactly what Arctic states are ought to do (Casper, 2009, p. 30). An important element missing is the fact that cleaning up oil spills under Arctic weather conditions is not possible with current technologies. In a WWF report of 2008, Arctic experts stated that "there is simply no way that we can clean up a spill in icy waters, due to technological inadequacies, weather, poor light, and of course, ice. Arctic marine conditions contribute to an oil spill "response gap" that effectively limits the ability to clean up after an oil spill" (Hamilton, 2008, p. 3). Section 1.3 of the Guidelines lays out the general principles for Arctic offshore drilling. These are the precautionary approach,⁵ the polluter pays principle,⁶ continuous improvement,⁷ and sustainable development⁸ (PAME a, 2009, p. 6).

⁵ Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation (PAME a, 2009, p. 6)

⁶ The polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment degradation (PAME a, 2009, p. 6).

⁷ All parties should continually strive to improve health, environment and safety by identifying the processes, activities and products that need improvement, and implement necessary improvement measures (PAME a, 2009, p. 6).

⁸ In permitting offshore oil and gas activities Arctic governments should be mindful of their commitment to sustainable development, including, *inter alia*:

- protection of biological diversity;
 - the duty not to transfer, directly or indirectly, damage or hazards from one area of the marine environment to another or transform one type of pollution into another;
 - promotion of the use of best available technology/techniques and best environmental practices;
 - the duty to cooperate on a regional basis for protection and preservation of the marine environment, taking into account characteristic regional features and global climate change effects;
 - the need to maintain hydrocarbon production rates in keeping with sound conservation practices as a means of minimizing environmental impacts;
 - development which meets the needs of the present without compromising the ability to meet the needs of the future;
 - integration of environmental and social concerns into all development processes; and
 - broad public participation in decision making
- (PAME a, 2009, p. 7)

All relevant states were included in establishing the Guidelines; they were written in response to the Report of the Third Ministerial Conference on the Protection of the Arctic Environment, in which all Arctic states were represented. The actual writing of the Guidelines was left to PAME, in association with the other Arctic Council working groups. In the 2009 Guidelines it was mentioned that “The 2002 update was greatly assisted by the involvement and comments received from representatives of Arctic, regional and other governments, NGOs, industry, indigenous people, and the scientific community” (PAME a, 2009, p. 3). Also in the workshop leading up to the 2009 Guidelines, NGOs, industry and indigenous people were represented (PAME, 2007). It is however not clear which role the individual Arctic states had in establishing and updating the Guidelines and in how far the comments of other actors were taken into account.

When it comes to the expenditure of time, energy and resources of the regime’s members it can be concluded that this is minimal. The PAME working group consists of National Representatives responsible for PAME’s work in their respective countries. Permanent Participants, representing Arctic indigenous people, also participate in PAME, as well as representatives of several observer countries and interested organisations. The PAME Working Group generally meets twice a year (PAME b, 2009). However, PAME seems to limit its efforts to studying and surveying the current activities related to shipping and offshore oil and gas, instead of encouraging and monitoring compliance with the Guidelines (vander Zwaag et al., 2001, pp. 131, 150). Research should also be conducted on the environmental effects of offshore hydrocarbon activities, and information resulting from this should be available to all Arctic states. Also financial provisions are not adequate. There is an Arctic Council Project Support Instrument which is to enhance the process of financing prioritised Arctic Council projects. It is a voluntary and non-exclusive mechanism. In 2006 however, it was not operational yet. Now, it has progressed to some extent, but Arctic Council members are still cautious in contributing (Koivurova and Hasanat, 2009, p. 58).

Implementation

The Arctic States have not implemented the Oil and Gas Guidelines thus far. There are furthermore big differences between the Arctic states regarding their environmental protection legislation. It seems that some states do follow up the Guidelines to some extent. However, the Guidelines have not reached hydrocarbon industries in the Arctic (Knizhnikov, A., personal communication, 03-02-2010).

Compliance

Since the Oil and Gas Guidelines have not been implemented, there are no formal compliance data. The Arctic Council has no power or means to compel the Arctic states to implement or follow up the Guidelines (Polet, G., personal communication, 03-02-2010). The work of the Arctic Council as a whole is fragmented and held back by the lack of funding, because there is neither a firm legal structure nor a permanent secretariat. The Council is a “soft law” institution producing assessments and recommendations, therefore lacking force, as well as an effective integrated structure. Norway, Denmark and Sweden have taken some steps towards improving coherence by setting common objectives for their successive chairmanships, as well as a common secretariat from 2006 to 2012 (de La Fayette, 2008, p. 560).

3.4 Strengths and weaknesses

The major weakness of the Oil and Gas Guidelines is that they are non-legally binding. The Arctic Council has no power to force their member states to implement the Guidelines in their national

legislation (Polet, G., personal communication, 03-02-2010). This could lead to unguarded exploitation, it is therefore to the Arctic coastal states to act with diligence. The Guidelines do address most issues relevant for and related to oil and gas mining, however do not prescribe exactly what Arctic state are ought to do (Casper, 2009, p. 30). Nonetheless, the Arctic Council has effectively brought together actors and stakeholders in the Arctic to address environmental issues (De Roo et al., 2008, p. 16). What is unique for the Arctic Council is the role it has given to the region's indigenous peoples. These peoples are defined as permanent participants, a distinctive category of participants between members and observers, and must be consulted by the Council's member states prior to any consensus (Koivurova, 2009, p. 47).

3.5 Conclusion

The Oil and Gas Guidelines score quite low on all assessment criteria. Since they are not legally binding and require no behavioural change they score very low on stringency. This has an immediate effect on implementation and compliance, which score also very low. On 'level of collaboration' the Guidelines achieve a medium score, since they closely involve all relevant actors and include all important elements for protecting the Arctic environment. However, the members of the regime spend very little time, energy and resources on the regime.

Overall, the following points for improvement can be identified. In order to be effective the regime should:

- be legally binding;
- have a central authority to evaluate measures, monitor implementation and compliance and compel members to comply;
- require behavioural change by setting quantified targets and timetables;
- prescribe more precise what states are ought to do;
- provide for more regular meetings of members, permanent participants and observers;
- provide for joint scientific research;
- provide for exchange of information;
- oblige reporting on implementation and compliance by members;
- be structurally funded;
- have a permanent independent secretariat; and
- oblige realistic contingency planning and preparedness for the entire Arctic marine area.

Chapter 4 Assessment OSPAR

4.1 Introduction

In this and the following three chapters existing policy models which could serve as examples for an AROHA will be assessed. For each policy model it will first be explained why it was chosen to assess and an introduction will be given to make the reader familiar with the policy model. Then the policy model will be assessed according to the assessment criteria established in chapter 2 and the strengths and weaknesses will be discussed. Together with chapter five, six and seven, this chapter answers the third research question: *what strengths and weaknesses can be found in comparable policy models?*

On 22 September 1992 the Convention on the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) was signed. With its entry into force on 25 March 1998, it replaced the Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft⁹ (Oslo Convention) and the Convention on the Prevention of Marine Pollution from Land-based Sources¹⁰ (Paris Convention). OSPAR was chosen to assess because it already covers a part of the Arctic Ocean and contains provisions regarding the protection of the marine environment against the negative effects of oil and gas exploitation. It is commonly regarded to be a holistic, comprehensive and effective regime. By amending the Convention it could apply to the entire Arctic waters. Further, its institutional bodies can address new issues regarding oil and gas exploration and exploitation (Casper, 2009, p. 21).

OSPAR member states¹¹ aim at adopting, on a regional level, more stringent measures regarding the prevention and elimination of pollution of the marine environment. More, they aim to protect the marine environment against the adverse effects of human activities. Of the Arctic states, Denmark, Finland, Iceland, Norway and Sweden are parties, but Canada, Russia, and the US are not. Measures taken under OSPAR have to be consistent with the Law of the Sea Convention, they fill the legal framework of UNCLOS and further its general principles (Czybulka, 2001, p. 175, 176).

OSPAR applies to the internal waters and the territorial sea of the Contracting Parties, the Exclusive Economic Zone (EEZ) of the coastal states and the high seas, including the bed of all those waters and its subsoil.¹² The limits of the maritime area of application are shown in figure 4.1. It

⁹ Oslo, 15 February 1972

¹⁰ Paris, 4 June 1974

¹¹ Belgium, Denmark, European Union, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom (Noordzeeloket, 2009).

¹² The *territorial sea* is a marine zone over which the sovereignty of a coastal State extends. This zone has a maximum breadth of 12 nautical miles measured from the coastline (UNCLOS, article 3).

The *EEZ* is the area beyond and adjacent to the territorial sea, subject to a specific legal regime established in Part V of UNCLOS. The EEZ shall not extent beyond 200 nautical miles from the territorial sea. In the EEZ the coastal state has sovereign rights for the exploration and exploitation, conserving and managing living or non-living natural resources of the waters, the seabed and its subsoil. The coastal state has jurisdiction over the establishment and use of artificial islands, installations and structures; marine scientific research; and the protection and preservation of the marine environment (UNCLOS, article 55-57).

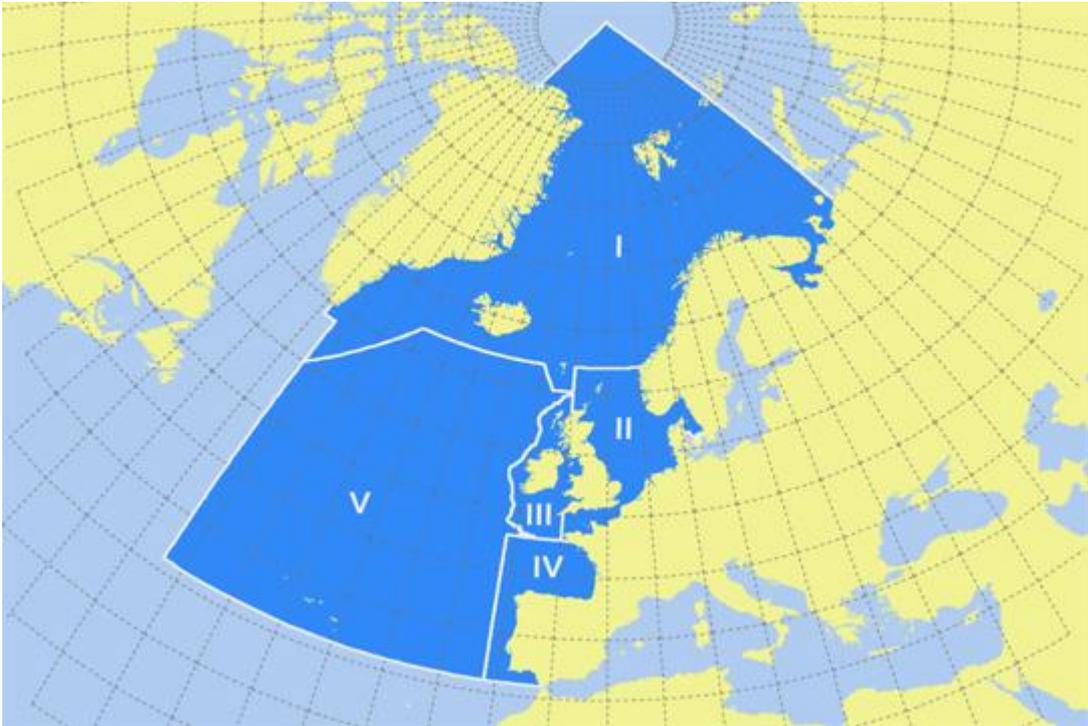
The *high sea* comprises “all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State” (UNCLOS, article 86).

For more information on UNCLOS and maritime zones q.v. attachment 4

includes parts of the Atlantic and Arctic Oceans. In this maritime area the member states are obliged to take all possible measures to prevent and eliminate pollution, in particular from land-based sources (art. 3, annex I), by dumping or incineration (art. 4, annex II) and from offshore sources (art. 5, annex III) (Czybulka, 2001, p. 177, 178).

Figure 4.1: The OSPAR area

Source: Noordzeeloket, 2009



The maritime area covered by the OSPAR Convention includes 5 regions of the North-East Atlantic: I, Arctic Waters; II, the Greater North Sea; III, the Celtic Seas; IV, the Bay of Biscay and Iberian Coast; V, the Wider Atlantic

The Convention is governed by the OSPAR Commission. This Commission is made up of representatives of the 15 Contracting Parties and the European Commission. The OSPAR Commission is provided with non-binding recommendations and binding decisions (Czybulka, 2001, p. 178, 179). More information about OSPAR can be found in attachment 3.

4.2 Assessment

OSPAR scores very high on three out of four assessment criteria. Therefore, it might provide a good example for an AROHA. The assessment criteria will be more extensively discussed below.

Table 4.1 Assessment of the OSPAR Convention

Stringency	++
Level of collaboration	++
Implementation	++
Compliance	+

Stringency

All adopted decisions under the OSPAR Convention are legally binding on the Contracting Parties, together with the recommendations they set out the actions to be taken within the regime (OSPAR Commission d, 2010). In practice the recommendations carry almost the same weight as legally binding decisions. Often they are endowed with similar features such as deadlines and reporting requirements (Molenaar and Oude Elferink, 2009, p. 14). According to Breitmeier et al. (2006) OSPAR is overall rated “medium” for preciseness, being easy to interpret and calling for well-defined actions. The regulations for offshore mining are very precise and complete, while some regulations for other issue areas are more general (Dekker, B., personal communication, 4 February 2010).

Annexes I, II and III contain the regulations regarding pollution from land-based sources, from dumping or incineration and from offshore sources. Overall, they can be regarded as being relatively stringent. Nevertheless, these rules set by OSPAR allow for some exemptions and remain vague on some points. For example, often the phrase “where appropriate” is used, what is appropriate is left to the Contracting Parties. The same is true for the requirement to use the best available techniques or best environmental practices (OSPAR Convention, art. 2). Nevertheless, the decisions, recommendations and agreements reached by the Contracting Parties when the regime was already in force, made it more comprehensive and therefore also more stringent. Also, the OSPAR Commission is often said to be a very well functioning and active body. It has centralised authority within the regime and does not leave the Contracting Parties to individual decision making.

OSPAR member states are furthermore obliged to act according to the precautionary principle and the polluter pays principle and to follow an ecosystem approach (OSPAR Convention, art, 2).¹³ Furthermore, OSPAR has the long term goal of diminishing the concentration of hazardous substances as much as possible to resemble natural concentrations by 2020. These are some examples from which one can conclude that OSPAR is an ambitious Convention.

Level of collaboration

Almost all coastal states of the OSPAR area are a member to the regime, except for Russia which has a small coastal area bordering the OSPAR area. The Contracting Parties operate via the OSPAR Commission which normally meets once a year. These meetings are hosted by one of the Contracting Parties. The Commission is supported by six committees which are in turn supported by working groups. Furthermore, there are the Heads of the Delegations of the Contracting Parties who meet regularly to prepare the meetings of the Commission, to advice, and to supervise the development and implementation of the agreements of the Commission. Meetings of the Commission, the committees and the working groups are open for observer organisations such as IGOs and NGOs and are chaired by elected representatives from the Contracting Parties (OSPAR Commission a, 2010).

The work of the Contracting Parties is furthermore facilitated by the OSPAR Secretariat. It organises meetings, conducts work programmes and manages reporting by Contracting Parties on the implementation of measures and the reporting data of the monitoring programmes. OSPAR Contracting Parties contribute to the work of the Convention by examining the background of new issues, developing proposals for actions and measures to be taken, and by preparing assessments of

¹³ The ecosystem approach is defined as: “The comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity” (OSPAR Commission a, 2010). Annex V, article 3(1)(b)(iv), states that the OSPAR commission should “aim for the application of an integrated ecosystem approach” when drawing up “programmes and measures for the control of the human activities.”

the effectiveness of its work (OSPAR Commission a, 2010). The OSPAR regime formally rests on contributions by members. It relies on national contributions through the use of national facilities and the national activities that contribute to the Convention are financed by the Contracting Parties themselves (Breitmeier et al., 2006).

The Commission is also an active member of several other global or regional organisations, such as the Helsinki Commission and the UNEP Regional Seas Programme. The Commission cooperates with other management authorities of the North-East Atlantic to preserve the marine environment and establish sustainable ocean management.¹⁴ Moreover, the OSPAR Commission is involved in the global discussion on marine conservation, held a.o. within the Convention on Biological Diversity, the UN General Assembly and the International Union for Conservation of Nature. Last, the North Sea Network of Investigators and Prosecutors is a body of the OSPAR Commission and functions as a direct link to the Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances (Bonn Agreement) (OSPAR Commission a, 2010).

The OSPAR Convention covers the regulation of all human activities which can have a negative effect on the ecosystems and biodiversity of the OSPAR maritime area, with the explicit exemption of fisheries management and with some limitations for the regulation of shipping (Molenaar and Oude Elferink, 2009, p. 14). Regarding offshore mining OSPAR created the Offshore Oil and Gas Industry Strategy which provides for more specific agreements and regulations for the offshore oil and gas industry.

Implementation

The OSPAR Convention is implemented via the adoption of decisions, recommendations and other agreements. The decisions and recommendations set out the actions to be taken by the Contracting Parties. They are complemented by other agreements which set out: issues of importance; programmes for monitoring, information collection or other work; guidelines for implementation of measures; and actions to be taken by the OSPAR Commission on behalf of the Contracting Parties (OSPAR Commission d, 2010). Just as the provisions of the Convention, decisions are legally binding and have to be implemented by member states. Furthermore, the Commission promotes the implementation of recommendations (de La Fayette, 1999, p. 259). The OSPAR Convention moreover provides for several programmatic activities which promote the regime's implementation. Such activities are: scientific monitoring and research of causes and effects of problems; expert advice; compliance monitoring; review of implementation; verification of compliance; reviewing adequacy of commitments; and information management. Contracting Parties are required to submit information regarding the implementation of the regime (Breitmeier et al., 2006).

Breitmeier et al. (2006) have researched the steps that important Contracting Parties¹⁵ have taken towards implementation. All have ratified the agreement, passed implementing legislation and negotiated agreements with firms and other actors in order to implement the Convention. Also, funds were allocated for implementation. Many Contracting Parties were already preparing implementation before the Convention was actually concluded. Implementing the regulations for the

¹⁴ The OSPAR Commission cooperates with the North-East Atlantic Fisheries Commission (NEAFC), the International Maritime Organisation (IMO), the International Council for the Exploration of the Sea (ICES) the UN Economic Commission for Europe (UN ECE), the European Commission and the European Environment Agency (OSPAR Commission a, 2010).

¹⁵ Belgium, Denmark, France, Germany, Ireland, The Netherlands, Norway, Sweden, United Kingdom, and the European Union

offshore industry has elapsed without difficulties; the agreements made under OSPAR are converted into permits for offshore industries, the OSPAR Commission again controls these permits. Each state has to submit detailed reports on their implementation of decisions and recommendations. A review is made of all information of the member states, which allows them to control each other and call one another to account. The same is the practice between oil companies (Dekker, B., personal communication, 4 February 2010).

Compliance

Data and information from Contracting Parties is collected and published by the OSPAR Commission on an annual basis. The Contracting Parties are required to report at regular intervals on the implementation and effectiveness of decisions and recommendations (de La Fayette, 1999, p. 259). Information is gathered for broad assessment of the regime and for assessing the performance and compliance of the Contracting Parties. This information is reviewed by the OSPAR Commission (Breitmeier et al., 2006). The Convention has adopted a management approach towards compliance; states are more encouraged to comply rather than forced. Contracting Parties are required to report on problems encountered in implementation and the Commission can take measures to assist the Parties in fulfilling their obligations (de La Fayette, 1999, p. 259). The OSPAR Commission has no formal competence to enforce state action (Dekker, B., personal communication, 4 February 2010).

Compliance is high for the OSPAR Convention. The main reason for this is that agreements are only formulated when all member states can agree on them; this already creates wide support for the agreements. Before standards or norms are set, states investigate whether they can be reached and complied with via national jurisdiction. Important is that the industry is also involved in negotiations. They have an observer status and are allowed to comment on resolutions and bring in arguments in the discussion (Dekker, B., personal communication, 4 February 2010).

There are two more possibilities to make states live up to the agreements under OSPAR. First, action can be taken on the political track; ministers can consult together about the progress and put some pressure on compliance. The second possibility lies with the environmental NGOs, they could pass on information about the industries to the media, a process which is also called “naming and shaming”. In many cases this turns out to be very effective (Dekker, B., personal communication, 4 February 2010).

4.3 Strengths and weaknesses

Most important in changing the behaviour of actors is the culture within OSPAR. Everybody, states and industries alike, are informed of the practices of others and not afraid to talk about lacking performance to each other. The system of reviewing implementation and compliance and publishing reports about this is very important in this respect (Dekker, B., personal communication, February 4, 2010).

The fact that all member states are at the same level of development has contributed to the success of the Convention. The participation of superpowers such as the US and Russia, who do not have very high environmental standards, would probably hold back negotiations. OSPAR enables states to take a long-term holistic approach, agree on actions to be taken and cooperate in setting objectives. The policies are supported by sound science, careful monitoring and accurate assessments. Implementation reporting and assessments procedures are conducted for every OSPAR measure (OSPAR Commission a, 2010). Another strong element of OSPAR is its voting system; all member states have one vote and are therefore equal. However, this can also be regarded as a weak

element. It could allow small states like Luxembourg to hamper decision making on some important issues. Then there is the possibility to make decisions by qualified (three-quarter) majority. Furthermore, the member states are free to issue proposals to be discussed in the Commission meetings and also all interests groups are allowed to participate in negotiations. They have no vote, but can issue documents and arguments to influence discussions. Despite high compliance rates, the fact that the OSPAR Commission does not have the possibility to enforce compliance might turn out to be a weak point some time (Dekker, B., personal communication, February 4, 2010).

Another weakness of the OSPAR Convention is the fact that it is bound to European legislation. Many decisions cannot be made within OSPAR because it would mean a violation to the internal free market of the EU.¹⁶ Also the fact that OSPAR only covers a part of the activities conducted in the North-East Atlantic might diminish its effectiveness (Dekker, B., personal communication, 4 February 2010). What is furthermore to be noted is that OSPAR does not contain comprehensive provisions regarding contingency planning and response action in case of pollution incidents.

4.4 Conclusion

OSPAR scores well on all assessment criteria. It is very stringent since all its decisions are legally binding on its members and in practice the recommendations carry almost the same weight as these decisions. Both decisions and recommendations are endowed with features such as deadlines and reporting requirements. This also ensures implementation and compliance. Regulations under OSPAR regarding oil and gas mining are furthermore specific and ambitious. Since all parties cooperate closely, since there is much room for observer organisations and industries to have a say in negotiations, and because the OSPAR Commission is closely involved in the activities of its members and in other international organisations, OSPAR also scores very high on 'level of collaboration'. There have been no difficulties in implementation, and compliance is also high. Because the OSPAR Commission cannot enforce compliance, the policy model is not assigned a 'very high' score on this criterion.

¹⁶ An example is the attempt of OSPAR to prohibit certain hazardous substances which pose a threat to the marine environment, such as mercury. OSPAR has conducted broad investigations regarding the sources of the substances, the products in which they are used and the quantities in which they are dumped. However, no action is taken by the EU (Dekker, B., personal communication, 4 February 2010).

Chapter 5 Assessment CRAMRA

5.1 Introduction

The Antarctic is in many respects the opposite of the Arctic, not just geographically. The Antarctic is regarded part of the “global commons” and is therefore not subject to the sovereignty of any state. It is governed by a set of legally binding regulations and agreements and has often been mentioned as an example for the Arctic in the literature. The Antarctic Treaty System (ATS) consists of several regimes and covers all activities in the Antarctic region.

The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) was negotiated in 1988. This Convention, however, never got enough support and therefore is not in force. Although CRAMRA has not been ratified, it is often regarded as a regime which would be very well suited to protect the environment from the negative effects of offshore mining.¹⁷ The current regime for offshore hydrocarbon activities in the Antarctic is the Environmental Protocol. It establishes a complete ban on mining in the Antarctic marine area, which would not be achievable in the Arctic. Therefore, it was chosen to assess CRAMRA in this chapter. Additional information on CRAMRA can be found in attachment 5.

The basis of the ATS is the Antarctic Treaty which was established as part of the International Geophysical Year (IGY) 1957-1958 in which international scientific cooperation was the main issue. The Antarctic regime places the continent under international control. As a consequence of the Antarctic Treaty, the Antarctic was demilitarised and all territorial claims were suspended (Serveas, 2008, p. 27). The ATS rests on three pillars. First, the current status of the continent is retained which means that all territorial claims were frozen (Antarctic Treaty, 1959, Art. IV). The second pillar is the complete demilitarisation of the region. All military and nuclear activities were prohibited. Antarctica is only to be used for peaceful purposes (Antarctic Treaty, 1959, Art. I, V). Third, Antarctica is to be a continent of science; all scientific information has to be exchanged between member states (Antarctic Treaty, 1959, Art. III). The most important element of the Antarctic Treaty might just be the ‘agreement to disagree’ regarding the legitimacy of the sovereignty claims contained in article IV. The positions of the states regarding the legal status of Antarctica are set aside and the Contracting Parties agreed to manage Antarctica collectively (Bastmeijer and Hengel, 2009, p. 62).

CRAMRA was negotiated in order to regulate mining activities. It divides all resource activities into three phases. The first phase, ‘prospecting’, concerns identifying areas where there might be resources, prior authorisation is not necessary. ‘Exploration’ is the second stage and means the identification and evaluation of specific mineral occurrences or deposits. This occurs by exploratory drilling, dredging or excavations. Consensus by the Antarctic Mineral Resources Commission¹⁸ would

¹⁷ “CRAMRA [...] in principle permitted mineral resource development but also established very strict controls on mining” (Koivurova, 2005, p. 215).

“The most sophisticated institutional provision of all the Antarctic instruments to date was provided for in CRAMRA 1988. The comprehensive minerals regime, which has not come into force, envisaged a Commission, two Committees, a Secretariat, and an Arbitral Tribunal necessary for the proper regulation of Antarctic resource exploitation” (Scott, 2003, p. 477).

“A straightforward prohibition of mineral activities in the Antarctic, however, no longer offers that “creative ambiguity” which CRAMRA did achieve” (Vidas, 2000, p. 210).

¹⁸ This Commission consists of all states which are Consultative Parties and is the main regulatory body under CRAMRA (Joyner, 1996, p. 155).

be a necessary condition to proceed with the exploration stage. If approved, a special Regulatory Committee¹⁹ would be established to set requirements for exploration activities. The third stage, 'development', relates to activities associated with the exploitation of specific mineral resources. A development permit has to be issued at the Regulatory Committee, which would decide by two-thirds majority vote (Joyner, 1996, pp. 157, 158).

CRAMRA provided that all mining ventures were obliged to obtain state sponsorship and be approved by a consensus of the Antarctic Treaty Consultative Parties (ATCPs). The mining operator and the sponsoring state are liable for any damage caused by the operator's activities and post environmental impact assessments at each step of the process are required (Kearney, 1992, p. 41). CRAMRA applies to the Antarctic continent, all Antarctic islands and their associated ice shelves south of 60°S latitude, and to the seabed and subsoil of adjacent offshore areas (CRAMRA, art. 5 (2)). The convention did not claim to regulate mineral resource activities on the deep seabed, beyond Antarctica's continental shelf, to avoid conflict with UNCLOS (Joyner, 1996, p. 157).

5.2 Assessment

Except for stringency, CRAMRA scores high on all assessment criteria. Below is explained why.

Table 5.1 Assessment of CRAMRA

Stringency	+/-
Level of collaboration	+
Implementation	+
Compliance	+

Stringency

In spite of the international opinion in the 1980s, CRAMRA is not such a weak regime at all. It sets some pretty strict conditions for mining and some of the most stringent safeguards in any environmental treaty existent today.²⁰ It drew a balance between the need for nature conservation

¹⁹ Regulatory Committees were to be established for each area designated for possible minerals exploration and development. The Committee would play a critical role in supervising the mining activities, providing technical advice and extra environmental monitoring (Joyner, 1996, p. 156, Kearney, 1992, p. 41).

²⁰ Most conditions regarding mining are contained in Article 4, it provides that:

1. Decisions about Antarctic mineral resource activities shall be based upon information adequate to enable informed judgements to be made about their possible impacts and no such activities shall take place unless this information is available for decisions relevant to those activities.
2. No Antarctic mineral resource activity shall take place until it is judged, based upon assessment of its possible impacts on the Antarctic environment and on dependent and on associated ecosystems, that the activity in question would not cause:
 - (a) significant adverse effects on air and water quality;
 - (b) significant changes in atmospheric, terrestrial or marine environments;
 - (c) significant changes in the distribution, abundance or productivity of populations of species of fauna or flora;
 - (d) further jeopardy to endangered or threatened species or populations of such species; or
 - (e) degradation of, or substantial risk to, areas of special biological, scientific, historic, aesthetic or wilderness significance.

and the desire for resource exploitation (Floren, 2001, p. 481). Because it falls under the ATS, CRAMRA would have been legally binding. However, there are also several points which limit the stringency of the Convention. Environmental consciousness was high in the '80s and several countries agreed with NGOs that CRAMRA was not ambitious enough. This criticism might be just since CRAMRA failed to establish standards that can realistically be met and enforced. Also procedures to determine when such standards should be applied where not established. Neither did CRAMRA settle whether and when mining activities should be prohibited or regulated. Most important is that the Convention did not set the degree of environmental harm that would be tolerated, neither did it establish how to determine whether the threshold of unacceptable degradation to the environment was violated (Joyner, 1996, p. 172). Because of these reasons CRAMRA cannot be regarded very ambitious or specific.

Level of collaboration

CRAMRA was to regulate Antarctic mineral resource activities and it succeeded in bringing all activities related to mineral resources under its domain. However, it did not claim to regulate mineral resource activities on the deep seabed, beyond Antarctica's continental shelf, to avoid conflict with UNCLOS. The Antarctic Treaty Consultative Parties were involved in the negotiations concerning CRAMRA.²¹

Four new institutions were created by CRAMRA, to be supported by a secretariat. The secretariat would perform staff functions and assist work in and between the four institutions. As a first institution, CRAMRA established an Antarctic Mineral Resources Commission, in which all Consultative Parties would be represented. Tasks of the Commission would be: facilitating exchange of scientific information, designating areas prohibited for mineral resource activities, adopting measures to protect the Antarctic ecosystem, and identifying areas for possible exploration and development. Decision making would occur by three-quarter majority vote, but for decisions relating to budgetary matters, principles of non-discrimination and identification of an area for possible mineral exploration and development consensus was required (Joyner, 1996, p. 155). Secondly, a Special Meeting of States Parties would have been established. This meeting would be open to all

3. No Antarctic mineral resource activity shall take place until it is judged, based upon assessment of its possible impacts, that the activity in question would not cause significant adverse effects on global or regional climate or weather patterns.

4. No Antarctic mineral resource activity shall take place until it is judged that:

(a) technology and procedures are available to provide for safe operations and compliance with paragraphs 2 and 3 above;

(b) there exists the capacity to monitor key environmental parameters and ecosystem

components so as to identify any adverse effects of such activity and to provide for the modification of operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the Antarctic environment or dependent or associated ecosystems; and

(c) there exists the capacity to respond effectively to accidents, particularly those with potential environmental effects.

5. The judgments referred to in paragraphs 2, 3 and 4 above shall take into account the cumulative impacts of possible Antarctic mineral resource activities both by themselves and in combination with other such activities and other uses of Antarctica.

²¹ Argentina, Australia, Belgium, Brazil, Chile, China, France, the German Democratic Republic, the Federal Republic of Germany, India, Italy, Japan, New Zealand, Norway, Poland, South Africa, the Soviet Union, the United Kingdom, the United States and Uruguay. Thirteen other states were also involved as Non-Consultative Parties to the Antarctic Treaty: Bulgaria, Canada, Czechoslovakia, Denmark, Ecuador, Finland, Greece, the Republic of Korea, the Netherlands, Papua New Guinea, Peru, Romania and Sweden (Joyner, 1996, p. 152).

parties of CRAMRA and have the largely symbolic role to advise the Commission on decisions relating to the identification of areas for possible mineral activities. The third institution to be established by CRAMRA was the Scientific, Technical and Environmental Advisory Committee (Advisory Committee). The task of this Committee would be to advise the Commission and special Regulatory Committees on matters requiring expertise about mineral resource activities. A fourth institution, the Regulatory Committee, would be established for each area designated for possible mineral exploration and development. Such Committees had to critically oversee the mineral resource activities and were to have broad powers. A Regulatory Committee could also postpone mineral resource activities if these resulted in “impacts on the Antarctic environment or dependent or associated ecosystems beyond those judged acceptable” pursuant to CRAMRA (Joyner, 1996, pp. 155, 156).

No strict agreements were set in CRAMRA for the contact between regime members. The Commission meets within two months of a request for identification of an area for possible exploration and development, or at request of members. If regarded necessary, the Commission may establish a regular schedule of meetings (CRAMRA, art. 19). Also the Regulatory Committees and the Advisory Committee only meet “when and where necessary to fulfil its functions” (CRAMRA, art. 30). When the Special Meeting of Parties takes place, depends on the meetings of the Commission (CRAMRA, art. 40).

Financial provisions are regulated by the Commission, it adopts budgets for the Regulatory and Advisory Committees, for the Special Meeting of Parties and for the Secretariat. The budget is financed by fees for prospecting, for requests for identification of areas for exploration and development, and for applications for an exploration or development permit (CRAMRA, art. 35(4)(a)). Financial resources also come from levies on operators (CRAMRA, art. 35(4)(b)(c)). In case the budget falls short, it has to be complemented by the members of the Commission (CRAMRA, art. 35(5)).

Implementation and compliance

Since CRAMRA was never ratified it has neither been implemented nor did states have to comply with it. Nevertheless, the Convention text gives us some indications on these criteria. To secure implementation of, and compliance with its regulations the precautionary approach in CRAMRA was strengthened by several elements such as: monitoring by Regulatory Committees (art. 52); an inspection system (art. 12); a provision to suspend, modify or cancel activities when they had unacceptable environmental impacts (art. 51); a provision for liability and response actions (art. 8); and a remarkably strict dispute settlement mechanism (Chapter IV and Annex for an Arbitral Tribunal). All these provisions were explicitly intended to promote compliance with the Convention (Joyner, 1996, pp. 161, 162).

5.3 Strengths and weaknesses

CRAMRA was never signed because of a perceived lack of efficacy and a widespread belief that the Convention would not be able to protect the Antarctic environment. Environmentalists raised questions about the actual intent of CRAMRA and its perceived capability to limit environmental degradation. They were of the opinion that CRAMRA contained inadequate and ineffective provisions for protecting the Antarctic environment, because its provisions were not specific enough and definitions were not clear.²² Furthermore, they found that the language of CRAMRA allowed for too broad and varied interpretations (Joyner, 1996, p. 168).

²² For example: ‘non-negligible impacts’ used to define ‘damage’ in article 1 (15) are not defined; article 4 (2) sets no standards for ‘significant damage’ or ‘substantial risk’; it is not clear by what scientific measures these

Questions were also raised about the accuracy of information which would be necessary to make sound decisions. Environmental organisations stated that there were not enough opportunities for impartial, non-governmental observers to contribute to environmental research. Related to this is the perceived weak role of the Advisory Committee in the decision making process. More, the Commission did not have the power to overrule decisions from the Regulatory Committees, which makes the review functions of the Commission weak and inadequate (Joyner, 1996, p. 169).

Another criticism was about the liability provisions; they were not strict enough and operators should have full responsibility for all damage done to the environment. This would make operators more prudent and cautious. Doubts were also voiced about compliance. Although CRAMRA provided for inspection, monitoring, reporting, compulsory dispute settlement, access to courts and suspension of activities, enforcement remained in the hands of individual governments. Each state differs in determining what environmental protection entails, in allocating financial and scientific resources, and in levels of expertise (Joyner, 1996, p. 169). Overall, CRAMRA could not guarantee that accidents would not occur if one went forward with the exploration for and exploitation of mineral resources in the Antarctic. The severe climatologic circumstances exacerbate the likelihood of accidents and impede the ability for response action.

Nevertheless, there were also some strong points in CRAMRA, some of which live on through the Environmental Protocol. For example, the requirement of sufficient information (article IV of CRAMRA) was included in the Environmental Protocol (Floren, 2001, p. 485). According to Scott (2003, pp. 476-477), CRAMRA provided for the most sophisticated institutional provision of all the Antarctic instruments. He names the regime 'comprehensive' and praises the bodies that were envisaged under the Convention. The level of collaboration would indeed have been very high under CRAMRA, it would establish a Commission, two Committees, a Secretariat, and an Arbitral Tribunal necessary for the proper regulation of Antarctic resource exploitation.

5.4 Conclusion

CRAMRA scores adequately on stringency; it would have been legally binding and sets some of the most stringent environmental safeguards. Nevertheless, there are also some drawbacks. Some essential details were missing, such as whether and when mining activities should be prohibited or regulated. Also, the degree of environmental harm that would be tolerated was not established. This makes that the regime cannot be regarded very ambitious or specific. CRAMRA scores high on level of collaboration, although no strict agreements were made about the contact between regime members, several institutions were created to guide exploration and exploitation activities. The regime covers all activities related to mineral resource activities and has also set financial provisions. Furthermore, implementation and compliance were well covered in the output phase; provisions were set for monitoring, inspection, cancellation of activities, liability, and dispute settlement.

standards would be determined and how much information is considered 'adequate' or 'sufficient' for determining environmental impacts (Joyner, 1996, p. 168).

Chapter 6 Assessment Helsinki Convention

6.1 Introduction

The Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) is overall regarded to be an adequately effective legal instrument in protecting the Baltic Sea (Ehlers, 1994, p. 621). It was chosen to assess because it is a regional seas agreement to which some Arctic states are a party and because it deals with all sources of pollution, including offshore mining. Additional information on the Helsinki Convention can be found in attachment 6.²³

In 1974 the Helsinki Convention was signed by the then seven Baltic coastal states. It was the first Convention which addressed all sources of pollution around an entire sea (Helsinki Commission b, 2010). The 1974 Convention entered into force in May 1980 and had as its objective “to promote regional intergovernmental cooperation in the protection of the marine environment of the Baltic Sea as an integral part of the peaceful cooperation and mutual understanding between all European States” (Fitzmaurice, 1992, pp. 53, 54). At the Conference on the Protection of the Marine Environment of the Baltic Sea Area in 1974 an interim Committee to expedite work between the period of signing the Convention and its entry into force was established, this Committee was later replaced by the Baltic marine Environment Protection Commission (HELCOM) (Fitzmaurice, 1992, p. 49).

In 1992 the Convention was revised in the light of developments in international environmental and maritime law, and political changes. The new Convention entered into force on 17 January 2000 (Helsinki Commission b, 2010). Its main obligation is for contracting parties to “individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea and the preservation of its ecological balance” (Fitzmaurice, 1998, p. 385). The Convention covers all sources of pollution: pollution from land and from the coast, waterborne and airborne pollution and pollution originating from the operations of ships, from pleasure craft, from offshore and seabed activities, or from other sources (Fitzmaurice, 1992, p. 53).

The Helsinki Convention applies to the protection of the marine environment of the Baltic Sea Area (Figure 6.1). This Area “comprises the water-body and the seabed including their living resources and other forms of marine life”. However, regulation also has to be implemented by the contracting parties within their territorial sea and internal waters (Ehlers, 1993, p. 196). There are four Committees under the Helsinki Convention; together they regulate several issue areas which are addressed by the Convention. These issue areas are: pollution from land-based sources, pollution from ships, waste disposal at sea, offshore activities, combating marine pollution, and nature conservation and biodiversity (Ehlers, 1993, pp. 201-207).

²³ Unfortunately little recent information was available on this Convention. Therefore this assessment mainly depends on articles from the first half of the 1990s. This would not so much influence the assessment of the regime itself, as the convention text remains, but might give a distorted image of how the regime operates in practice.

Figure 6.1: Baltic Sea Area
Source: http://www.helcom.fi/helcom/en_GB/aboutus/



The regulation under the Helsinki Convention regarding offshore activities applies to the seabed and its subsoil. Thus the subsoil is also protected from ecologically damaging activities. The 1974 Convention only addressed offshore activities in general terms. The revised version contains more concrete regulations (Ehlers, 1993, pp. 196, 205). According to the 1992 Convention ‘offshore activity’ means “any exploration and exploitation of oil and gas by a fixed or floating offshore installation including *all associated activities*” (Ehlers, 1993, p. 205 – emphasis added). This also includes the construction and operation of pipelines to transport oil and gas (Ehlers, 1993, p. 205).

The Helsinki Convention is the framework under which the Baltic coastal states combat marine pollution. Notification and consultation are obligatory and the parties have to take all appropriate measures to maintain adequate response ability for pollution incidents. For example, equipment, manpower and ships have to be ready for operations in coastal waters and on the high sea. Each party should have a national contingency plan and cooperate with other states to draw up bilateral or multilateral plans for response measures. The Baltic Sea is furthermore to be divided into ‘response regions’ (Helsinki Convention, 1992, art. 13, 14 – Annex VII, regulation 1, 2, 3).

Regarding nature conservation and biodiversity, contracting parties have to take, individually and jointly, all appropriate measures to conserve natural habitats and biological diversity. Also, they have

to ensure the sustainable use of natural resources within the Baltic Sea (Helsinki Convention, 1992, art. 15).

6.2 Assessment

As to be seen in table 6.1 the Helsinki Convention scores high on both stringency and level of collaboration. On Implementation and compliance the Convention scores medium. These scores will be further elaborated on in the remainder of this paragraph.

Table 6.1 Assessment of CRAMRA

Stringency	+
Level of Collaboration	+
Implementation	+/-
Compliance	+/-

Stringency

The Helsinki Convention is legally binding for its contracting parties. Its regulations are to be implemented in the national regulations of the parties. The Commission is the decision-making body under the Convention, and has to take its decisions unanimously (Helsinki Convention, 1992, art. 19). The national governments of the parties have to act on these decisions in their national programmes and legislation (Helsinki Commission a, 2010). The Commission can also make recommendations which are non-legally binding. Nevertheless, it is very unusual for a contracting party to refuse to implement a recommendation by referring to their non-binding nature (Ehlers, 1994, p. 618). In 1985 the Commission introduced a reporting system for the national implementation of its recommendations (Ehlers, 1993, p. 193).

Article 12 of the Convention deals with offshore activities. It requires the parties to take “all measures in order to prevent pollution of the marine environment of the Baltic Sea Area resulting from exploration or exploitation of its part of the seabed and the subsoil thereof or from any associated activities thereon”. Also, adequate preparedness has to be maintained for immediate response actions in case of pollution incidents (Helsinki Convention, 1992, art. 12). The necessary procedures and measures are established in Annex VI which obliges the parties to apply the principles of ‘best available technology’ and ‘best environmental practice’. Measures and possibilities to be considered in individual cases to ensure best environmental practice or best available technology are listed in Annex II. Furthermore, it is listed what should be considered when determining what combination of measures constitutes ‘best environmental practice’. These provisions seem strict, but do not require an actual behavioural change; no overall standard for pollution reduction is set. This makes that the Convention cannot be rated high on ambitiousness.

Furthermore, EIA and monitoring are required for offshore activities, only then a permit can be issued by the Commission. The environmental sensitivity of the sea area is to be assessed in detail (Helsinki Convention, 1992, Annex VI, regulation 2, 3). Annex VI furthermore sets some specific regulations for discharges, reporting, contingency planning and exchanging information. The use of oil-based drilling mud, or muds containing other harmful substances, needs prior authorisation and is to be restricted to exceptional cases. Oil-based drilling muds and cuttings arising from this are to be taken ashore. In specifically sensitive parts of the Baltic Sea Area, also water-based mud and cuttings

may not be discharged. In other parts of the sea authorisation from the appropriate national authority is required for discharging. In general, also chemicals and used materials have to be taken ashore. The oil content of production and replacement water may not exceed 15mg/l. In exceptional cases, when this threshold cannot be achieved, discharges with a maximum oil content of 40mg/l are permitted. These discharge standards are reviewed regularly so that a further reduction can be achieved (Ehlers, 1993, pp. 205, 206).

In addition, annex VI requires that each offshore unit has a pollution emergency plan, that the parties to the Convention ensure that abandoned and disused offshore units are entirely removed, that disused drilling wells are plugged, and that the parties continuously exchange information (Helsinki Convention, Annex VI, regulation 7-9). The Convention is adequately specific since its requirements are elaborated on in the Annexes and prescribe to a large extent what states are ought to do. Nevertheless, specificity could be higher when more quantified targets were included.

Level of collaboration

The Helsinki Convention covers all sources of pollution around the entire Baltic Sea. It can therefore be said that all activities targeted by the regime are in fact brought under its jurisdiction or domain. All Baltic Sea coastal states plus the European Community are members to the Convention. The Convention established the Helsinki Commission as its governing body (Helsinki Commission a, 2010). The main objective of this Commission is to realise specific measures that would ensure the protection of the Baltic Sea, especially the prevention and reduction of pollution. From the start, increased scientific and technological cooperation played a prominent role. The Commission consists of representatives of all contracting parties and meets at least once a year. Occasionally, also ministerial level meetings are held. Chairmanship rotates every two years between members (Ehlers, 1993, p. 192 – Helsinki Commission a, 2010). The main duties of the Commission are to:

- observe implementation;
- make recommendations according to the specific needs of the Baltic Sea;
- define environmental criteria and objectives;
- provide information about the state of the environment, the efficiency of measures, and common initiatives and positions as input for decision-making in other bodies;
- coordinate response action in case of maritime incidents; and
- promote cooperation with other bodies.

(Helsinki Commission a, 2010)

The secretariat of the Commission consists of the executive secretary being the chief administrative official, other secretaries and the administrative staff (Ehlers, 1994, pp. 620, 621).

The Helsinki Convention requires from its members to closely cooperate in the scientific and technological fields. Cooperation in scientific monitoring programmes, quality status assessments and research programmes has long been common (Ehlers, 1994, p. 621). The Helsinki Convention itself does not require EIA. Whether this is required depends on international law or supra-national regulations applicable to the contracting party (Helsinki Convention, 1992, art. 7).

The Convention is financed by its members; the budget is contributed by them in equal parts (Helsinki Convention, 1992, art. 22(3)), with exception of the host country, Finland, which pays a 'headquarters contribution'. The budget is adopted by the Commission and a General Fund is established for the purposes of accounting the expenditures of the Commission (HELCOM, 2005).

Implementation

Reporting is required on the legal and other measures taken to implement the provisions and recommendations of the Convention. The reports need to contain information on the effectiveness of the measures taken and on problems encountered when implementing the provisions. The reporting requirement is a valuable tool for the Commission to confirm the implementation of its decisions (Ehlers, 1993, p. 208).

In 2003 a last summary report on compliance with the requirements of the Convention and Commission recommendations was published. It concludes that overall, implementation has improved since the reporting round of 1998. However, most recommendations have not been fully implemented by all contracting parties. A difference is seen between implementation in EU member states, and EU accession countries and Russia. In general, the states that already were EU members in 2003 had implemented the requirements better (HELCOM, 2003, p. 1).

As a reason for lacking implementation the contents and exactness of the HELCOM recommendations are named. Because some recommendations are very precise and others are “vaguer”, the implementation by various contracting parties differs to a great extent. Furthermore, the information that the parties submit on implementation greatly varies in preciseness. This makes it difficult to make a careful analysis of the status of implementation. It is concluded that, in order to get a comparable picture of real implementation of the recommendations, there is a need to revise the reporting system (HELCOM, 2003, p. 2).²⁴

Compliance

The reporting requirement, which was introduced in 1985 by the Commission, encourages compliance. The Contracting Parties regularly submit these reports (Ehlers, 1993, p. 193). A specific reporting obligation is established for offshore activities. Each party to the Convention has to require that operators or other persons in charge of offshore units shall report on any event involving a discharge or probable discharge of oil or other harmful substances (Helsinki Convention, 1992, Annex VI, regulation 6 – Annex VII, regulation 5(1)). Contracting parties have to provide information on discharge permits, emission data or data on environmental quality when this is requested by the Commission or another party. Moreover, they are obliged to ensure that information on, for example, the condition of the Baltic Sea, the effectiveness of measures, and permits issued are available to the public (Ehlers, 1993, p. 208).

However, many reports do not give a precise image of implementation and cannot guarantee compliance. The information provided on legal, administrative and other measures taken by the parties to implement recommendations do provide a basis for assessing the status of implementation, but do not provide a basis for assessing whether administrations and other actors actually apply and comply with the provisions and measures of recommendations. Compliance might have been higher when the Helsinki Commission had the possibilities of inspection and control. However, this is incompatible with member states perceptions of sovereignty (Ehlers, 1994, p. 621).

6.3 Strengths and weaknesses

The revised Convention contains major improvements compared to its 1974 predecessor. By taking into account the experiences of the Helsinki Commission and developments in the political situation

²⁴ The 2003 compliance report was the latest version to be found, therefore it is assumed that the reporting requirements have not been revised yet.

as well as in international environmental and maritime law, the 1992 Convention excluded many weak points of the 1974 version. By including the precautionary- and polluter-pays principle, plus the principles of 'best available environmental practice' and 'best available technology', the Convention remains up-to-date and anticipates on future developments (Ehlers, 1994, p. 621). The Helsinki Commission seems to be a well functioning body; it meets at regular intervals and contributes a great deal to pursuing the Conventions goals.

By covering all sources of pollution and including regulation for nature conservation and biodiversity the Convention takes a comprehensive approach towards environmental protection (Ehlers, 1994, p. 621). All activities related to offshore mining are covered by the Convention, and in contrast to other projects EIA is obligatory under the Convention for offshore activities.

Nevertheless, the Convention can also be thought of as not being adequately specific. Only to a limited extent are quantified targets and timetables included, although this would well be possible for goals of emission reductions (Ehlers, 1994, p. 621). Regarding offshore activities some targets have been set for oil contents of production and replacement water. Furthermore, because the Commission has no powers for inspection and control and because it cannot enforce member states to implement recommendations, success depends for a large extent on the actions of individual states.

6.4 Conclusion

Although ambitiousness and specificity could be better, the Helsinki Convention is rated high on stringency; the Convention and decisions of the Helsinki Commission are legally binding on its members. Also 'level of collaboration' is rated high. The Convention covers all sources of pollution around the entire Baltic Sea and all relevant parties are included. Convention members meet on a regular basis, cooperation is required for many issues and there is a strong Commission which is supported by a permanent secretariat. Implementation and compliance are rated medium. There is a reporting requirement for the effectiveness of measures and for implementation. However, most recommendations have not been fully implemented by all contracting parties. Regarding offshore activities a specific reporting obligation is established. Information on discharges, emissions and environmental quality has to be available to the Commission, other parties and the public. However, the Commission has no power for inspection and control.

Chapter 7 Assessment regional agreements

7.1 Introduction

Although they do not directly regulate offshore hydrocarbon activities, the following regional agreements are part of the Arctic regime for offshore hydrocarbon activities:

- 1983 Agreement between Canada and Denmark
- 1993 Agreement between Denmark, Finland, Iceland, Norway and Sweden (Copenhagen Agreement)
- 1992 and 1994 bilateral Agreements between Norway and the Russian Federation
- Joint Contingency Plan of the United States and the Russian Federation on Combating Pollution in the Bering and Chukchi Seas.
- Canada – United States Joint Marine Contingency Plan.

The regional agreements were chosen to assess in order to see what Arctic states have accomplished so far in terms of legally binding regulations and what they are willing to do. Unfortunately, very little information is available on the agreements mentioned above. Also because of reasons of time available for this research, it was chosen to assess the regional agreements on which most information is available. These are the 1983 bilateral Agreement between Canada and Denmark and the 1993 Copenhagen Agreement. Even on these two regional agreements not much information could be found. Therefore, the agreements could only be assessed to a limited extend.

In 1983, Canada and Denmark signed the bilateral 'Agreement for Cooperation Relating to the Marine Environment' (Denmark and Canada Agreement). This agreement covers the Arctic marine area between Canada and Greenland (which is an autonomous country within the Kingdom of Denmark), which consists of Nares Strait, Baffin Bay and Davis Strait (figure 7.1). The Agreement aims at the prevention of pollution from offshore installations and from shipping activities (Koivurova and Hossain, 2008, p. 26). It requires that measures are taken to make sure that installations are "designed, constructed, placed, equipped, marked, operated and maintained" in a way to minimise the risk of pollution. Another objective is to enhance bilateral cooperation regarding the protection of the marine environment and of its living resources, especially with respect to contingency planning and preparedness (Casper, 2009, p. 23). Annex A to the Agreement focuses on pollution incidents resulting from offshore hydrocarbon exploration and exploitation (Denmark and Canada Agreement, 1983).

With the 1983 Agreement Canada and Denmark have furthered their obligations under UNCLOS, in particular the provisions concerning ice-covered areas and the prevention, reduction and control of pollution of the marine environment (Casper, 2009, p. 23). The Agreement was officially established to protect and enhance the marine environment for the benefit of the people of Denmark and Canada and to cooperate in preventing and responding to pollution activities (Denmark and Canada Agreement, 1983).

Figure 7.1: Area of application of the Denmark and Canada Agreement
Source: <http://krapp.org/rupert/labels/Antarctic%20Stuff.html>, adapted by author



In 1971 the 'Agreement Between Denmark, Finland, Iceland, Norway and Sweden Concerning Cooperation in Measures to Deal with Pollution of the Sea by Oil or Other Harmful Substances' (Copenhagen Agreement) was signed. It was last revised in 1993. This revised version entered into force in 2003 and specifies measures of monitoring and dealing with events such as oil spills in the waters under the jurisdiction of (one of) the parties to the agreement. It applies to the coastal, territorial and other waters within the respective fishing zones, continental shelf and economic zone boundaries of Greenland, Iceland and Norway (Koivurova and Hossain, 2008, p. 28 – Kustbevakningen Centrala ledningen et al., 2006). "The parties undertake to cooperate in the protection of the marine environment against pollution of the sea by oil or other harmful substances which present a grave and imminent danger to the material interests of one or more Parties" (Copenhagen Agreement, 1993). The member states have to develop and test their contingency preparedness for oil and other harmful substances at sea. In order to maintain up-to-date the Copenhagen Agreement is continuously following the development within the use of biological and chemical response methods and certifying and developing equipment for response actions (Kustbevakningen Centrala ledningen et al., 2006).

The Copenhagen Agreement was established because of the threat posed by pollution of the sea by oil or other harmful substances to the marine environment and the related interests of the state parties. By concluding the Agreement the states aim to further improve their cooperation in the protection of the marine environment against pollution (Copenhagen Agreement, 1993).

7.2 Assessment

Since little information is available on these two regional agreements, not all criteria could be sufficiently assessed. Therefore, no score was attached to compliance. On the other assessment criteria the two agreements obtain differing scores. Overall, the agreements are not rated very high.

Table 7.1 Assessment of the regional agreements

	Denmark and Canada Agreement	Copenhagen Agreement
Stringency	-	--
Level of collaboration	+/-	+
Implementation	+/-	+/-
Compliance	?	?

Stringency

Both the Denmark and Canada Agreement and the Copenhagen Agreement are legally binding. Under the Denmark and Canada Agreement the parties are obliged to take measures to guarantee that offshore installations for exploration or exploitation of natural resources are “designed, constructed, placed, equipped, marked, operated and maintained in such a manner that the risk of pollution of the marine environment is minimised” (Denmark and Canada Agreement, art. V). This article does bring all activities of offshore installations under jurisdiction of the regime, however it is very broad and does not give any details about the phases of offshore activities and the measures to be taken to minimise pollution risks. No behavioural change is required and there are no specified targets. Nevertheless, there are more elaborate provisions on contingency planning to be found in Annex A and B. Annex A focuses on contingency planning for offshore hydrocarbon exploration and exploitation, Annex B focuses on contingency planning for shipping.

The general obligation under the Copenhagen Agreement is to “undertake to cooperate in the protection of the marine environment against pollution of the sea by oil or other harmful substances which present a grave and imminent danger to the material interests of one or more Parties”. First of all, the word ‘undertake’ severely weakens this obligation. Furthermore, is not stated in the Agreement how the parties should protect the marine environment against pollution. There are no requirements for installations or operations, the Agreement confines itself to general undertakings, such as monitoring and reporting of pollution, and is therefore more focused on actions to be taken after a pollution incident has taken place. No behavioural change is required by the Agreement and there are no specified targets.

Level of collaboration

The Denmark and Canada Agreement aims at the prevention of pollution from offshore installations and from shipping activities. As mentioned earlier, it does cover the whole system of activities targeted, but only to a very limited extent. The Agreement requires cooperation in protecting the marine environment (Denmark and Canada Agreement, article III), and notification and consultation have high priority under the Agreement. When any works or undertakings pose a significant risk of pollution for the marine environment of the other party, each party shall provide the other with relevant information and data. When requested, each party shall enter into consultation regarding any works or undertakings (Denmark and Canada Agreement, article IV). Furthermore, cooperation is required for the purpose of scientific research and the exchange of information (Denmark and Canada Agreement, article VI). Unfortunately, no information was available on the actual cooperation and involvement of the state parties.

The Copenhagen Agreement applies to vessels and offshore installations in the internal waters, territorial sea and other fishing grounds, EEZs, and continental shelves of the contracting parties. Parties under this Agreement are obliged to cooperate in: monitoring, investigation, reporting,

production of evidence, abatement, assistance, and exchange of information (Casper, 2009, p. 23). An important aspect is the direct contact between the responsible authorities of the contracting parties. These inform and keep each other updated on issues related to the regime. Furthermore, the parties share experiences of means and methods of response action, monitoring activities and their results, and research and development. The parties also have to cooperate in the preparation of plans and guidelines and in exercise activities (Kustbevakningen Centrala ledningen et al., 2006).

Relevant forums for exchanging information on all levels within the Copenhagen Agreement are plenary meetings, working groups, and bi- and trilateral activities. The Nordic countries are represented in the plenary meeting of the Copenhagen Agreement in which decision-making occurs. Representatives of the countries are ministry representatives or representatives from other authorities responsible for contingency planning. Chairmanship rotates annually according to an agreed schedule. The secretary is appointed by the plenary meeting for a period of two years. There is one working group which meets several times each year, for special projects ad hoc groups are assembled (Kustbevakningen Centrala ledningen et al., 2006).

Regarding the financing of the Copenhagen Agreement, no statements are included in the Agreement. It does incorporate regulation regarding reimbursement of expenses and compensation for damages. Also, the work group is allowed to apply for financial support within the Nordic Council of Ministers (Kustbevakningen Centrala ledningen et al., 2006).²⁵

Implementation

Both agreements are implemented by their parties. The Denmark and Canada Agreement does not include specific requirements regarding implementation, but since this is a bilateral Agreement such requirements should not be necessary.

The Copenhagen Agreement includes an article on implementation which states that “the parties shall endeavour to develop cooperation in the field by formulating plans and guidelines as well as by conducting practice drills” (Copenhagen Agreement, 1993, art. 13). Furthermore, it is assumed that the competent national authorities remain in direct contact with each other and that meetings shall be held, when necessary (Copenhagen Agreement, 1993, art. 13). This article does not imply an obligation to implement the Agreement; it merely states that the parties have to *attempt* to cooperate and that they *should* be in contact.

Compliance

No compliance mechanism is included in the Denmark and Canada Agreement. Data on compliance was not available. However, it is assumed that the parties comply to a reasonable extent with the convention. Since it is a bilateral Agreement, structural non-compliance of one party would probably lead to termination of the Agreement by the other party. Another possibility is that both parties do not comply, but this is not assumed. Since the Agreement mainly focuses on contingency planning, whether the parties comply would become obvious in the case of a pollution incident.

Also for the Copenhagen Agreement no data were available on compliance. No strict compliance mechanism is included in the Agreement. Nevertheless, the member states are responsible for monitoring their respective waters. By coordinated monitoring, parties aim to prevent and detect violations at an early stage. Monitoring is conducted via vessels, aircraft and satellite (Kustbevakningen Centrala ledningen et al., 2006).

²⁵ The Nordic Council of Ministers is the forum for Nordic governmental co-operation. Members are Denmark, Finland, Iceland, Norway and Sweden (Norden b, 2010).

7.3 Strengths and weaknesses

The Denmark and Canada Agreement provides for prior notification and consultation, this enhances cooperation for activities that pose a risk of pollution and might improve relations between the parties. Furthermore, the Denmark and Canada Agreement is the only convention that is specifically tailored to the Arctic conditions (Koivurova and Hossain, 2008, p. 3). A weakness of the Agreement is that it does not pose specific targets for pollution prevention, nor does it require behavioural change. Therefore, the parties still have much freedom to decide what they want to do.

A strong point of the Copenhagen Agreement is its level of collaboration. There is regular contact between the national authorities, the working group meets several times a year and there is a secretariat to support the convention. A weakness of the Copenhagen agreement is that it is characterised by weak wording such as ‘undertake to cooperate’ and ‘shall endeavour’. This gives the parties more room for their own interpretation of the Agreement. Furthermore, it is noticed that this Agreement takes on an anthropocentric approach by stating that “danger to the *material* interests of one or more Parties” should be prevented (Copenhagen Agreement, article 1 – emphasis added). This does not need to be a weakness, but does give parties the choice whether or not to act when “just” the environment is being harmed by pollution and the material interests of the states remain unharmed.

7.4 Conclusion

Stringency is rated low for the Denmark and Canada Agreement and very low for the Copenhagen Agreement. They are both legally binding, however, the Denmark and Canada Agreement is very broad, no behavioural change is required and there are no specified targets. Its Annex A is somewhat more elaborate and precise on contingency planning. The Copenhagen Agreement is weakly worded and not detailed. Again, no behavioural change is required and there are no specified targets. The Denmark and Canada Agreement is rated medium on level of collaboration. It does cover the whole system of activities targeted, but only to a very limited extent. Cooperation is required on many issues and there are provisions for information exchange and consultation. The Copenhagen Agreement is rated high on level of collaboration; it requires collaboration on many issues and there is regular contact between regime members on different levels. Both Agreements have a medium score on implementation. No provisions are included in the Denmark and Canada Agreement, but the Agreement has been implemented. The Copenhagen Agreement does include a provision on implementation, but it is stated in weak wording. Also this Agreement has been implemented by its members. Unfortunately, no scores could be assigned for compliance since no data were available. In both Agreements no elaborate compliance mechanisms are included.

Chapter 8 Regime proposal

8.1 Introduction

In this chapter a proposal will be made for an Arctic Regime for Offshore Hydrocarbon Activities (AROHA) based on the gap analysis in chapter 3 and the assessment of comparable policy models in chapters 4 up to 7. The design of the proposal is inspired on the report by Koivurova and Molenaar (b, 2010) in which they make a proposal for an overall legally binding instrument for the Arctic. In this chapter the fourth sub-research question will be answered: “Which conditions have to be met by an AROHA in order to be effective and suitable for the Arctic situation”?

This chapter will start with a list of the results from the gap analysis. Then an overview will be given of the lessons learnt from the assessments of the comparable policy models. Together with the results of the gap analysis, these lessons will lead to a proposal for an AROHA. In paragraph 8.3 a sketch will be given of the basic features of an AROHA. Next, the spatial scope and participation in the AROHA will be discussed. Last, the contents of an AROHA will be set forth. The chapter will end with a conclusion.

In chapter three it was concluded that the current Arctic Council Oil and Gas Guidelines should be improved on the following points:

- be legally binding;
- have a central authority to evaluate measures, monitor implementation and compliance and compel members to comply;
- require behavioural change by setting quantified targets and timetables;
- prescribe more precise what states are ought to do;
- provide for more regular meetings of members, permanent participants and observers;
- provide for joint scientific research;
- provide for exchange of information;
- oblige reporting on implementation and compliance by members;
- be structurally funded;
- have a permanent independent secretariat; and
- oblige realistic contingency planning and preparedness for the entire Arctic marine area under application.

Combining this list of point of improvement with the lessons learnt as presented in the next paragraph gives us quite an idea of how an AROHA should be given substance to.

8.2 Lessons learnt

The assessments of the comparable policy models in chapter 4 up to 7 have given valuable insights in the elements and aspects that could make an AROHA strong or weak, effective or ineffective, successful or unsuccessful. In short, the assessments gave us an understanding of the ‘do’s and don’ts’ in designing an AROHA. In this paragraph the most valuable lessons will be discussed on the basis of the assessment criteria. Not all lessons could be classed under the assessment criteria, these lessons are listed under the heading ‘other lessons’. A complete overview of the lessons learnt for each policy model can be found in attachment 7.

Stringency - positive lessons

A first important element which can greatly contribute to the effectiveness of a regime is an **active regulatory body** which is able to make **legally binding decisions**. This meets the first two points for improvement of the Oil and Gas Guidelines. The OSPAR Commission is a good example; it issues decisions, recommendations and other agreements. Only the decisions are legally binding, nevertheless, recommendations carry almost same weight as legally binding decisions. They are often endowed with similar features as deadlines and reporting requirements.

What greatly contributed to the success of OSPAR are **quantified standards**. OSPAR has set a target of 15% reduction of the total quantity of oil in produced water that is discharged, and a performance standard of 30 mg/l of dispersed oil. Practice in OSPAR is that the feasibility of standards is assessed before they are actually decided on. Furthermore, industries and interests groups are closely involved in negotiations and have the ability to influence the discussion. This does not make OSPAR less ambitious; it has the long term goal of diminishing the concentration of hazardous substances as much as possible to resemble natural concentrations by 2020. The Helsinki Convention sets an even stricter standard for the oil content of production and replacement water; it may not exceed 15mg/l. The Helsinki Commission regularly reviews these standards so that a further reduction can be achieved. This lesson corresponds to the third point for improvement of the Oil and Gas Guidelines.

Stringency - negative lessons

A first negative lesson which can be taken from all policy models assessed is to avoid **vague wording**. In OSPAR often the wording 'where appropriate' is used, which leaves much freedom to the contracting parties to determine whether or not action is required. The main obligation in the Copenhagen Agreement is: "the parties undertake to cooperate in the protection of the marine environment [...]". The word "undertake" severely weakens this general obligation. Furthermore, the Agreement states that "parties have to *attempt* to cooperate and that they *should* be in contact" (emphasis added by author). Also CRAMRA and the Helsinki Convention were commented on because of their vague wording.

An element which was often missing in the policy models assessed is **detailed standards and targets**. CRAMRA did not establish standards that can realistically be met and enforced and procedures to determine when such standards should be applied where also missing. Neither did CRAMRA settle whether and when mining activities should be prohibited or regulated and the degree of environmental harm that would be tolerated. Also in the regional agreements no specified targets were established; they both do not specifically require any behavioural change. Both these lessons are to be taken into account when addressing the fourth point for improvement of the Oil and Gas Guidelines; prescribing more precise what states are ought to do.

Level of collaboration - positive lessons

The first four lessons regarding level of collaboration are related to the extent to which the system of activities targeted by the regime is in fact brought under its jurisdiction. First, effectiveness can be enhanced by covering **all phases of offshore activities** in a comprehensive way. CRAMRA divided offshore activities into three phases: prospecting, exploration, and development. For each phase regulations were set. CRAMRA did however not include the final phase; the dismantlement of offshore installations. This is covered by OSPAR which provides that dumping or leaving partly in place of disused offshore installations is prohibited. The Helsinki Convention furthermore requires that disused drilling wells are plugged.

Another lesson is that it is important to include provisions regarding **contingency planning**. This lesson corresponds to the last point of improvement mentioned in paragraph 8.1. All policy models except for OSPAR more or less include provisions on contingency planning. CRAMRA states that no mineral resource activity shall take place until it is judged that there exists the capacity to respond effectively to accidents, particularly those with potential environmental effects. The Helsinki Convention requires that adequate response ability for incidents is to be maintained and that parties should notify and consult each other in case of an emergency. The Copenhagen Agreement requires that parties share experiences of means and methods of response action. The Denmark and Canada Agreement provides for the most elaborate provisions on contingency planning in its annexes.

A third lesson can be taken from CRAMRA; it paid specific attention to **mining enterprises and liability**. Any mining company had to obtain state sponsorship and be approved by a consensus of the Antarctic Treaty Consultative Parties. The operator and sponsoring state would then be liable for any damage caused by the operator's activities. Furthermore, post environmental impact assessments (EIA) at each step of the process would be required. Including provisions regarding liability increases the sense of responsibility of an operator and contributes to compliance.

Fourth, it is important to include **financial provisions** in a regime in order to provide a budget for the activities and organisation of the regime. To be structurally funded is one of the points for improvement identified for the Oil and Gas Guidelines. Most regimes require a contribution from its members, such as OSPAR and the Helsinki Convention. A regime can also rely on its members by using their facilities and asking them to finance their own research and other activities under the regime. CRAMRA would have been partly financed by operators. It asks a fee for prospecting, for requests for identification of areas for exploration and development, and for applications for an exploration or development permit. Operators furthermore had to contribute levies.

Also active **cooperation** within the regime can enhance effectiveness. Especially the Copenhagen Agreement provides a good example on this issue. Cooperation is required for monitoring, scientific investigation, reporting, production of evidence, abatement, assistance, and exchange of information. Direct contact is maintained between the responsible authorities of the contracting parties and information is exchanged on all levels via plenary meetings, working groups, and bi- and trilateral activities. This lesson can be used for improving joint scientific research, exchange of information and contact between regime members. The regulatory body of a Convention can also contribute to cooperation in the regime and cooperation with actors outside the regime. The OSPAR Commission meets once a year and is supported by 6 committees which are in turn supported by working groups. The Heads of Delegations meet regularly to prepare the Commission meetings, to advise and to supervise development and implementation of the agreements. More, the Commission is a member of other regional organisations (such as the Helsinki Commission, UNEP, and the regional seas programme) and cooperates with other management authorities in the area. The OSPAR Commission also maintains regular contact with chemical suppliers and national authorities in order to promote the use of less hazardous or non-hazardous substances. Practice in OSPAR is that agreements are only formulated when all member states can agree on them. Furthermore, industries and interests groups are closely involved in negotiations and have the ability to influence the discussion.

The success of the regulatory body is closely related to the functioning of a **secretariat**. It can facilitate the work of the Regulatory Body by organising meetings, conducting work programmes and managing reporting on implementation and monitoring as is done within OSPAR. The presence of a

permanent, independent secretariat is also regarded a point for improvement for the Oil and Gas Guidelines.

Level of collaboration - negative lessons

From OSPAR it can be taken that a regime is most effective when it can **cover all activities** within the area of application. This problem will not be addressed any further, since this thesis only focuses on offshore hydrocarbon activities. Nevertheless, as mentioned in the introduction, the eventual aim is a regime which covers all activities in the Arctic maritime area.

Implementation - positive lessons

The effectiveness of a regime can be enhanced by **monitoring** of and **reporting** on implementation. The Helsinki Convention requires its members to report on the legal and other measures taken to implement the provisions and recommendations of the Convention. The reports need to contain information on the effectiveness of the measures taken and on problems encountered when implementing the provisions. Giving the regulatory body of a regime an active role in implementation can further increase pressure on contracting parties to implement the regime. This lesson is taken from the OSPAR Convention, its Commissions actively reviews implementation.

Implementation - negative lessons

When monitoring and reporting are applied in order to assess implementation it is of importance that the member states submit **adequate information**. The Helsinki Commission ran into the problem that the information that the parties submitted on implementation greatly varies in preciseness.

Compliance - positive lessons

Also regarding compliance the effectiveness of a regime can be enhanced by **monitoring** and **reporting**. In this case monitoring and reporting would concentrate on compliance and the state of the environment. Under the OSPAR Convention member states are obliged to report on the number of installations, and on the use, discharge, spill and emission of oil and chemicals. An extra drive to comply can be to make all collected data available to the public. Monitoring and reporting are often regarded a part of the compliance mechanism of a regime, as is the case in CRAMRA. It can be made more effective when complemented by an inspection system; a provision to suspend, modify or cancel activities when they have unacceptable environmental impacts; and by a provision for liability and response actions. Together with the positive lesson on implementation, this lesson can be used to fill up the gap on reporting identified for the Oil and Gas Guidelines.

Compliance - negative lessons

Although it might not always lead to ineffectiveness, the regulatory bodies of OSPAR, the Helsinki Convention and CRAMRA have **no power to enforce compliance**. Compliance within OSPAR mainly comes from the culture within the regime, however, this is an informal aspect which cannot guarantee compliance in the future. The members of the Helsinki Commission did not empower it with the possibilities for inspection and control because of sovereignty reasons, and within CRAMRA enforcement remained in hands of individual governments.

Again, regimes had to deal with **inadequate information** which makes it difficult to assess compliance. The Helsinki Commission ran into the problem that it could only assess the legal status of implementation, but not the practical implementation and compliance. Again, the information that the parties submit on compliance greatly varies in preciseness.

Other positive lessons

Several policy models contained provisions to ensure that the regime remains **up-to-date**, which is important regarding climate change and rapid technological developments in the offshore industry. The OSPAR Commission is allowed to adopt programmes and measures for threats resulting from all existing activities not covered yet and from new activities. It is especially important to be able to rapidly develop regulations for new activities. Within the Copenhagen Agreement the developments within the use of biological and chemical response methods and certifying and developing equipment for response actions is continuously being followed. Furthermore, OSPAR and the Helsinki Convention contain the principles of 'best available technology' and 'best environmental practice'.

CRAMRA can also serve as an example concerning its requirement of **sufficient information**. It provides that "[d]ecisions about Antarctic mineral resource activities shall be based upon information adequate to enable informed judgements to be made about their possible impacts and no such activities shall take place unless this information is available for decisions relevant to those activities". This information can be obtained by conducting **EIA**. Within the Helsinki Convention EIA is obligatory for all offshore activities, CRAMRA requires post EIAs at each step of the process.

Last is **decision making**; this can greatly influence the effectiveness of an institution. The manner of decision making can influence whether a regime is stringent, ambitious and efficient. In general, decision making within OSPAR occurs by unanimous vote of the Contracting Parties. All member states have one vote and are therefore equal. However, the fact that all member states have one vote can also be regarded as a weak element. It could allow small states to hamper decision making on some important issues. When unanimity is not attainable, decisions or recommendations can be adopted by a three-quarter majority vote. The Helsinki Commission also takes its decisions unanimously, unless otherwise provided under the Convention. Each Contracting Party has one vote.

Based on these lessons an outline for an AROHA has been developed which will be presented in the remaining paragraphs to this chapter.

8.3 Basic features and conditions

As mentioned in the introduction there is a pressing need for an overall regime for the protection of the Arctic environment, which, besides mineral resource activities, also includes fisheries and shipping. The ultimate aim is to develop a multilateral governance system for the Arctic aimed at integrated ecosystem management. This thesis only focuses on hydrocarbon activities, nevertheless a proposal should be able to fit in an overall regime. To give an idea of how such an overall regime might look and how an AROHA might be placed in, a recent study of Koivurova and Molenaar (b, 2010), in which a proposal is made for such an overall legally binding instrument for the Arctic, will be shortly discussed.

Koivurova and Molenaar have published a series of three reports for the WWF International Arctic Programme in which they identified the gaps in current Arctic governance and eventually propose a legally binding instrument and the basic features and elements of such an agreement.²⁶ It would cover the entire Arctic, across all sectors, build on the achievements of the Arctic Council and retain its viable parts and bodies. The spatial mandate of the Arctic Council would be limited to the marine environment of the Arctic and the goal would be integrated, cross-sectoral ecosystem-based

²⁶ International governance and regulation of the marine arctic – three reports prepared for the WWF Arctic programme by Timo Koivurova and Erik J. Molenaar, 2010. Available on the World Wide Web: http://assets.panda.org/downloads/3in1_final.pdf

ocean management. The instrument would cover areas within and beyond national jurisdiction. By implementing a framework instrument with Annexes and Protocols the regime does not have to be uniform for all sectors and would be an appropriate solution for sectoral governance and regulation. It is proposed that the framework document provides for the negotiation of protocols regarding fishing, shipping and offshore hydrocarbon activities. The annexes would then be related to specific issues such as monitoring, assessment and EIA (Koivurova and Molenaar, 2010, pp. 3-6).

In this scenario an AROHA would thus be captured in a protocol to a framework instrument for Arctic environmental governance. However, it might also take the form of a regional agreement such as OSPAR. It should be clear that an eventual AROHA might come in different forms.

Several conditions for establishing an AROHA can be thought of. They can be divided in three categories: legal conditions, environmental conditions, and political conditions set by the Arctic states.

First, an Arctic regime should be in line with the Law of the Sea Convention. All Arctic states except for the US are a party to this Convention and it is regarded as customary law. Article 194 of UNCLOS states that:

“States shall take, individually or jointly as appropriate, all measures *consistent with this Convention* that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection” (emphasis added by author).

Secondly, an Arctic regime should take into account the climatologic conditions in the Arctic. The severe weather conditions could for example seriously hamper the cleaning up of an oil spill and make working circumstances very dangerous. The environmental conditions are also rapidly changing because of climate change. This should be taken into account when developing a regime.

Several authors in the field of Arctic governance name the Antarctic Treaty System as an example for the Arctic. However, apart from its content there are already some problems a proposal for an Arctic regime inspired by the ATS might run into. Several elements of the Antarctic Treaty – such as the agreement to disagree, all elements directly related to this and a ban on mineral resource activities – will definitely not be accepted when proposed for the Arctic. For other elements - such as the use for peaceful purposes only – it is also highly unlikely that the Arctic states are willing to implement them (Koivurova and Molenaar a, 2010, p. 7).

Furthermore, it is important to take into account the Arctic states, mainly the coastal states, closely adhere to their sovereignty and national interests. The Ilulissat Declaration (2008) declares that the Arctic coastal states can and will manage the Arctic Ocean by the five of them and are not willing “to develop a new comprehensive international legal regime to govern the Arctic Ocean” (Ilulissat Declaration, 2008). Overall, the Arctic states do not give the impression that they want other states involved in the governance of the Arctic (Polet, G., personal communication, 03-02-2010). Therefore, an Arctic regime should take the form of a regional agreement. However, it cannot be denied that other states (claim to) have interests in the Arctic and want to be involved when a new regime is negotiated. Good news is that some Arctic (coastal) states are already cooperating with non-Arctic states in Arctic governance.

Another condition is that the Arctic Council should be maintained. There are several vested interests, especially from the Arctic indigenous peoples’ organisations to continue the current

institutional functioning of the Arctic Council. The indigenous people currently have a considerable influence in decision making within the Council, which they will not be willing to give up. Proposals for a regime in which the Council is replaced by a new institution would face severe opposition. Furthermore, the Arctic Council has made some steps forward in the last years; it would be a waste to just dismiss all this (Koivurova and Molenaar b, 2010, p. 12).

Last, and maybe most important, “the rights, interests and obligations of Arctic coastal states on the one hand, and other states and the international community on the other hand, should be balanced” (Koivurova and Molenaar b, 2010, p. 12). As mentioned before, sovereignty and national interests are highly important for the Arctic coastal states. However, also other states have interests in the Arctic Ocean and this should be taken into account when developing an AROHA.

8.4 Spatial scope and participation

The Arctic states generally define their Arctic territories broadly; most states stick to the areas north of 60 degrees North latitude or areas within the Arctic Circle (PAME a, 2009, pp. 77, 78). The spatial scope of the AROHA is limited to the marine area of the Arctic. The following definition of the spatial scope for an AROHA was decided on:

This agreement shall apply to the territorial seas of the Contracting Parties, and to the sea beyond and adjacent to the territorial sea under the jurisdiction of the Contracting Parties to the extent recognised by international law and within 60° north latitude, excluding:

- the Bering Sea and Bering strait
- the area between 42° west longitude and 30° east longitude.

Figure 8.1 below illustrates this definition; the area within the red-dotted line would be covered by the AROHA, except for the areas beyond national jurisdiction which can be seen in figure 8.2.

Between the US and Russia there is a clear “border” of the Arctic Ocean, the most Southern part of the Chukchi Sea would be the delimitation there. In determining the delimitation with the North-East Atlantic Ocean it was chosen to take the OSPAR Convention into account which already covers a great part of this Ocean and the Arctic Ocean. Norway, Iceland and Greenland (via Denmark) are members to the OSPAR Convention and are therefore already bound to stringent environmental regulations regarding offshore mining. However, OSPAR covers only the eastern coast of Greenland and Norway is regarded an important party to include in an AROHA; it plays a substantial role in international relations in the Arctic. The overlap with the OSPAR Convention and with the Spitsbergen Treaty will be taken into account in the AROHA by including a so called ‘saving clause’. This would state that nothing in the convention affects the rights and obligations of states under the OSPAR and Spitsbergen Convention (Molenaar, personal communication, 11 May 2010).

Figure 8.2 depicts the marine areas within and beyond national jurisdiction in the central Arctic Ocean. At the centre of the Arctic Ocean is a large zone of high seas, zones from the coastlines up to the red-dotted line fall under the national jurisdiction of the Arctic coastal states. The seabed and ocean floor and its subsoil *beyond* the limits of national jurisdiction are defined as “the Area”²⁷ by UNCLOS.

²⁷ “The Area” is the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction. It is that part of the ocean floor seaward of coastal State jurisdiction over the continental shelf, that is, beyond the continental margin or beyond the 200 nautical mile zone (USA Department of State, 1995, p. 34).

Figure 8.1: Spatial scope of an AROHA
 Source: https://www.cia.gov/library/publications/the-world-factbook/reference_maps/arctic.html, adapted by author



Figure 8.2: Arctic high seas

Source: BBC MMX, 2010. Adapted by author



The area within the red-dotted line is high sea, its seabed is the Area, which does not fall under the sovereignty of any state yet. The areas from the coasts of the Arctic states up to the red-dotted line do fall under the national jurisdiction of the states.

Exploration and exploitation of the resources in the Area are to be undertaken in accordance with the international regime as established by UNCLOS and by the revised Part XI of the Convention, also called 'the Agreement'. This is based on the principle that these resources are the common heritage of mankind (USA Department of State, 1995, p. 7). The Area and its resources are beyond any states' sovereignty and are open to use by all in line with commonly accepted rules. However, mining activities are subject to regulation of the International Seabed Authority (ISA) which was established to manage the seabed mining regime. This Authority has to adopt rules, regulations and procedures to ensure effective protection of the marine environment from harmful effects of deep seabed mining activities. It can also disapprove areas for exploitation when there is a risk of serious harm from mining activities. The ISA represents all contracting parties to UNCLOS (USA Department of State, 1995, pp. 33-37).²⁸ It would thus not be possible to include the Area in an AROHA, since the Arctic states, also the Arctic coastal states, have no jurisdiction over it.

This spatial scope of the AROHA has as a logical consequence that only the Arctic Coastal states become Contracting Parties to the agreement. Other states interested could be given the status of observers. Also NGOs and IGOs that want to participate in meetings should be able to obtain observer status.

²⁸ A more elaborate description of UNCLOS and maritime zones can be found in attachment 4.

8.5 Contents

Title

Ideally, the title of an international instrument gives a first and precise impression of the main goals and scope of the instrument. However, often the objectives and scope are difficult to capture in a concise title. Therefore many institutions are known by an abbreviation of their actual title (e.g. CRAMRA) or by the place where they were agreed on (e.g. Helsinki Convention). It is furthermore to be taken into account that in case of the Arctic, states may react negatively to certain titles which they associate with other institutions. For example, a proposal for an 'Arctic Hydrocarbon Treaty' is likely to be associated with the Antarctic Treaty and thus with the agreement to disagree on sovereignty issues and with the ban on mining (Koivurova and Molenaar b, 2010, p. 19).

There are three elements to be captured in the title of an AROHA. First the title should refer to the legal status of the regime. The spatial scope should also come forward from the title and there should be a concise description of the objectives of the regime (Koivurova and Molenaar b, 2010, p. 19). This leaves us with several options, depicted in table 8.1 below.

Table 8.1: Title elements

Source: Koivurova and Molenaar b, 2010, p. 20, adapted by author

Legal status	Spatial scope	Objectives
- Convention	- Arctic maritime area	- Regional regime
- Agreement	- Arctic Ocean	- Governance and regulation
- Treaty	- Large Marine Ecosystems of the Arctic region	- Offshore hydrocarbon activities - Protection of the marine environment

In order to be effective the AROHA should be legally binding. In international law agreements, treaties, agreements and conventions are regarded as being legally binding. A precise prescription of the spatial scope is not the goal of the title. It is regarded that a reference to the 'Arctic' and to the regime being aimed at 'offshore activities' will suffice. Since the Arctic states are set on protecting their sovereignty they would probably like to emphasise that the regime is regional. Therefore, it is proposed that an AROHA is titled 'Regional Agreement on the Regulation of Arctic Offshore Hydrocarbon Activities'.

Preamble

In general, in the preamble of an international institution the context, reasons for establishment and the main objectives of the instrument are described. In case of an AROHA the following elements could be included:

Consciousness of the impact of climate change on the Arctic marine area;

Recognising the values of the Arctic marine environment and the sensitivity of its living resources to changes in the environment (Helsinki Convention, 1992);

Noting the increasing opportunities for offshore hydrocarbon activities;

Recognising the economic and social effects of offshore hydrocarbon activities;

Convinced of the need to protect the Arctic marine environment from negative environmental effects of offshore hydrocarbon activities;

Bearing in mind the importance of the original inhabitants of the region;

Acknowledging the progress made by the Arctic Council;

Considering that the current Arctic Council Offshore Oil and Gas Guidelines do not adequately protect the environment against the negative effects of offshore hydrocarbon activities;

Recognising the need for regulation of offshore hydrocarbon activities in such a manner that the Arctic marine environment will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations (OSPAR Convention, 1992);

Recalling the need for, and importance of, cooperation between the Arctic states;

Recognising the Law of the Sea; the United Nations Conference on the Human Environment, held in Stockholm in June 1972; and the United Nations Conference on the Environment and Development, held in Rio de Janeiro in June 1992; and

Acknowledging the consistency of the instrument with other international instruments.

Objective and general principles

For inspiration, the objectives and principles of the Oil and Gas Guidelines and the policy models investigated in the previous chapters have been listed in attachment 8.

The objectives of the Oil and Gas Guidelines are very weakly stated and do not refer to environmental protection. Therefore, they are not suited for adequately protecting the Arctic marine environment from the negative effects of offshore hydrocarbon activities. An objective for an AROHA should include the following elements:

- Protection and preservation of the Arctic marine environment;
- Ensuring socio-economic benefits for the present and future generations, especially indigenous people.

(Koivurova and Molenaar b, 2010, p. 21)

A good example for an objective is provided by the OSPAR Offshore Oil and Gas Industry Strategy. The objective for an AROHA could then be stated as: "to prevent and eliminate pollution from offshore hydrocarbon activities and to protect the Arctic maritime area against the adverse effects of these activities so as to safeguard human health and conserve the marine ecosystems. Both present and future generations, and especially the original inhabitants of the Arctic region, are entitled to the social and economic benefits arising from offshore activities".

Following the example of the policy models assessed in the previous chapters, the following principles are to be included in an AROHA:

- The precautionary principle: preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced from offshore hydrocarbon activities, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects (OSPAR Convention, art. 2(2)(a)).
- The polluter pays principle: the costs of pollution prevention, control and reduction measures are to be borne by the polluter (OSPAR Convention, art. 2(2)(b)).
- Best available techniques and best environmental practice, including, where appropriate, clean technology: these principles ensure that the regime remains up-to-date. The term "best environmental practice" is taken to mean the application of the most appropriate combination of measures. The term "best available technology" means the latest stage of development of

processes, of facilities, or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges (Helsinki Convention, Annex II, regulation 2(1), 3(1)).

- The principle of sustainable development: development which meets the need of present generations without compromising the ability of future generations to meet their needs (PAME a, 2009, p. 7).
- Scientifically appropriate measurements and calculations: the Contracting Parties shall ensure that measurements and calculations of emissions from point sources to water and air, and of inputs from diffuse sources to water and air, are carried out in a scientifically appropriate manner, in order to assess the state of the marine environment of the Arctic marine area and ascertain the implementation of the Agreement (Helsinki Convention, art. 3 (5)).

Main obligations

The obligations regarding offshore hydrocarbon activities would be the most extensive part of the regime. Of course, there are many things to include. Below the main obligations will be outlined and shortly explained.

- First of all, states should **cooperate** with other contracting parties to pursue the objectives of the Agreement and to apply its general principles (Koivurova and Molenaar b, 2010, p. 22). Cooperation within the regime can greatly enhance effectiveness; it should be required for monitoring, scientific investigation, reporting, assessments and for exchange of information.
- Pollution from **all phases of offshore hydrocarbon activities** should be prevented and eliminated through regulations. Four phases can be identified: prospecting, exploration, exploitation, and dismantlement. For the exploration and exploitation phases, permits should be required. In CRAMRA, for example, it was provided that an application for an exploration permit should contain fees, detailed descriptions of the operator, its managerial structure, financial composition, resources, and technical expertise. Furthermore, a detailed description of the proposed exploration activities should be included (CRAMRA, art. 44). When proceeding to the exploitation phase, CRAMRA also demands a development permit. The application for such a permit should again contain fees, and also a description of the planned exploitation activities, a detailed EIA, and a recertification by the so-called Sponsoring State of the technical competence and (financial) capacity of the operator (CRAMRA, art. 53). Regarding dismantlement, dumping or leaving partly in place of disused offshore installations should be prohibited and disused drilling wells should be plugged. Since 1998 OSPAR prohibits the dumping, and leaving wholly or partly in place, of disused offshore installations. There are however some exceptions, in this case assessments will have to be made (OSPAR c, 2010).
- Especially for the exploration and exploitation phases **quantified standards** would be required regarding, for example, the maximum quantities of oil to be dispersed. Both the OSPAR and Helsinki Conventions have set such standards; OSPAR requires that the oil content of production and replacement water may not exceed 30mg/, the Helsinki Convention has set the standard on 15mg/l. OSPAR has also set a target for the reduction of the total quantity of oil in produced water that is discharged. This ensures that when the number of offshore installations increases, the total quantity of dispersed oil does not. From OSPAR we have furthermore learnt that chances for success are greater when setting the standards in close negotiation with industries and interest groups and only when all members can agree on them.
- Marine areas which have been adversely affected by offshore hydrocarbon activities, either during the period this agreement is in force or before, should be **restored**.

- Pollution and harm to the marine environment can further be prevented by a requirement of **sufficient information**. Detailed **EIAs and SEAs** should be conducted before commencing with the exploration and exploitation phases. Decisions about offshore hydrocarbon activities should be based “upon information adequate to enable informed judgements to be made about their possible impacts and no such activities shall take place unless this information is available for decisions relevant to those activities” (CRAMRA, art. 4(1)).
- The effects of offshore activities should be **monitored and reported** on. Monitoring entails the repeated measurement of the quality of the marine environment, of activities, of natural and anthropogenic inputs, and of the effects of such activities and inputs. The parties to the regime should report on the legal, regulatory, or other measures taken to implement and comply with the provisions of the regime; on the effectiveness of the measures taken to implement and comply with the provisions; and on problems encountered during implementation. Reporting should also be required on the number of installations, and on the use, discharge, spill and emission of oil and chemicals. Requirements should be set for the quality and type of information, in order to be able to make an informed judgement. The information obtained about the state of the environment, the measures taken to implement and comply with the regime, and information on permits issued, should be available to the public.
- The information obtained via monitoring and reporting should be used by the regulatory body to **evaluate** the measures taken under the regime, their effectiveness, and progress under the regime.
- Provisions regarding **contingency planning** and preparedness for pollution incidents should be incorporated in the regime. First of all, it should be assessed whether there exists the capacity to respond effectively to accidents before one commences on an offshore hydrocarbon activity. Otherwise, the activity should not take place. Adequate response ability is to be maintained by all contracting parties. In case of an incident the parties should notify each other and consult regarding the most effective response. Furthermore, the contracting parties should share experiences of means and methods of response action.
- Setting specific provisions regarding mining enterprises and their **liability** can enhance compliance with the regime. The liability of mining enterprises and states should be clearly delimited. CRAMRA dedicated an elaborate article on liability. Operators were to be held liable for: damage to the Antarctic environment or dependent or associated ecosystems; loss of, or impairment to, an established use; loss of, or damage to, property of a third party; and reimbursement of reasonable costs by whomsoever incurred relating to necessary response action (CRAMRA, art. 8).

Institutional structure

To be able to effectively implement regulations and pursue objectives, a regulatory body (a Commission) should be established. It could be titled the ‘Arctic Offshore Hydrocarbon Commission’. This regulatory body should have the power to impose legally binding obligations on its members, but should also be able to issue recommendations (Koivurova and Molenaar b, 2010, p. 25). Its mandate should focus on regulating offshore hydrocarbon activities and protecting the marine environment. Membership, observer status to the body, functions of the body and procedures should be settled in an AROHA.

The Commission should meet at least once a year. Its composition would reflect participation to the Agreement (Koivurova and Molenaar b, 2010, p. 23). A group of state representatives should

meet more regular to prepare the Commission meetings, to advice, and to supervise development and implementation of the agreements. The Commission should have an active role in implementation and compliance; it should monitor and verify compliance, review implementation, and control permits for industries. In order to adequately perform its function, the Commission should have the power for inspection and control and should be able to enforce compliance by its members. In relation to inspection and control, the Commission should have the power to suspend, modify or cancel offshore hydrocarbon activities when they have unacceptable environmental impacts. What is 'unacceptable' is to be decided by a group of contracting state representatives and scientists. A separate body operating under the Commission could be established for this task.

The Commission is allowed to adopt programmes and measures for threats resulting from all existing activities not covered under the Agreement yet, and from new activities. Moreover, the Commission should closely cooperate with other (regional) organisations, such as the Arctic Council, the OSPAR Commission, UNEP, and the Regional Seas Programme. Last, the Commission should be supported by a secretariat. It can facilitate the work of the Commission by organising meetings, conducting work programmes and managing reporting on implementation and monitoring.

Decision making

The decision making procedure can greatly influence the effectiveness of an institution. In most environmental agreements decision making occurs by unanimous vote of the Contracting Parties. This enhances compliance, however, it can also hamper decisions on certain important issues if one party does not agree. Therefore, if unanimity is not attainable it should be possible to make a decision by a three-quarter majority vote of the Contracting Parties. However, on issues such as financial matters, amendments and accession of other states, unanimity would still be required.

Dispute settlement

A dispute settlement mechanism should be included in the regime. Most common in international environmental law is a mechanism which emphasises the need for peaceful means of dispute settlement. A first step would be negotiation between the parties in dispute. If an agreement cannot be reached in this way a second step would be consensual submission to a court or tribunal charged to provide for legally binding rules (Koivurova and Molenaar b, 2010, p. 24).

Financial provisions

The contracting parties should make an annual financial contribution in order to support the regime. States could also contribute to the regime by putting national facilities at the disposal of the regime or the Commission. Contributions should also be asked from operators conducting mining activities in the area.

Other provisions

There are several other provisions which need to be included in an AROHA, they are listed below:

- Saving clause OSPAR and Spitsbergen; "nothing in this convention affects the rights and obligations of states under the OSPAR and Spitsbergen Convention".
- Amendments; may be proposed by all contracting parties and are decided on by unanimous vote.
- Reservations; would not be allowed.
- Signature; possible for the Arctic coastal states which participated in negotiations.
- Ratification; on acceptance or approval by Signatory States.

- Accession; open for states or organisations unanimous invited by the Contracting Parties. Observer status could be granted to all states or organisation on approval by the Contracting Parties.
- Entry into force; as a minimum all Arctic coastal states should be members.
- Withdrawal; would be allowed.
- Depositary; could be the United Nations or an Arctic coastal state to which all other Arctic coastal states can agree.

Annexes

It is proposed that the following annexes are included in the regime:

- Annex I 'Monitoring and Assessment': This annex should include duties of the contracting parties regarding monitoring and assessment; for example, cooperation, compliance with prescriptions, the development of assessment tools, and conducting research. This annex should also include the duties of the regulatory body regarding monitoring and assessment. These duties could include defining and implementing monitoring and assessment programmes, drawing up codes of practice, carrying out assessments, and cooperation with other organisations (OSPAR Convention, 1992). Also, specific requirements for EIA and SEA should be included such as when an assessment is to be conducted, which effects are to be considered and which elements an assessment should include.
- Annex II 'Criteria for the use of best environmental practice and best available technology': This annex should include definitions of the terms, the purpose of the use of these practices and technology, and issues to be considered when deciding on the combination of measures (OSPAR Convention, 1992 – Helsinki Convention, 1992)
- Annex III 'Response to pollution incidents': As long as there is no separate regime on contingency planning to which all the Arctic coastal states are a member, an AROHA should contain an annex on this topic. This annex should include the requirement that all Contracting Parties maintain the ability to respond to pollution incidents and an elaboration on what this ability entails. There should also be provisions on notification, cooperation and exchange of information. The annex should include a requirement for the Contracting Parties to draw up national and multilateral contingency plans. Also ships and offshore installations should have such emergency plans. Furthermore, there should be a reporting system for ships and offshore installation for events involving a discharge or probable discharge of harmful substances. Last, provisions for assistance and reimbursements of assistance costs should be included (Helsinki Convention, 1992).

8.6 Conclusion

In this chapter the results from the previous chapters have been combined in order to come to a proposal for an effective regime for the protection of the Arctic marine environment against the negative effects of offshore hydrocarbon activities. This proposal takes into account all lessons regarding regime effectiveness and should therefore contain all elements that make a regime effective. In the next chapters it will be investigated whether such a regime could actually be realised. The factors which influence regime formation will be listed after which an appraisal will be made of the feasibility of a regime as proposed in this chapter.

Chapter 9 Factors influencing regime formation

9.1 Introduction

In this chapter several theories on the formation of regimes will be discussed. This is done in order to be able to assess the chances for regime formation in the Arctic in the next chapter. The following research question will be answered: *Which factors have an influence on regime formation processes?* By discussing the main theories on regime formation, I hope to find the factors conducive to regime formation or factors hampering regime formation. When these are known I will be able to see whether these factors are present for the Arctic situation and how they can affect regime formation. In paragraph 9.2 four leading theories will be discussed and commented on. In paragraph 9.3 a synthesis will be given of the most relevant factors influencing regime formation.

Most of the theories on regime formation originated in the 1990s. The methods to be discussed in this chapter are Zürn's game theories (1992), the method of the Tübingen Team (1993), the work of Dieperink (1997), and the method developed by Young and Osherenko (1993). In this chapter I will outline these methods and the strong and weak points in them. They give an insight in the main trends in regime formation theories. The focus is on methods which provide factors influencing regime formation of which it can be investigated whether they are present in the Arctic situation or not. The method developed by the Tübingen Team does not provide these factors, but is discussed to give a complete oversight of regime formation theories.

9.2 Regime formation theories; a systematic review

Zürn's Game Theories

Zürn is one of the prominent authors in the debate regarding regime formation theories. He has used game-theoretic reasoning to derive hypotheses regarding the likelihood of regime formation in different types of strategic situations. His central hypothesis is that, assuming recurrent situations, there are four types of situation structures which can be ordered by their likelihood to give rise to international regimes. First, there is the assurance situation where the probability of regime formation is highest. There are two equilibrium outcomes in this situation, one of them being Pareto-efficient,²⁹ one being a Nash equilibrium.³⁰ Second, there are coordination situations in which several Pareto-efficient equilibria exist and actors face the problem of picking one of them collectively. Third is the collaboration situation in which there is a prisoner's dilemma.³¹ The situation in which regime formation is least likely to occur is the suasion or "Rambo" situation. In such a game either one actor has a dominant strategy to cooperate, which the other can exploit, or one actor has a dominant

²⁹ In a Pareto efficient situation any change to make any person better off is impossible without making someone else worse off.

³⁰ In a Nash equilibrium, no player has an incentive to deviate from the strategy chosen, since no player can choose a better strategy given the choices of the other players (Lonbørg, and Weisstein, 2009).

³¹ In a Prisoners dilemma (PD), the only equilibrium outcome is inefficient. The two-person PD is a symmetrical game, in which each player prefers mutual cooperation to mutual defection, yet is even better off when he chooses to defect while the other player chooses to cooperate. On the other hand, when he is the one who behaves cooperatively without the same response from the other player, he ends up with the least desirable outcome. Each player will find it rational not to cooperate (Hasenclever et al., 1997, p. 31).

strategy to defect, while the other must cooperate in order to avoid an even worse outcome. The rational underlying this ranking of situations is that the formation of a regime is more likely when the cooperation problem is less demanding (Hasenclever et al., 1997, pp. 45-53).

Zürn furthermore refines his hypotheses by adding a set of secondary variables which might be useful for explaining regime formation. These are: (1) the expected frequency of interaction through time; (2) the density of transactions; (3) the type of foreign policy that is practiced by the actors; (4) the distribution of issue-specific resources; (5) the presence or absence of salient solutions; (6) the number of actors in the issue-area; and (7) the state of the overall relationship of the actors (Hasenclever et al., 1997, pp. 54-55).

Several comments can be made to this theory. First, Zürn did not explain what exactly determines the gravity of the cooperation problems (Hasenclever et al., 1997, p. 59). Most of all, his method for explaining the likelihood of regime formation is very abstract. The four types of situation structures are easy to imagine, but probably a lot harder to recognise in reality. It can also be the case that a real situation has characteristics of several situation structures, or is a combination of the structures. Once you have been able to put a label on a real situation, it just tells you whether it is likely, unlikely or something in between that a regime will form. Something that you probably could have thought of without the situation structures.

In my view, the set of secondary variables determined by Zürn adds some more value to the approach, since they seem closer to reality. The variables can be assessed by carefully examining the issue area and the results of this investigation can more precisely show the likelihood of regime formation and reveal where possible problems might occur / are occurring.

The Tübingen Team

The research team based at the University of Tübingen examined the impact of problem characteristics on outcomes of international cooperation. They have distinguished problem structures according to properties of the issue area in focus. Four main objects of conflict are distinguished and used to develop a set of hypotheses regarding the prospects of regime formation (Underdal, 2002, p. 16). In a *conflict about means* actors share a common goal, but disagree on what measures to take in order to reach it. In a *conflict about values* actors have incompatible principled beliefs (values) about the legitimacy of a given action or practice. In both these conflicts actors dissent; they disagree on what is desirable, not just for them individually but also for all of them collectively. On the other hand, *conflicts of interests* presuppose a specific consensus. The actors value the same (scarce) good, which causes the conflict. These conflicts can be subdivided when looking at the nature of the good that is desired by the actors. There are some goods which tend to be assessed relatively; an actor's valuation of a given amount of this good is dependent of the amount that his competitors possess³² (Hasenclever et al., 1997, pp. 63, 64). In figure 9.1 the hypotheses regarding the likelihood of regime formation of the four types of conflict are depicted.

Despite the extensive research conducted by the Tübingen team, thus far no theoretically grounded explanation has been found for the empirical relationship, just as a coherent theoretical argument to motivate this "hierarchy of likelihood". For example, why is it that in conflicts about means regime

³² A good example in this case is the amount of weapons a country has. By contrast, other goods, such as food, are absolutely assessed. An actor's enjoyment of his share is independent of the quantity of the good held by others (Hasenclever et al., 1997, pp. 63, 64).

formation is less likely than in conflicts about absolutely assessed goods? Furthermore, when you are studying an issue area, after determining the kind of conflict you just know what the likelihood for regime formation is. Just as Zürn’s method described above the Tübingen approach does not offer any starting point for increasing this likelihood (Hasenclever et al., 1997, p. 65).

Figure 9.1: Types of conflict and likelihood of regime formation
 Source: Hasenclever et al. (1997) p. 64



Dieperink’s conditions for regime development

In his dissertation “Tussen zout en zalm” (1997) Dieperink analysed the development of the international regime for the river Rhine in order to derive the conditions which make the development of comprehensive regimes possible. Dieperink derived several factors which could be of influence on regime formation from regime- and negotiation theories and phrased them in the form of hypotheses, after which they were tested for the Rhine regime. The hypotheses are subdivided within seven clusters which are listed in attachment 9.

After testing the hypotheses, Dieperink subdivided them into necessary factors for regime development, stimulating factors, hampering factors, and factors that are not that relevant for regime development. The factors that are considered necessary for regime development are the hypotheses that were continuously confirmed. This was the case for two hypotheses. The disposal of continually new options for trade-offs turned out to be a necessary condition for the development of the Rhine regime; in all periods of regime development the number of options for exchange increased. An increase in the size of the delegations was also found to be a necessary factor for regime development. The widening of the delegations facilitated brainstorming on a number of subjects, which resulted in an extension of the regime. These factors are no sufficient conditions; regime development cannot be explained by just these factors (Dieperink, 1997, p. 307).

Fourteen factors were found to be stimulating conditions for regime development:

1. In all periods during the development of the Rhine regime, there was some perceived symmetry of the problem.³³ The presence of some symmetry resulted in a better distribution of the interests during regime development and was therefore a stimulating factor.
2. The societal appreciation of environmental quality increased in most periods of regime development, though not in all. The presence of some societal appreciation was a stimulating factor for the development.

³³ For example, in a completely symmetrical situation of pollution, the profits and costs which could be brought about by a regime are equally divided over the actors (Dieperink, 1997, p. 48).

3. The advancement of the professionalisation and internationalisation of the interest groups provided for attention in society for the problems and necessary measures. The presence of this factor can be an incentive for development.
4. Homogeneity of the constituencies also stimulates regime development.
5. The increase of knowledge is a stimulating factor because newly obtained knowledge brought new problems out into the open, which were to be negotiated.
6. The presence of an epistemic community stimulated developments by providing information and making suggestions for the negotiations.
7. The presence of a certain transaction density between the state parties stimulated developments because ideas could be easily dispersed.
8. Experiences with comparable problems elsewhere had a positive effect on regime formation.
9. The presence of an intergovernmental deliberative body stimulated regime development. It arranged the meetings and provided and dispersed information.
10. All periods of regime development were characterised by a distributive and integrative phase. Converting distributive into integrative strategies turned out to be part of the bargaining process and therefore can be regarded an incentive for regime development.
11. This also holds for the separation of distributive and integrative subjects during the negotiations. By setting up separate working groups an impasse for one subject could not delay negotiations on other subjects.
12. Brainstorm-sessions appeared to be a stimulating factor, since they led to the discovery of several options for trade-offs.
13. The introduction of 'objective criteria'³⁴ was a stimulating factor.
14. All negotiation periods of the development of the Rhine regime were finalised by inserting contingencies and self-enforcing clauses into the agreements, this also turned out to be a stimulating factor for regime development.
(Dieperink, 1997, p. 309, 310).

There are also some factors that hampered the formation process and led to a period of impasse. This happened when there was a decrease in the perceived symmetry of the problem and in the homogeneity of the constituencies. Also a decrease in the number of options for trade-offs had a restraining influence on regime formation (Dieperink, 1997, p. 310).

Concluding his research, Dieperink noticed that there might be some more explanations for the development of the Rhine regime, which were not captured in his hypotheses. First, there were continually initiatives to keep the dialogue going, which might have been a necessary condition for the regime development. Secondly, there was the deterrent effect of a disaster occurring which was a powerful incentive for regime development. It strongly influenced the public opinion and the call for the formation of a regime. Last, there was a factor that hampered the development of the Rhine regime; the lack of political will (Dieperink, 1997, p. 311).

Some remarks can be made regarding Dieperink's research. First, there is some overlap between some of the hypotheses. Also, as Dieperink mentions himself, the completeness of the hypotheses is

³⁴ So-called objective criteria make an appeal on the reasonableness of the parties so that they are more willing to give up their initial position in negotiations for the good of bringing interests together.

questionable. There could be some more explanations for regime development. It should be taken into account that this research only focused on one case of regime development, that of the river Rhine. This makes it questionable whether the findings can be generalised. It is possible that the hypotheses proved not to be relevant by Dieperink, are relevant in other cases or the other way around. Nevertheless, the study by Dieperink offers some valuable variables to take into account when investigating the likelihood of regime formation in the Arctic.

Polar politics by Young and Osherenko

In their book “Polar politics – creating international environmental regimes” Young and Osherenko start of from the question what the determinants of success or failure are in efforts to form regimes dealing with specific issues. They take the concept of regime formation as a dependent variable and differentiate between three aspects of regime formation formulated as questions: (1) does a regime form, in other words, do the efforts of those involved in the process of regime formation succeed or fail? (2) How long does it take to reach closure³⁵ on the terms of a constitutional contract establishing a regime, and why does the process take much longer in some cases than in others? (3) How are the principal provisions of the regime arrived at? (Young and Osherenko, 1993, p. 2).

As independent variables, the determinants of regime formation, Young and Osherenko opt for the three main schools of thought within the study of international relations. First, realist power-based theories, which focuses on power relationships. Second, neo-liberal interest-based theories, which bases its analysis on the grouping of interest. And third, cognitive knowledge-based theories, which emphasises knowledge dynamics, communication and identities (Hasenclever et al., 1997, p. 178). The study of the determinants of success or failure in regime formation is therefore directed by the exercise of power, the interplay of interests and the role of knowledge. A fourth determinant is the impact of contextual factors.

Young and Osherenko aim to test these explanations for regime formation by distilling a set of explicit hypotheses from the existing literature and by testing them using a set of case studies concerning international environmental regimes related to the Arctic. Four groups of hypotheses were set up, one for every determinant for regime formation (Young and Osherenko, 1993, pp. 8, 9) (for a complete overview of the hypotheses tested by Young and Osherenko see attachment 10).

Regarding power-based theory, the cases conducted by Young and Osherenko did not strongly support the hypothesis that successful regime formation requires the participation of a hegemon. Power is considered an important factor but is more easily understood as a source of bargaining strength in the interactive processes highlighted by the interest-based hypotheses. It is suggested though that “middle powers” might play a role of importance in regime formation. The absence of strong support for a regime among the big powers can enhance the role of these middle powers (Young and Osherenko, 1993, pp. 229-231).

Among the hypothesis related to interest-based theory tested by Young and Osherenko, the role of individual leaders received such strong support from the case studies that it is assumed that this constitutes a necessary condition for regime formation. In all five case studies conducted by Young and Osherenko individuals emerged as leaders and their leadership proved to be important in the formation process. The lack of strong and consistent leadership in failed or very time consuming formation processes strengthens the case for leadership as being a necessary condition for regime

³⁵ “A constitutional contract is an explicit agreement setting forth the rules of the game for a given social practice. Such contracts may, but need not, be codified in legally binding instruments such as treaties or conventions” (Young and Osherenko, 1993, p. 225).

formation. It was also found that individual leadership cannot be used as an independent variable, it is a crosscutting factor that is both affected by and affects power relationships. It also shapes the values and ideas discussed in connection with the knowledge based hypotheses. Regarding equity it was found that negotiations cannot succeed unless an outcome is produced that participants can accept as equitable, even when the adoption of equitable agreements requires sacrifice in efficiency. Results from the case studies showed that a salient solution broke through potential impasses in the negotiating process. With a salient solution simplicity is meant in the sense of uncomplicated agreements that are easy to explain to policy makers and the larger public. The cases also tend to confirm the hypothesis that the availability of compliance mechanisms that parties regard as clear-cut and effective is beneficial for the bargaining process. It is furthermore important that compliance mechanisms are developed that are also regarded as not being intrusive. Four out of five cases showed evidence that integrative (or productive) bargaining plays a prominent role in successful institutional bargaining. By deemphasising or avoiding distributive issues the ability of the participants to search for mutually beneficial solutions increases. Three of the cases confirmed that a 'veil of uncertainty' contributed to the formation process by making it difficult for the parties to see how particular provisions would affect their interests in the future. The veil of uncertainty can be made most of by lengthening the time the regime is expected to operate, by leaving the regime open to accession by other states, and by including vague provisions subject to a variety of interpretations. A veil of uncertainty is no necessary condition, but regimes developed without such a veil are inclined to be less effective. Furthermore, it was found that three out of five cases are consistent with the hypothesis that exogenous shocks or crises are important in the formation process. Although it is not a necessary condition for regime formation, it does help in some cases to promote an agreement. Whether the issue under consideration is high or low on the agenda of all key actors proved not to be a necessary condition for regime formation. Instead it is suggested that situations in which the issue has high priority for one or more parties but low priority for other actors may be positive for regime formation (Young and Osherenko, 1993, pp. 232-242).

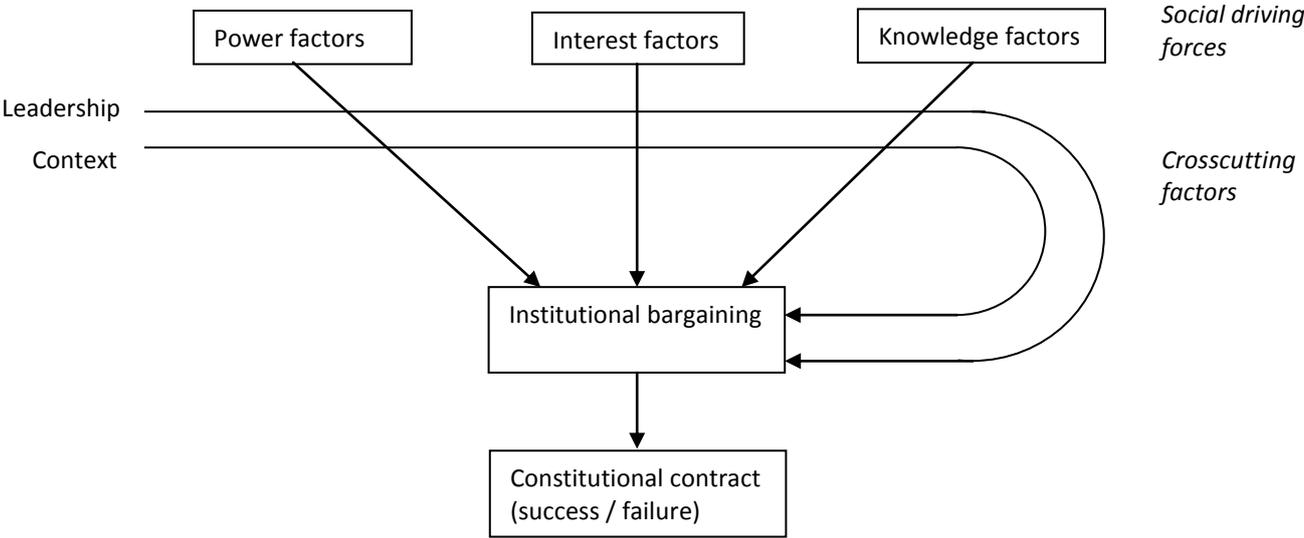
Relating to knowledge-based theory, in four out of five cases it was found that values and scientific knowledge influence regime formation independently rather than simply contributing indirectly to the exercise of power or to the definition of the interests of states. How the problem is perceived by (international) society influences the chances for regime formation. Other than this, the results for the specific knowledge-based hypotheses were mixed. It was concluded that the development of an epistemic community is not a necessary condition for regime formation. Nevertheless, the creation of a transnational network of scientists and policy makers can be an influential force in regime formation (Young and Osherenko, 1993, pp. 242-245).

Natural and human events unfolding outside the issue area can have a profound effect on the process of regime formation. These events are called contextual factors and they can create windows of opportunity in which regimes might develop. A systematic analysis of the contextual factors could make an important contribution to the explanation of regime formation and institutional bargaining (Young and Osherenko, 1993, pp. 245-246).

Although Young and Osherenko did not identify the conditions that are by themselves sufficient to bring about regime formation, they did identify some factors that can be seen as necessary conditions for regime formation. The hypotheses concerning the role of individual leaders, equity, salient solutions and compliance mechanisms received strong support from the case studies. A multivariate model of the process of regime formation was constructed by Young and Osherenko (figure 9.2). It depicts the key components and linkages of a model of the process of regime

formation. The power-, interest- and knowledge factors are the independent variables which feed into the process of institutional bargaining, which can eventuate in success in the sense of an agreement or provisions articulated in the form of a constitutional contract (Young and Osherenko, 1993, p. 247).

Figure 9.2: Multivariate model of regime formation
 Source: Young and Osherenko, 1993, p.247



Six cases were examined by Young and Osherenko to test their hypotheses, among which there is only one non-regime case. All cases are related to the Arctic region and belong to the policy arena of environmental and resource issues. Since only Arctic regimes were used as case studies, the political situation in the Arctic has probably influenced regime formation. It should be taken into account that the political situation in other regions differs from that in the Arctic, which might make it more questionable to generalise results.

The number of cases is still quite small, therefore selection bias cannot be ruled out. Again, this questions the possibility to generalise the results. Furthermore, it is not clear how constraining or selective with respect to the universe of cases the conditions hypothesised as necessary or facilitating really are. Individual leadership is regarded a necessary condition, but the fact that all regimes emerge in the presence of this does not imply that this phenomenon is likely to be ever absent in the universe of cases regarding regime formation. Leadership could just be a regular additional effect of the bargaining process (Hasenclever et al., 1997, pp. 78-80).

There are also some questions surrounding the operationalisation of the independent variables and use of certain terms. It is not exactly clear what is meant by an equitable solution, salient solution, the presence of values in the bargaining process, etc (Hasenclever et al., 1997, pp. 80, 81).

9.3 Conditions for regime formation

Since there are so many factors which might be influencing regime formation it is necessary to make a synthesis and filter out the most important factors. This will be done by answering two questions; first, what factors relevant for regime formation are most often mentioned in the literature? Second; what factors are most relevant for the purpose of this thesis? The first question will be answered by

comparing the factors mentioned by Zürn, Dieperink and Young and Osherenko.³⁶ The second question will be answered with help of some criteria for selecting the most relevant and suitable factors. Answering these two questions has led to the list of factors presented in table 9.1 below. The factors have been stated in such a way that it can be tested whether they are present in the Arctic situation or not.

Table 9.1: Factors to be investigated for regime formation*

<p><i>Interaction:</i></p> <ul style="list-style-type: none"> • Sufficient density of transactions
<p><i>Characteristics of the issue area:</i></p> <ul style="list-style-type: none"> • Correspondence between the types of foreign policy of the actors • A lesser number of actors in the issue-area • A good state of the overall relationship between the actors • Presence of an intergovernmental deliberative body • Issue has high priority for one or more parties but low priority for others • Presence of individual leaders • Presence of political will
<p><i>Knowledge factors:</i></p> <ul style="list-style-type: none"> • Efforts are conducted to increase knowledge • Presence of an epistemic community • Experiences with comparable problems elsewhere
<p><i>Socio-economic factors:</i></p> <ul style="list-style-type: none"> • Professionalisation and internationalisation of interest groups
<p><i>Type of solution:</i></p> <ul style="list-style-type: none"> • Presence of a veil of uncertainty • Availability of clear-cut, non-intrusive and effective compliance mechanisms • Outcome is regarded equitable

* Factors stimulating for regime formation are in a normal font
Factors necessary for regime formation are in bold

First of all, there is some overlap between the factors named by different authors. Eliminating the overlap already shortens the list to some extent, but it remains quite long. Given the time and resources available for this thesis it will not be possible to investigate them all. Therefore, some criteria have been set to select the most relevant factors. First of all, there are some factors which already on their own are too comprehensive for this research. These are mainly the socio-economic factors. It is not possible to closely investigate the societal appreciation of environmental quality and the homogeneity of the constituencies in all Arctic states, or even one Arctic state. This would require comprehensive surveys among the populations. At best, an estimate can be made by looking into recent environmental policies of the Arctic states but this would also require too much time and effort. Therefore, the factors ‘societal appreciation of environmental quality’ and ‘homogeneity of the constituencies’ will not be further researched. Also ‘type of foreign policy that is practiced by the actors’ is very broad and it is not possible to investigate this factor in detail for all Arctic states.

³⁶ The Tübingen approach has thus far no theoretically grounded explanation for the empirical relationship between the type of problem and the likelihood of regime formation. Furthermore, it just tells us this likelihood. Since the focus of this thesis is more on the type of governance suitable for the Arctic and less on the problem type, this theory is not relevant for the purpose of this thesis.

Nevertheless, it is considered an important factor for the purpose of this thesis. Therefore an attempt will be made to give a short discussion on this factor for the Arctic states.

Young and Osherenko (1993, p. 196) emphasise the presence of “middle powers” to be a factor of importance in regime formation. However, they do not address how this factor might influence regime formation processes. Therefore, the presence of middle powers will not be considered.

A differentiation can also be made according to factors which give an estimation of the likelihood for regime formation in general and factors which can give more particular information about the chances a particular regime will be accepted by the Arctic states. For example ‘exogenous shocks or crises’ might be very stimulating for regime formation, but it is not relevant for the purpose of this thesis to predict whether such a thing might happen or not. It is known that oil pollution accidents have influenced the formation of regimes before, but an estimation of the chances for exogenous shocks or crises will not give further information about the chances a particular regime will be accepted by the Arctic states. The same is true for ‘distribution of issue-specific resources’. It is a given fact which is the same for all sorts of regimes that might be proposed for the Arctic situation.

Furthermore, the factors under the heading ‘negotiating strategies’ might stimulate regime formation but at this stage serve more as an ‘advice’ for the negotiating process. Since this process has not started yet, the negotiating strategies cannot be investigated. The same is true for ‘continual initiatives to keep the dialogue going’.

Last, it is not sure what is exactly meant by ‘presence or absence of salient solutions’. Neither Zürn nor Young and Osherenko clearly defined ‘salient solution’; therefore this factor will not be included in the final list of factors to be investigated.

This leaves us with the list of factors as presented in table 9.1. The factors are more elaborately explained below.

- Density of transactions: This means the contact between states, how often do they meet? The presence of a certain transaction density between the state parties stimulates developments, because ideas can be more easily dispersed.
- Correspondence between the types of foreign policy of the actors: This factor is very broad and it is not possible to investigate it in detail for all Arctic states. Nevertheless, it is considered an important factor for the purpose of the thesis. Therefore, an attempt will be made to give a short discussion on this factor for the Arctic states.
- Number of actors in the issue-area: it is assumed that less actors will make it easier to form a regime.
- State of the overall relationship of the actors: do contacts between the states have a friendly basis, do they cooperate in a manner that is appreciated by both / all states?
- Presence of an intergovernmental deliberative body: do the states already cooperate in an intergovernmental deliberative body which arranges meetings and provides and disperses information? Are all parties to be involved in regime formation a member to this body?
- Issue has high priority for one or more parties but low priority for others: in some instances, not paying too much attention to an issue can enhance prospects for regime formation, but keeping the issue out of the limelight in all countries is not regarded necessary for regime formation (Young and Osherenko, 1993, p. 137).
- Presence of individual leaders: leadership by individuals proved to be important in regime formation processes. It differs from leadership by states and refers to the actions of individuals

who attempt to solve or get round the collective action problems encountered by the parties in regime negotiations (Young and Osherenko, 1993, p. 18).

- Presence of political will: Much depends on the willingness of nation states. If their political leaders are not willing to start regime negotiations or forthcoming to the wishes of other states this can seriously hamper regime formation.
- Increase in knowledge: This relates to research conducted by states involved in regime formation and other actors. Do they conduct substantial research in the issue area under negotiation? Newly obtained knowledge could bring new problems out into the open, which are to be negotiated.
- Presence of an epistemic community: The creation or existence of a transnational network of scientists and policy makers can be an influential force in regime formation. It can stimulate developments by providing information and making suggestions for the negotiations. Further, it can function as a link between those who have a common understanding of the problem and its solutions and policy makers.
- Experiences with comparable problems elsewhere: Do the states involved in regime formation look for comparable situations elsewhere where the problem has successfully been dealt with? If so, states can learn from this and use the experiences from this situation (Dieperink, 1997, p. 49).
- Presence of a veil of uncertainty: This factor refers to all the things that make it difficult for individual participants to foresee how the operation of the regime will affect their interests in the future. Therefore, they cannot assess exactly what they commit to when signing the regime. The veil of uncertainty can be made most of by lengthening the time the regime is expected to operate, by leaving the regime open to accession by other states in the future, and by including ambiguous provisions subject to a variety of interpretations. It will then be easier for parties to approach the problem as an integrative exercise (Young and Osherenko, 1993, p. 13).
- Professionalisation and internationalisation of interest groups: NGOs can influence decision makers to start regime development via the media and by lobbying. This also provides for attention in society for the problems and necessary measures. Chances that they will succeed in this are bigger when they are more competent and internationalised.
- Availability of clear-cut, non-intrusive and effective compliance mechanisms: In regime negotiations, often the concern arises that other participants will fail to comply. Therefore, it is important that compliance mechanisms are developed that are effective, but they should also be regarded as not being intrusive. States should not get the feeling that they will be forced to comply and that there is no way they can ever get out of the regime again.
- Outcome is regarded equitable: a regime can only be negotiated when all the major parties and interest groups feel that their primary concerns have been treated fairly (Young and Osherenko, 1993, p. 14).

9.4 Conclusion

The systematic review of theories on regime formation has led us to a list of fifteen factors to be assessed for the Arctic situation. The presence or absence of these factors will tell us whether or not it is feasible that an AROHA will be negotiated. These factors will be assessed in the next chapter.

Chapter 10 Feasibility of regime formation

10.1 Introduction

This chapter focuses on the feasibility that the Arctic states will adopt a regime as proposed in chapter 8. The following research question will be answered: *which factors influencing regime formation are present in the Arctic situation?* After a short introduction, each factor identified in the previous chapter will be investigated to see whether, and in what way, it is present in the Arctic situation. This will be done by interviews with experts in the field of the Arctic and Arctic politics, by a thorough investigation of Arctic states' policies, and by studying the literature available on the Arctic (political) situation. Based on these assessments a conclusion on whether regime formation is feasible or not will be given in paragraph 10.3. A discussion of the Arctic states' policies can be found in attachment 11.

A clear overview of the factors assessed in this chapter is provided in table 10.1. Scores are assigned based on a factors presence in the issue area. + means that the factor is present in the issue area and thus, according to regime theory, has a stimulating influence on regime formation. – means that the factor is not present in the issue area. One factor could not be properly assessed, this is depicted by a ?. In the remainder of this paragraph each factor will be addressed in more detail.

Table 10.1: Presence of factors influencing regime formation*

Factor	Score
Sufficient density of transactions	+
Correspondence between the types of foreign policy of the actors	+
A lesser number of actors in the issue-area	+
A good state of the overall relationship between the actors	+
Presence of an intergovernmental deliberative body	+
Issue has high priority for one or more parties but low priority for others	-
Presence of individual leaders	-
Presence of political will	-
Efforts are conducted to increase knowledge	+
Presence of an epistemic community	+
Experiences with comparable problems elsewhere	+
Professionalisation and internationalisation of interest groups	+
Presence of a veil of uncertainty	+
Availability of clear-cut, non-intrusive and effective compliance mechanisms	-
Outcome is regarded equitable	?

* Factors stimulating for regime formation are in a normal font

Factors necessary for regime formation are in bold

10.2 Assessment of the factors influencing regime formation

Density of transactions

The Arctic states cooperate through the Arctic Council. It is an intergovernmental forum to address the common concerns and challenges of the Arctic states, except for matters related to military security. The Arctic Council meets every two years at the ministerial level. Further, there is a group of

high level officials, the Senior Arctic Officials (SAO), which guides the work of the Council between the ministerial meetings and which meets every six months. The working groups of the Arctic Council consist of representatives of national governmental agencies of the Arctic states and representatives of the Permanent Participants. These working groups meet at regular intervals, ahead of meetings of the SAOs and the Ministerial meetings (Arctic Council Secretariat, 2010).

Furthermore, the Nordic countries - Denmark, Finland, Iceland, Norway, Sweden and the autonomous territories of the Faroe Islands, Greenland and Åland – work together through the Nordic Council and the Nordic Council of Ministers. They cooperate in a range of issue areas, among which the Arctic (Norden a, 2010). There are many other forms of cooperation between the Arctic states, such as bilateral agreements, multilateral agreements, joint research programmes and other regional fora. Therefore, density of transactions between the state parties is regarded sufficient in order to stimulate developments by dispersion of ideas and to stimulate regime formation.

Type of foreign policy that is practiced by the actors

The Arctic states all have divergent interests, and political- and historical connections which determine the policies of the Arctic states (Schlingemann, personal communication, 21-04-2010).

Sovereignty is an issue emphasised by all Arctic coastal states. Canada, Norway, Russia and the US clearly state that they have a military presence in the Arctic region in order to make sure their sovereignty is recognised, to maintain stability in the region and to protect national interests and security. Denmark is currently investigating the implications for Danish security of Arctic developments with respect to energy, minerals and supply. These states have also all submitted claims to the Commission on the Limits of the Continental Shelf (CLCS) or are preparing such claims. Canada, Denmark and Russia all claim the Lomonosov Ridge (depicted in figure 8.2). The US Arctic policy stressed the need for accession to UNCLOS in order to submit a claim.

Also the economic dimension of the Arctic is mentioned by all coastal states. All see the opportunities of oil and gas exploitation and want to make use of it. Development of these resources is regarded necessary by the Arctic states to strengthen the economic development of the northern regions. Russia even indicates the Arctic to be its future top strategic base for natural resources. Norway also emphasises knowledge development and the ambition to have world-class expertise besides just exploitation of the resources.

"Canada's new government understands that the first principle of Arctic sovereignty is use it or loose it... Today's announcements tell the world that Canada has real, growing, long-term presence in the Arctic". Canadian Prime Minister Harper, 10 August 2007

"The High North is a new and very important European energy province. In addition to Norway, several other countries are now opening up prospects of exploiting the resources of new areas of the sea. It is important to ensure responsible exploitation of the resources of the sea in the High North". Norwegian Ministry of Foreign Affairs

"It's a very important move for Russia to demonstrate its potential in the Arctic... It's like putting a flag on the Moon". Artur Chilingarov, Russian mission's leader, explorer and parliamentarian

Sources:

<http://news.bbc.co.uk/2/hi/americas/6941426.stm>

Norwegian Ministry of Foreign Affairs (2009, p. 68)

BBC MMX <http://news.bbc.co.uk/2/hi/europe/6925729.stm>

Regarding environmental policy there is a big difference between Russia and the other Arctic states, which are more in line with each other. Norway is regarded to have the most stringent environmental policy. For the US it strongly depends on the government; it is expected that more stringent environmental policies will be developed under President Obama (Hacquebord, personal communication, 22-04-2010). However, all Arctic states indicate in their policies and strategies that they aim for responsible and sustainable development of the Arctic region. Most states do not indicate how they want to achieve this. Sustainability and environmental protection are often an issue on the agendas of Arctic states' meetings (Saksina, personal communication, 29-04-2010).

Regulation is also an issue addressed by all Arctic states, except for Russia. The other Arctic states mention that they do not want internationalisation of the Arctic, nor new arrangements. UNCLOS is mentioned to be the main regulatory framework by several states. Nevertheless, Denmark, Norway and the US do indicate that they might be open for sector specific regulation, if needed.

All Arctic states indicate that they want to strengthen cooperation amongst them. Often mentioned elements are cooperation in science, cooperation in search and rescue and specific bilateral relations. There are three Arctic states (Canada, Finland and Sweden) which indicate to be willing to engage other countries in Arctic issues.

The foreign policies of the Arctic coastal states do correspond to a certain level; all emphasise the same issues. Further, all Arctic countries state that they want to economically develop the region in a sustainable manner and mention that they want to strengthen cooperation. Mainly this last issue gives hope for more comprehensive cooperation in the Arctic. However, it is also noticed that sovereignty is a very delicate issue. The strong focus on this seems to hamper more far-reaching cooperation, mainly when it comes to resource exploitation. The announcements of Denmark, Norway and the US that they might be open for sector specific regulation most likely do not concern environmental regulation for offshore hydrocarbon activities.

Number of actors in the issue area

It would be unusual to include non-coastal states in negotiations regarding an AROHA, since it focuses on offshore mining. Overall, the feasibility of an AROHA is regarded higher when only the five coastal states are included in regime formation. The Russians for example often have difficulties with others being involved in "their" Arctic. As soon as other states are involved, aversion arises towards any kind of regime formation process (Molenaar, personal communication, 11-05-2010 – Schlingemann, personal communication, 21-04-2010).

However, there have already been some irritations among the non-coastal Arctic states and indigenous peoples groups about not being invited to meetings among the 'Arctic five'. It could be doubted whether the international community will accept the five coastal states making decisions by themselves (Saksina, personal communication. 29-04-2010). Nevertheless, things seem to move in this direction.

State of the overall relationship of the actors

The overall relationship between the Arctic states can be characterised as sufficiently good; contact between state representatives in meetings has been described as being 'cordial' (Holder, personal communication, 03-05-2010). However, relations might have been damaged to some extent by the recent meetings to which just the Arctic coastal states were invited. The first meeting in Ilulissat, in May 2008, did not yet cause a great deal of controversy. However, when the meeting between the coastal states in Chelsea, Canada, was convened in March 2010, Iceland, the EU and various northern

indigenous groups expressed their irritation (Boswell, 2010). This situation could pose a threat to the Arctic Council (Polet, G., personal communication, 03-02-2010).

Furthermore, although in their Arctic policies and strategies the Arctic states do not regard it as a problem, the overlapping claims to the continental shelf and some other territorial conflicts must not be forgotten. Some examples are the dispute between Canada and the US regarding the Northwest Passage, the dispute between Canada and Denmark concerning Hans Island, and the overlapping claims on the Lomonosov Ridge. These conflicts could be regenerated any time. There have also been many tensions between Russia and Norway, it remains to be seen whether these will be solved by the recently agreed joint statement between these countries. One can conclude that on the surface the overall relationship between the states is good, but there are many underlying issues which might change this.

Presence of an intergovernmental deliberative body

The Arctic states already cooperate through the Arctic Council. This could have been a forum where some strict agreements can be made, but the Arctic states did not give the Council the mandate to provide for legally binding decisions. They have made the Council a forum in which one mainly speaks about scientific research. When political controversial issues come up for discussion, the Arctic states avoid this or wipe it off the agenda (Schlingemann, personal communication 21-04-2010). The Arctic Council has been a good enough forum to discuss issues and bring the Arctic states together, but it cannot adopt any legally binding decisions. Further, it does not take on a proactive approach; it does not foresee problems and act in order to prevent them (Saksina, personal communication, 29-04-2010). Nevertheless, the body is there; it arranges meetings, provides and disperses information and all potential Contracting Parties are a member to it.

Issue has high priority for one or more parties but low priority for others

Among the five Arctic coastal states, no priority seems to be attached to regime formation regarding offshore hydrocarbon activities. All indicate that they regard the environment important and that they want protect it, but no one seems to be willing to take steps towards a legally binding regime. Outsiders such as the EU, UNEP, WWF and non-coastal Arctic states (mainly Sweden) indicate that they do want more stringent rules and regulations in the Arctic. However, the Arctic coastal states do not regard them as parties in the issue area.

Presence of individual leaders

Individual leaders who are pushing for regime development in the Arctic could not be defined. According to Mr. Schlingemann (personal communication, 21-04-2010) however, they are present but not convinced of the necessity of regime formation yet. There has not been enough pressure and well organised information up to now, therefore no initiatives have been taken so far. Furthermore, there are some outsiders who argue for an Arctic regime (Saksina, personal communication, 29-04-2010). However, they do not seem to have a real influence on the political process. Therefore, currently no individual leaders seem to be present. This factor is regarded necessary for regime formation.

Presence of political will

The Ilulissat Declaration cannot be left unmentioned here. It states that the Arctic coastal states are in the unique position to address the possibilities and challenges faced by the Arctic Ocean. They are of the opinion that the UNCLOS framework “provides a solid foundation for responsible management

by the five coastal states and other users of this Ocean [...]” (Ilulissat Declaration, 2008). Therefore, these states see no need to develop “a new comprehensive international legal regime to govern the Arctic Ocean” (Ilulissat Declaration, 2008). Related to shipping disasters the Declaration nevertheless states that steps will be taken, both nationally and in cooperation with the five coastal states and other interested parties, to ensure the protection of the Arctic Ocean. Furthermore, it was decided to strengthen search and rescue capabilities. The objective is to have a legally binding agreement ready for adoption by 2011 (Molenaar, 2010). This indicates that, although a comprehensive international legal regime is not desired, the Arctic states might be more open to sectoral agreements. Declarations such as the Ilulissat Declaration can be characterised as “window dressing”. They are being used to maintain distance from having to make legally binding agreements (Schlingemann, personal communication, 21-04-2010).

The Arctic states all have their own interests which they want to protect. This leads to the fact that little is happening when it comes to Arctic governance (Schlingemann, personal communication, 21-04-2010). The fear of third parties getting involved is connected with the strong feelings of sovereignty within the territorial waters and EEZs of the Arctic coastal states. These areas are part of their national jurisdiction; under UNCLOS the coastal states have the rights to establish rules and regulations in these areas. Therefore, the Arctic states will have to voluntarily start regime negotiations. However, there seems to be a lack of political will to start negotiations on an offshore hydrocarbons regime.

Increase in knowledge

A lot of research is being conducted concerning the Arctic; both natural sciences research as well as research concerning governance and politics. Research is being done on a national level, in cooperation with other countries, by international organisations and by NGOs. And not just the Arctic states conduct research, also China, the Netherlands, and many other countries are researching the Arctic and Arctic governance. From 2007 up to 2008 there was the International Polar Year in which even more research was done. Also, research done by the epistemic communities indicated below contributes to the knowledge base. However, it remains to be seen whether the outcomes are actually used, one might get the impression that the Arctic states are “taking refuge in research” (Schlingemann, personal communication, 21-04-2010).

Presence of an epistemic community

There are two epistemic communities to be identified that are occupied with Arctic governance. The first is the Arctic Governance Project; a project that has been active over the last couple of years to “frame the critical issues of governance in the Arctic and devise innovative responses for a sustainable future” (Arctic Governance, 2010). It has brought together preeminent researchers, indigenous leaders and members of the policy community. In January 2010 an action agenda and a report entitled ‘Arctic Governance in an Era of Transformative Change: Critical Questions, Governance Principles, Ways Forward’ were compiled. Also, a range of perspectives, proposals and scientific investigations concerning Arctic governance are collected in a compendium (Arctic Governance, 2010).

The second epistemic community is the Aspen Institute. It is an international non-profit organisation. The Institute’s board of trustees includes leaders from politics, government, business and academia (Aspen Institute b, 2009). Regarding the Arctic, the Aspen Institute has set up a partnership with the Prince Albert II of Monaco Foundation to convene an international civil society Dialogue and Commission to consider the social, environmental, economic, and legal implications for

the Arctic's inhabitants and resources of global climate change. Aim is to assess the adequacy of current institutional arrangements and international policies (Aspen Institute a, 2009).

Furthermore, there are some organisations which are carefully pushing for regime formation, for example the UN Environmental Programme (UNEP). They are investigating whether there are countries which could take the initiative and invite the Arctic states for brainstorm sessions. UNEP does not want to booze the pressure on the Arctic states, and therefore takes a noncommittal attitude. There is also the European Union which likes to be more actively involved in Arctic governance. In 2008 the European Parliament adopted a resolution on Arctic governance, and the European Commission applied for observer status in the Arctic Council, which was denied (Schlingemann, personal communication, 21-04-2010).

Experiences with comparable problems elsewhere

Recently, an environmental treaty has been negotiated for the Caspian Sea. This is the only treaty between the five coastal states of this sea - Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan. They were not able to come to an agreement before, since there is no concordance on which part of the sea belongs to whom. Nevertheless, they were able to reach an agreement. Important in this regard is that the treaty is considered by the coastal states to be really 'theirs'. They will therefore not be called to account by other states (Schlingemann, personal communication, 21-04-2010). This situation is to some extent comparable with that in the Arctic. It is however not sure whether the Arctic States have taken notice of this achievement. Nevertheless, there are several Arctic States (Norway, Denmark, Sweden, Finland, Russia, Iceland) who already have experiences with regimes concerning marine pollution and hydrocarbon activities, such as the OSPAR Convention and the Helsinki Convention. All Arctic states have experiences with international environmental regimes. Again, it is not sure whether the Arctic states take these regimes as examples for the Arctic situation. It should be taken into account that the issue area differs from case to case. Its climatologic conditions, environmental sensitivity and territorial disputes make the Arctic unique. Therefore, there is never a perfect comparable situation from which one might learn.

Professionalisation and internationalisation of interest groups

The World Wide Fund For Nature (WWF) is conducting an active lobby for regime formation in the Arctic (Schlingemann, personal communication, 21-04-2010). The conduct much research on, among others, Arctic governance and regulation, the consequences of climate change and species conservation. There are some local NGOs which want more environmental regulations in the Arctic, but these groupings do not seem to have much influence. Also Greenpeace has a programme on Polar Oceans and conducts research regarding the Arctic. However, the WWF is seen as the only interest group which could actually make a difference, it is approved in all Arctic states, even in Russia, and has observer status in the Arctic Council (Hacquebord, personal communication, 22-04-2010). Nevertheless, thus far it did not have much success in its lobby for Arctic environmental regulation (Knizhnikov, A., personal communication, 03-02-2010). Since states do not like to be called to account regarding their hydrocarbon activities, the WWF takes a careful approach in addressing states on this issue. They chose not to tell states to limit their hydrocarbon activities, but advice them conduct the activities in a sustainable manner (Saksina, personal communication, 29-04-2010).

Presence of a veil of uncertainty

The proposed regime does not make it really difficult for the participants to foresee how it will affect their interests in the future. More, it was chosen to design a regime which is as clear as possible in

order to enhance effectiveness. However, there are some elements which might hamper foresight to some extent. First, no provisions are incorporated which indicate up to when the regime will be in force and, although only when unanimously invited by the Contracting Parties, the regime is open for accession by other interested parties. Also, the proposal includes the precautionary principle, the principle for best available techniques and best environmental practice and the principle of sustainable development. When acted upon, these principles require that Contracting Parties should take the best possible measures to protect the environment, but they do not state what the states are precisely committed to. Furthermore, the proposal requires Contracting Parties to restore marine areas that have been adversely affected. However, states cannot foresee how many, and to what extent, marine areas will be affected in the future.

Availability of clear-cut, non-intrusive and effective compliance mechanisms

In the proposal, an Arctic Offshore Hydrocarbon Commission is established which has the power to monitor and verify compliance, review implementation, control permits for industries and to inspect and control on offshore installations. The Commission should be able to enforce compliance by its members. These are some unusually far-reaching competences, they could not be qualified as being 'non-intrusive'. Therefore, the proposed compliance mechanism will most likely not be acceptable to the Arctic states (Molenaar, personal communication, 11-05-2010).

Outcome is regarded equitable

As mentioned before, the Arctic states have different interests, political and historical connections. However, when it comes to oil and gas mining their interests are more or less similar; exploitation of the resources in a manner that does not damage the environment (too much). Environmental concern and the state of technological development are not equally high in all Arctic coastal states, which might give some problems in regime negotiations. Nevertheless, one would say that since the same regulations would apply for all Contracting Parties, they could not regard this as being inequitable. Furthermore, it might be that the Arctic non-coastal states will not accept regime negotiations between just the coastal states. Unfortunately, with the information at hand it is not possible to give a concrete answer to the question whether the Arctic states will regard the proposed regime as equitable.

10.3 Conclusion

There are many factors which score a +. These are present in the issue area and, according to regime theory, they should therefore stimulate regime formation. However, chances for the formation of an AROHA still seem minimal. Of the factors regarded necessary for regime formation, two were assessed not present (individual leaders and clear-cut, non-intrusive compliance mechanisms) and one could not be assessed (outcome is regarded equitable). According to regime theory, this makes the chance for regime formation very small. The ten factors that are present in the issue area and that are likely to positively influence regime formation are therefore not enough to positively assess chances for regime formation. More, some underlying characteristics of the issue area, such as the delicate sovereignty issue and the apparent split between Arctic coastal and non-coastal states, might negatively influence chances for regime formation. Consequently, it can be concluded that it is highly unlikely that a regime as proposed in chapter 8 will be negotiated by the Arctic coastal states.

Chapter 11 Discussion

As in every research there are several elements which are open for discussion. First of all, there are some things to be said against the choice for the assessment criteria for regime effectiveness. Bringing a literature review on regime effectiveness back to four criteria is quite an exercise and given the scope and time available for this research some interesting criteria had to be left out. As many regime scholars I did not have the possibility to look into the impact phase of regimes, while this might have been the most interesting. Next, by performing a somewhat rough elimination I brought a considerable list of criteria back to four. In first instance, I wanted to make a division between output and outcome criteria. However, when assessing the regimes it turned out to be difficult and time consuming to obtain information on the actual outcome of the regimes, how they worked in practice and in what way they influenced actors. Therefore, the assessments remained mainly limited to the output of the regimes; how they were set on paper. Furthermore, during the development of the assessment criteria and when talking to Steinar Andresen (08-04-10) I noticed that 'implementation' and 'compliance' were often defined differently by authors, which led to some confusion. Furthermore, when actually assessing the regimes I found that many authors do not make a clear difference between implementation and compliance, however defined. Often they discuss implementation and compliance as if it is the same. This made it hard to clearly assess the regimes on these two criteria.

Secondly, I changed my choice for the comparable policy models to be assessed several times which took up a lot of time. I started off with UNCLOS, the whole Antarctic Treaty System (ATS), the Arctic Council Oil and Gas Guidelines and OSPAR. Later, I realised that UNCLOS and the ATS were much too broad and that I could use the Guidelines as a point of departure. The final choice for OSPAR, the Helsinki Convention, CRAMRA and two regional agreements was mainly based on comparability with the issue area and information available. However, it should be taken into account that these four regimes are still far from the Arctic situation. Further, it turned out that I could not achieve all the information I would have liked. Mainly for the Helsinki Convention and the regional agreements this was a problem.

Third, it was not always easy to approach people for interviews. I was not able to speak to all people to whom I would have liked to speak. Below a list of peoples and institutions who I approached, but who were not available for interviews:

- Mr. C.J. Bastmeijer – professor at the University of Tilburg
- Winifred Broadbelt – Head juridical affairs, Ministry of transport and public Works
- Wolfgang Burhenne – former chairman of the IUCN Chairman Commission on Environmental Policy and of the IUCN Commission on Environmental Law
- Kristine Offerdal – Research Fellow at the Department of Norwegian Security Policy
- Protection of the Arctic Marine Environment secretariat
- Olav Schram Stokke – Senior research fellow at the Fridtjof Nansen Institute
- Vincent van Zeijst – Dutch representative in Arctic Council, Ministry of foreign affairs
- Representatives of several Arctic states; Denmark, Iceland, Norway, Russia

Regarding the gathering of information, another method gave some trouble too. For the assessment of the factors influencing regime formation the first idea was to gather information in the media via LexisNexis in order to assess the positions of the Arctic states. Unfortunately, little

information was found via this method. Therefore, it was decided to base chapter 10 on policy documents, articles and interviews.

An issue to take into account regarding my regime proposal, is that an agreement which only focuses on offshore hydrocarbon activities might give some problems. It is important that all regulation concerning the Arctic Ocean is geared to each other. A regime covering all uses of the Arctic Ocean would be most effective (Molenaar, personal communication, 24-03-2010).

Sixth, it is recognised that the compliance mechanisms as proposed in chapter eight are very intrusive, unusual in international law and not acceptable to states. The reason for this is that they are based on criteria for regime effectiveness. In assessing the comparable policy models it was found that the lack of power to enforce compliance and to inspect and control contracting parties made a regime less effective. However, in practice, less intrusive compliance mechanisms, such as reporting in combination with 'naming and shaming', might be just as effective.

Furthermore, some comments can be made on the method for assessing the feasibility of regime formation. Most authors have investigated existing regimes and the factors that led to their establishment. Based on these existing regimes they have identified factors that should stimulate regime development or that are necessary for regime development. It turns out that there are some difficulties in using these factors to predict the feasibility of a new regime to develop. The theory that just the presence of factors in the issue area has an influence on regime development does not seem to be right. Much depends on the issue area, which differs from case to case. In this study, many factors were found to be present in the issue area. Although these factors are present, it is regarded unlikely that they will all stimulate regime development because of the specific Arctic situation. For example, the factor 'correspondence between the types of foreign policy of the actors' is present in the issue area. However, because of the delicacy of the sovereignty issue it is expected that the Arctic states will exercise restraint regarding more far-reaching cooperation. Secondly, a good relationship between the Arctic states seems to be present, but might have been damaged by the recent meetings between the five coastal states. Also, the overlapping claims to the continental shelf and other territorial disputes can be regenerated at any moment and deteriorate the relationship between Arctic states. This leads to the conclusion that one has to be careful in generalising studies on regime formation. In addition, it was found that there is some overlap between the factors used to assess the feasibility of regime formation in this thesis.

Last, it should be noticed that there are many different ideas on Arctic governance, all with their pros and cons. The proposal for an AROHA in this thesis is just one of them. Others are of the opinion that nothing should change in Arctic governance, that the whole international community should be involved in regulating the Arctic, or that mining in the Arctic Ocean should be prohibited all together. In this thesis it was attempted to clearly explain why a certain approach was chosen. Nevertheless, it is recognised that there is no single true solution to the governance of the Arctic.

Chapter 12 Conclusion

The main research question of this thesis is: *What are the features of a regime which can effectively protect the Arctic environment from the negative effects of offshore hydrocarbon activities?* In order to answer this question several steps have been taken, the outcomes of which will be discussed in this conclusion.

12.1 Features of an effective regime

Textbox 12.1 contains an outline of the proposal for an AROHA, based on criteria for regime effectiveness. The features that make an AROHA effective are described in more detail in the remainder of this paragraph.

Textbox 12.1: Outline of an AROHA

REGIONAL AGREEMENT ON THE REGULATION OF ARCTIC OFFSHORE HYDROCARBON ACTIVITIES

Preamble

- the impact of climate change on the marine Arctic area;
- the values of the Arctic marine environment and the sensitivity of its living resources to changes in the environment;
- the increasing opportunities for offshore hydrocarbon activities;
- the economic and social effects of offshore hydrocarbon activities;
- the need to protect the Arctic marine environment from negative environmental effects of offshore hydrocarbon activities;
- the importance of the original inhabitants of the region;
- the progress made by the Arctic Council;
- the current Arctic Council Offshore Oil and Gas Guidelines do not adequately protect the environment against the negative effects of offshore hydrocarbon activities;
- the need for regulation of offshore hydrocarbon activities in such a manner that the Arctic marine environment will continue to sustain the legitimate uses of the sea and will continue to meet the needs of the present and future generations;
- the need for, and importance of, cooperation between the Arctic states;
- the Law of the Sea; the United Nations Conference on the Human Environment, held in Stockholm in June 1972; and the United Nations Conference on the Environment and

Development held in Rio de Janeiro in June 1992; and

- the consistency of the instrument with other international instruments.

Objective

To prevent and eliminate pollution from offshore hydrocarbon sources and to protect the Arctic maritime area against the adverse effects of offshore hydrocarbon activities so as to safeguard human health and conserve the marine ecosystems. To ensure that both present and future generations, and especially the original inhabitants of the Arctic region, are entitled to the social and economic benefits arising from offshore activities.

General Principles

- The precautionary principle
- Polluter pays principle
- Best available techniques and best environmental practice
- Sustainable development
- Scientifically appropriate measurements and calculations

Spatial Scope

- Contracting parties are: Canada, the Kingdom of Denmark (Greenland), the Kingdom of Norway, the Russian Federation, and the United States of America.

- This agreement shall apply to the territorial seas of the Contracting Parties, and to the sea beyond and adjacent to the territorial sea under the jurisdiction of the Contracting Parties to the extent recognised by international law within 60° north latitude, excluding:
 - the Bering Sea and Bering strait
 - the area between 42° west longitude and 30° east longitude

Main obligations

- Cooperation to pursue the objectives of the Agreement and apply its general principles.
- Prevention and elimination of pollution from all phases of offshore hydrocarbon activities.
- Obtainment of a permit for exploration and exploitation activities.
- No dumping or leaving partly in place of disused offshore installations.
- Plugging of disused drilling wells.
- Restoration of marine areas which have been adversely affected.
- Decisions about offshore hydrocarbon activities shall be based upon sufficient information.
- Monitoring and reporting.
- Evaluation of the effectiveness and progress of the regime.
- Adequate response ability to pollution incidents shall be maintained by all contracting parties. In case of an incident the parties shall notify each other and consult regarding the most effective response.
- Liability of mining enterprises and states.

Institutional structure

The Arctic Offshore Hydrocarbon Commission can take legally binding decisions and recommendations. Its mandate is to focus on regulating offshore hydrocarbon activities and protecting the marine environment. The

Commission meets once a year and is endowed with the following tasks:

- To monitor and verify compliance;
- To review implementation;
- To control permits for industries;
- To inspect and control; and
- To closely cooperate with other organisations.

The Commission is supported by a secretariat.

Decision making

Based on unanimity. If unanimity is not attainable it should be able to make a decision by a three-quarter majority vote of the Contracting Parties.

Dispute settlement

A first step is negotiation between the parties. If an agreement cannot be reached a second step would be consensual submission to a court or tribunal charged to provide for legally binding rules.

Financial provisions

Annual contributions by the regime members and contributions from operators conducting mining activities in the area.

Other provision

- Saving clause OSPAR and Spitsbergen Conventions
- Amendments
- Reservations
- Signature
- Ratification
- Accession
- Entry into force
- Withdrawal
- Depositary

Annexes

- Annex I: 'Monitoring and Assessment'
- Annex II: 'Criteria for the use of Best Environmental Practice and Best Available Technology'
- Annex III: 'Response to pollution incidents'

Regarding stringency it is of utmost importance to have an active regulatory body in place which has the mandate to take legally binding decisions. These decisions should be endowed with quantified targets and deadlines. Detailed standards and targets require an actual behavioural change from the members to a regime. Therefore, vague wording should be avoided. The way in which a Convention

is stated can leave much freedom to the contracting parties. Nonetheless, vague wording is often used in order not to put states off.

It was found that many features that increase effectiveness are connected to the extent to which the system of activities targeted by the regime is in fact brought under its jurisdiction. Dividing offshore hydrocarbon activities up in phases and covering all these phases in the regime makes it inclusive and easier in use for member states and other actors bound by the regime. All activities related to offshore hydrocarbon mining should be included in these phases. Related to this, it is regarded important to include provisions regarding contingency planning, liability and finances. Also active cooperation within a regime can enhance effectiveness. The regulatory body of a regime can contribute to the level of collaboration, both within and outside the regime. Regular meetings of the body and its subordinate institutions increase cooperation within the regime. Involvement of the regulatory body in other regional organisations or management authorities in the same issue area, as well as contacts with actors affected by the regime, increases cooperation outside the regime. When standards are not just negotiated among states but also among industries and NGOs, the chances of reaching them are higher. The success of a regulatory body is closely related to the functioning of a Secretariat, which can facilitate the work of the regulatory body.

Regarding implementation the effectiveness of an AROHA can be enhanced by monitoring of, and reporting on, implementation. Requiring reporting on the legal and other measures taken to implement a regime and making these reports public can already enhance implementation to a large extent. In this, it is of importance that member states submit adequate information.

The same is true for compliance; regime effectiveness can be enhanced by monitoring and reporting. Making the data on compliance available to the public creates an extra drive for contracting parties to comply. Monitoring and reporting can be complemented by an inspection system; a provision to suspend, modify or cancel activities when they have unacceptable environmental impacts; and a provision for liability and response actions. It was furthermore found that regulatory bodies which have no power to enforce compliance make a regime less effective. This is however a very delicate issue, because it touches on state sovereignty.

Some other features that make an offshore hydrocarbons regime effective were found. First, it is important that an AROHA remains up-to-date, especially because it deals with climate change and rapid technological developments. This can be done by including a provision which states that programmes and measures may be adopted for existing activities not yet covered by the regime and for new activities. Also the principles of 'best available technology' and 'best environmental practice' contribute to keeping a regime up-to-date. A requirement for sufficient information for decision making can also enhance regime effectiveness. In order to obtain such information, requirements on EIA and SEA could be included. A last aspect which can influence the effectiveness of an AROHA is the method of decision making. Most common is decision making by unanimous vote of the Contracting Parties. However, this might lead to a small group of parties or just one party hampering decision making. Therefore, including the provision that decisions can be made by majority vote in case unanimity is not attainable makes a regime more effective.

12.2 Feasibility

It can be concluded that it is highly unlikely that an AROHA as presented above will be negotiated. Out of fifteen factors there are ten factors found to be present in the issue-area, therefore, they can stimulate regime formation. However, they do not outweigh the factors that are not present in the issue area.

A first stimulating factor is the density of transactions between the Arctic states. This is regarded sufficient to make regime formation more feasible. Secondly, the foreign policies of the Arctic states correspond; they emphasise the same issues and strive for comparable goals. Third, the number of actors in the issue-area is relatively small. Since the regime focuses on offshore mining, the five Arctic coastal states are the obvious participants. Fourth, a sufficiently good relationship between the Arctic states seems to be present. Another factor which is present in the issue area is an intergovernmental deliberative body. This deliberative body is the Arctic Council; all potential Contracting Parties are a member to it. Sixth, efforts are conducted to increase knowledge. The Arctic states conduct a lot of research concerning the Arctic environment. Non-Arctic states also conduct research, as do NGOs and other international organisations. In relation to this, there are two epistemic communities to be identified that are occupied with the Arctic and its environment. Both conduct research regarding governance in the Arctic. An eighth factor is that all Arctic states have experiences with international environmental agreements, some even with agreements very similar to an AROHA. The ninth factor which stimulates regime development is professionalisation and internationalisation of interest groups. The WWF has an extensive research programme concerning the Arctic environment and Arctic governance. It has observer status in the Arctic Council and is approved by all Arctic states. The last factor which is present in the issue area is a 'veil of uncertainty'. There are elements in the proposed AROHA which limit foresight to some extent.

Despite the presence of ten out of fifteen factors the formation of an AROHA is considered improbable. There are four factors which are not present in the issue area. First, it was not found that the issue has high priority for some parties but low priority for others. Another factor not present is 'political will'; the Arctic coastal states have clearly indicated that they regard the current regulatory regime for the Arctic Ocean sufficient. These factors are not present and therefore cannot stimulate regime development. This does not mean that they negatively influence regime formation; they are just not to be found in the issue area. Two other factors not present in the issue area are of more importance, they are regarded necessary for regime formation. First, according to regime theory, there should be individual leaders for regime formation to happen. All interviewees indicated that they are not familiar with any individuals taking up a leading role and pushing for regime formation. The other factor regarded necessary for regime formation, but not present, is the availability of clear-cut, non-intrusive and effective compliance mechanisms. The proposal for an AROHA, which is based on criteria for regime effectiveness, provides for very intrusive compliance mechanism, which would not be acceptable for the Arctic states.

There is one last factor which is regarded necessary for regime formation; the presence of an outcome that is regarded equitable. Unfortunately, with the information at hand for this research it was not possible to give a concrete answer to the question whether the Arctic states will regard the proposed regime as equitable. Therefore, this factor could not be assessed.

12.3 Recommendations

The proposal for an AROHA is aiming too high. However, a regime proposal that would be acceptable to the Arctic states would most likely not be effective. Moreover, it can even be questioned whether any proposal would be acceptable; none of the Arctic coastal states is currently willing to negotiate legally binding regulations concerning offshore hydrocarbon activities. Nevertheless, eight recommendations can be made for increasing chances for regime formation.

1. The compliance mechanisms should be made less intrusive. Including a reporting obligation and the provision that the reports are made public facilitates 'naming and shaming', a compliance mechanism found to be very effective in practice.
2. The institutional structure of the regime proposal should be changed to make it more acceptable to the Arctic states. A regulatory body would have to be endowed with limited competences in order not to interfere with state sovereignty. This would however greatly affect the effectiveness of the regime.
3. Feelings of sovereignty should be mitigated. The Commission on the Limits of the Continental Shelf should attempt to set clear delimitations of the continental shelf on which all Arctic coastal states can agree. Also, efforts should be made to solve the territorial disputes in which some Arctic states are involved. Furthermore, the negotiating process should be facilitated in such a way that the Arctic coastal states can consider a possible regime as "theirs". They clearly do not want outsiders 'looking over their shoulders'.
4. The current cooperation between the Arctic states should be maintained, as well as the Arctic Council.
5. The Arctic states, non-Arctic states and governmental and non-governmental organisations should keep up their research efforts in order to increase knowledge on the changing Arctic environment, on the effects of offshore hydrocarbon activities and on Arctic governance. This might lead to new insights which emphasise the necessity for regime formation.
6. The international community should keep investing in epistemic communities; they form an important link between scientists and policy makers.
7. Interest groups such as the WWF should keep up their work and expertise on the Arctic environment and governance. They should keep pushing for regime formation in order to increase feelings of priority and political will among the Arctic states. Also, interest groups should try to remain in close contact with decision-makers in order to create a basis of mutual trust and to encourage people with leadership qualities involved in the issue area to take up a leading role and push for regime formation.
8. NGOs and the international community should emphasise that a large part of the Arctic Ocean is beyond state sovereignty. Therefore, it is the common heritage of mankind. This, and its unique ecological value, makes the Arctic marine environment of international concern. They should also recall state obligations under UNCLOS. Article 194 requires that "states shall take, individually or jointly as appropriate, all measures [...] that are necessary to prevent, reduce and control pollution of the marine environment from any source [...], and they shall endeavour to harmonize their policies in this connection". Article 197 requires cooperation on global and regional basis, as appropriate, in formulating and elaborating international rules, standards and recommended practices and procedures for the protection and preservation of the marine environment, taking into account characteristic regional features.

There are thus several angles from which chances for the formation of an AROHA can be increased. However, this will be a difficult and time consuming task. It might be years before the Arctic coastal states are actually willing to start negotiating an AROHA and the negotiating process itself can also take several years. Nevertheless, history teaches us that the fact that chances for regime development are currently minimal does not mean this cannot change.

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U.S. minerals management service, Arctic Liaison, branch environmental assessment

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Saksina, Tatiana

Arctic Governance Officer at the WWF

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Attachment 1: Overview of the current international regime for offshore hydrocarbon activities in the Arctic

Obligations mainly come from the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and one of its implementation agreements; the Part XI Deep-Sea Mining Agreement. All Arctic states, except for the United States, have ratified its contents and it is regarded customary international law. Regarding the oil and gas deposits an important feature of UNCLOS is that it lays down the rules for establishing boundaries of jurisdiction over the seabed in which coastal states have the right to exploit resources (UNCLOS art. 56.1(a)). Hydrocarbons are included within the definition of 'resources' in article 133(a) of UNCLOS, which entails that hydrocarbon activities have to be in accordance with the relevant provisions of UNCLOS and the regulations adopted by the International Seabed Authority (ISA). However, UNCLOS is no more than a framework Convention. It does not provide detailed rules for environmental protection and offshore hydrocarbon activities.

Another framework convention is the Convention on Biological Diversity (CBD). All Arctic States except for the US are a party to the CBD. This Convention entered into force in December 1993 and has 3 main objectives: (1) The conservation of biological diversity; (2) The sustainable use of the components of biological diversity; and (3) The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. It is relevant to the Arctic because it also focuses on marine biodiversity in areas beyond national jurisdiction. A large part of the Arctic Ocean is beyond national jurisdiction. The CBD encourages Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) for activities which are likely to affect the biological diversity in areas beyond national jurisdiction. Furthermore, it provides guidance regarding Marine Protected Areas in areas beyond national jurisdiction (Koivurova and Molenaar, 2009, pp. 28, 32).

The Convention for the protection of the marine environment of the North-East Atlantic (OSPAR Convention) is a regional agreement under UNCLOS and another regime applicable to the Arctic Ocean. This Convention only covers part of the Arctic Ocean and not all Arctic states are members. OSPAR member states aim at adopting, on a regional level, stringent measures regarding the prevention and elimination of pollution of the marine environment and regarding the protection of the marine environment against the adverse effects of human activities, with the exception of fisheries management and with certain limitations to shipping regulations. The Convention provides for the implementation of certain parts of UNCLOS and complements certain rules and standards of MARPOL 73/78 (Koivurova and Molenaar, 2009, p. 16).

MARPOL 73/78 (the International Convention for the Prevention of Pollution from Ships) contains discharge standards for oil and noxious liquid substances. MARPOL 73/78 includes 'fixed or floating platforms' in its definition of 'ship', which makes that its discharge and emission standards are in principle also applicable to offshore installations (Koivurova and Molenaar, 2009, p. 23, 25).

A fifth source of regulation are the several smaller regional agreements, even though they do not purport to directly regulate offshore hydrocarbon activities:

- 1983 Agreement between Canada and Denmark – contains provisions on contingency planning and general provisions on a.o. the construction and operation of installations in order to minimise marine pollution. No regulatory body was established to implement these provisions.

- 1993 Agreement Between Denmark, Finland, Iceland, Norway and Sweden (Copenhagen Agreement) - specifies measures of monitoring and dealing with events such as oil spills in the waters under the jurisdiction of (one of) the parties to the agreement.
- 1992 and 1994 bilateral agreements between Norway and the Russian Federation – one of the main activities of its Working Group on Protection of the Marine Environment is the environmental regulation of the hydrocarbon industry.
- Joint Contingency Plan of the United States and the Russian Federation on Combating Pollution in the Bering and Chukchi Seas.
- Canada – United States Joint Marine Contingency Plan.

A sixth component of the international regime for offshore hydrocarbon activities in the Arctic are the Arctic Council Offshore Oil and Gas Guidelines. These Guidelines are not regarded a source of regulation since they are non-legally binding. They are an output of the Protection of the Arctic Marine Environment (PAME) working group of the Arctic Council and they provide the guiding principles and procedures for hydrocarbon activities in the Arctic Ocean. All Arctic states are a member to the Arctic Council and have participated in the establishment of the Guidelines.

There are two other agreements which are not per se a part of the regime for offshore hydrocarbon activities in the Arctic but which are worth mentioning in this context. First, there is the OPRC Convention (International Convention on Oil Pollution Preparedness, Response and Co-operation) and its 2000 HNS Protocol (Protocol on Preparedness, Response and Coordination to Pollution Incidents by Hazardous and Noxious Substances). Of the Arctic states, only Russia is not a party to this Convention (OPRC, 1990). Second, there is the Espoo Convention; the main international instrument on transboundary EIA. This Convention is signed by all Arctic states but has not yet been ratified by Iceland, the Russian Federation and the United States (Koivurova and Molenaar, 2009, p. 27).

Attachment 2: Development of the Arctic Council Offshore Oil and Gas Guidelines

In order to map out the development of the Oil and Gas Guidelines since publishing in 1997 and the revisions in 2002 and 2009, a comparison has been made of the three versions of the guidelines.

Since the revision of 2002 there has been more attention for socio-economic aspects in the Guidelines. They are not addressed in any detail but they are believed to be “important to consider and integrate into the planning and conduct of exploration and development” (PAME, 2002, p. 8). This statement also affected the goals for environmental protection during oil and gas activities as stated in the Guidelines by adding the goal of avoiding “adverse effects on livelihoods, societies, cultures and traditional lifestyles for northern and indigenous people” (PAME, 2002, p. 10). In the 2009 revision it was added that also adverse effects to subsistence hunting, fishing and gathering should be avoided and far more attention was paid to the potential effects of oil and gas activities on society and indigenous people. Furthermore, the 2009 version incorporated guidelines on effective communication with local residents (PAME a, 2009, pp. 6, 9, 10).

In 2009 there were some notable revisions in the goals for environmental protection. The goal to avoid “adverse effects on climate and weather patterns” was replaced by the goal to avoid “adverse effects on air and water quality that exceed national or applicable international standards or regulations”. It can be questioned whether ‘air quality’ also comprised the emission of greenhouse gasses, otherwise climate change has been left out the 2009 goals altogether. However, the challenge climate change poses to the Arctic environment is mentioned several times in other places in the 2009 Guidelines. There is also the reference to the national or international standards and regulations which implies that the Guidelines are not setting any stricter standards. As well to the goal to avoid “changes in the atmospheric, terrestrial (including aquatic), glacial or marine environments” the rider “that exceed national or applicable international standards or regulations” has been added (PAME a, 2009, p. 6).

In the 2009 version a general principle was added on which the offshore oil and gas activities should be based, namely the principle of ‘continuous improvement’ (PAME a, 2009, p. 6). Also, some aspects were added to the principle of ‘sustainable development’. Here, global climate change is mentioned, it should be “taken into account”. Furthermore, it was added that Arctic governments should be mindful of “integration of environmental and social concerns into all development processes” and “broad public participation in decision making” (PAME a, 2009, p. 7). These last aspects reflect the growing attention for socio-economic aspects in the Oil and Gas Guidelines.

When studying the revisions in the Guidelines over the years it can be noticed that they have become more specific regarding chemicals and contaminants. They, and their effects on the environment, are more extensively mentioned and described, especially in the 2009 version. Also the other effects oil and gas exploration and exploitation might have on the environment and waste management practices are more extensively mentioned. The 2009 Guidelines for the first time pay specific attention to the effects of a potential oil spill (PAME a, 2009, p. 8). In 1997 this subject was almost ignored, and also in the 2002 Guidelines it was not yet incorporated in the paragraph on potential impacts of oil and gas activities on environment and society.

The 1997 Guidelines already include a very comprehensive chapter on Environmental Impact Assessment (EIA) which describes the procedure the elements to include in an EIA and Preliminary

EIA (PAME, 1997, pp. 12-16). The 2002 version added a description of the several EIA procedures in the Arctic countries and a paragraph on consultations and hearings (PAME, 2002, pp. 13-20). The 2009 version added some text on monitoring and a paragraph on Strategic Environmental Assessment. Furthermore, the elements to be included in an EIA were complemented and again more information was given about public hearings and consultations (PAME a, 2009, pp. 13-19). Overall, one can say that the Oil and Gas Guidelines include a very comprehensive chapter on EIA.

Since 2002, the Guidelines more often refer to international standards and regulations. This is for example done in the safety and environmental management chapter; the 2002 and 2009 Guidelines refer to several international management systems. The 2002 and 2009 Guidelines also refer to OSPAR and MARPOL, this was not done in the 1997 Guidelines (PAME, 2002, pp. 8, 33, 34, 39, 41, 45; PAME a, 2009, pp. 3, 24, 33-35, 40, 43, 49). The safety and environmental management chapter is furthermore a great deal more extensive in the last two version of the Guidelines than it was in 1997.

One can also see that on some subjects the 2009 Guidelines are less strict than the earlier versions. For example, in the 1997 and 2002 Guidelines it was stated that Arctic states should “identify and prohibit or restrict oil and gas activities in ecologically and culturally sensitive areas”. In the 2009 Guidelines ‘prohibit or restrict’ was replaced by ‘appropriately manage’ (PAME a, 2009, p. 12). Another example can be found in the paragraph on institutional strengthening in the regional context. Where the 1997 and 2002 Guidelines state that the open, transparent and consistent application of regulatory regimes should be *ensured*, the 2009 version stipulates that this should be *encouraged* (PAME a, 2009, p. 9).

Attachment 3: OSPAR

Annex III and V to the OSPAR Convention are most relevant regarding offshore mining. Annex III is about the prevention of pollution from offshore sources and prohibits the dumping of wastes or other matter from offshore installations. The best available techniques, best environmental practices and, where appropriate, “clean technology” should be used. Each contracting party has to establish a competent authority to authorise and regulated the use and discharge from substances from offshore sources (Casper, 2009, p. 20). The fifth annex furthermore requires member to:

- take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected; and
- cooperate in adopting programs and measures for those purposes for the control of the human activities identified by the application of the criteria in appendix 3.³⁷

Annex V furthermore allows for the designation and establishment of marine areas or a system of marine areas to be protected by means of appropriate programmes and measures against the adverse effects of human activities (Czybulka, 2001, p. 179).

Reason for establishment

There is intense human activity in and around the North-East Atlantic which places significant pressure on the marine ecosystem. Maritime activities, pollution, climate change, nuclear energy and oil and gas extraction have major impacts in the area. OSPAR was established to increase understanding of these impacts and for addressing their consequences (OSPAR Commission a, 2010).

International cooperation to combat marine pollution in the North-East Atlantic began after the accident with the Torrey Canyon and subsequent oil spill in 1967.³⁸ This led to the signing of the Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil (Bonn Agreement). In 1971 a Dutch ship, the Stella Maris, sailed out to dump chlorinated waste in the North Sea. It was however obliged to return to port with its polluted cargo because of opposition from the public and several governments. This encouraged the establishment of the Oslo Convention in 1972. The Oslo Commission was established to govern the Convention. At first, the task of the Commission was to regulate and control the dumping of industrial wastes, sewage sludge and dredged material and the incineration at sea of liquid industrial waste. Since dumping was not the only cause of marine pollution, the Paris Convention (1974) was established to deal with the prevention of marine

³⁷ 1. The criteria to be used, taking into account regional differences, for identifying human activities for the purposes of Annex V are:

- a) the extent, intensity and duration of the human activity under consideration;
- b) actual and potential adverse effects of the human activity on specific species, communities and habitats;
- c) actual and potential adverse effects of the human activity on specific ecological processes;
- d) irreversibility or durability of these effects.

2. These criteria are not necessarily exhaustive or of equal importance for the consideration of a particular activity.

³⁸ The Torrey Canyon was a supertanker capable of carrying a cargo of 120,000 tons of crude oil, which was shipwrecked off the western coast of Cornwall County (England) in March 1967 causing an environmental disaster (BBC, 2010).

pollution by discharges of dangerous substances from land-based sources, watercourses or pipelines. This Convention was governed by the Paris Commission. It regulated and controlled inputs of substances and energy to the sea from land-based sources and also from offshore platforms. The Paris Commission also cooperated in establishing best environmental practices and best available techniques to prevent pollution. Furthermore, measures were established to protect marine areas from high levels of nutrients (OSPAR Commission a, 2010).

The North Sea has been the area where the major developments of offshore oil and gas exploration and exploitation have taken place and are still taking place. Mining activities in the North Sea are expected to decline in the near future, while they will increase in other areas such as the Barents Sea. All phases of oil and gas activities can have impacts on the marine environment. Discharging produced water from the routine operation of production platforms is a continuous source of oil and chemicals from offshore oil and gas activities. There is the threat of accidental oil spills which can have a tremendous impact on the marine and coastal ecosystems. Furthermore, the development of infrastructure and placement of structures, pipelines and cables, pollution from cutting piles, emissions into the atmosphere and acoustic disturbance all have their adverse effects on the environment. Therefore, OSPAR has a separate work area for the offshore oil and gas industry; the Offshore Oil and Gas Industry Strategy. This Strategy has the objective to prevent and eliminate pollution from offshore sources and to protect the OSPAR maritime area against the effects of these activities so as to safeguard human health and preserve the marine ecosystems, and “when practical” restore marine areas that have been adversely affected (OSPAR Commission c, 2010). Based on the objective of this Strategy, more specific agreements and regulations have been developed for the offshore oil and gas industry (Dekker, B., personal communication, 04-02-2010).

Development of the regime

OSPAR has developed a set of five thematic strategies to deal with the main threats identified. These themes are: biodiversity and ecosystems, eutrophication, hazardous substances, offshore industry and radioactive substances. Furthermore, there is a Strategy for the Joint Assessment and Monitoring Programme, which evaluates the status of the marine environment and follows up implementation of the thematic strategies and their results (OSPAR Commission b, 2010).

In 1999 OSPAR adopted a “Strategy on Environmental Goals and Management Mechanisms for Offshore Activities”, which was updated in 2003 to become “The Offshore Oil and Gas Industry Strategy”. It covers all stages of offshore mining activities and manages the development and implementation of programmes. Under this Strategy, the OSPAR Commission is required to “collect information about threats to the marine environment; establish priorities for taking action; and develop and periodically review environmental goals”. The Strategy was last updated in 2003 (OSPAR Commission c, 2010). Its work is implemented by the Offshore Industry Committee (Casper, 2009, p. 21).

The OSPAR Convention started off with four Annexes. Annex II and III are related to Articles 4 and 5 (‘pollution by dumping or incineration’ and ‘pollution from offshore sources’) and regulate pollution resulting from offshore sources, together with the Offshore Oil and Gas Industry Strategy and several decisions, recommendations and other agreements. Annex II prohibits the dumping and incineration of all wastes or other matter in the OSPAR maritime area (Koivurova and Molenaar, 2009, p. 17). Annex III provides that any dumping of wastes or other matter from offshore installations in the OSPAR maritime area is prohibited and provides the legal basis for measures for the prevention and elimination of pollution from offshore sources (OSPAR Convention, 1992).

The OSPAR Convention furthermore allows for the adoption of additional annexes to protect its maritime area. In 1998 the first new annex was adopted by the Ministerial Meeting of the OSPAR Commission. This fifth annex contains provisions regarding the protection and conservation of the ecosystems and biological diversity of the maritime area (OSPAR Commission a, 2010). It allows the OSPAR Commission to protect marine ecosystems and biodiversity from threats resulting from all other existing or new activities by adopting programmes and measures (Koivurova and Molenaar, 2009, p. 17). Furthermore, Annex V obliges the OSPAR Commission “to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites, or related to specific species or habitats.” (Art. 3(1)(b)(ii), Annex V to the OSPAR Convention). This provides a legal basis for the implementation of so-called Marine Protected Areas (MPAs)³⁹

Parties to the Convention are obliged to collaborate in regular joint monitoring and assessment of the quality of the marine environment (OSPAR Convention, 1992, Art. 6). More specific requirements for cooperation are described in Annex IV to the Convention. The basis on which the OSPAR parties have to work together is set out in the Strategy for the Joint Assessment and Monitoring Programme.

Although there is no separate EIA or SEA procedure, several Annexes to the Convention require EIAs for certain human activities. Assessing whether existing and new activities have significant impacts on the marine environment is also done by the monitoring and assessment programmes under OSPAR (Koivurova and Molenaar, 2009, p. 19).

The OSPAR Convention is being implemented by the adoption of decisions, recommendations and agreements. The OSPAR Commission also issues publications of background documents and data reports on each thematic strategy, evaluations and assessments. The Convention also works through work programmes, which are developed and implemented every year, the products of which have to be delivered to the committee meetings (OSPAR Commission a, 2010).

Occasional opportunities to strengthen the OSPAR Convention are the North Sea Conferences. Mainly in the early phases of OSPAR the states surrounding the North Sea were of the opinion that OSPAR was a bit slow. They then convened the North Sea Conference in order to push OSPAR, and other international organisations, to view the environment from a more comprehensive point of view. Several times the North Sea Conference created an impulse for OSPAR to tackle new issues or make some extra effort. The political pressure from ministers of the North Sea countries has also led to more binding agreements within OSPAR (Dekker, B., personal communication, 04-02-2010).

Development of the problem

Since its entry into force in 1998 - but also before through the Oslo and Paris Conventions - OSPAR has set up a comprehensive monitoring system for substances which helped to significantly reduce phosphorus and heavy metals inputs. Discharges from nuclear plants also reduced radically. Regulations have been set up for offshore oil and gas activities and dumping of waste from offshore platforms has been prohibited. Ecological quality objectives have been set for the North Sea and there is a growing network of OSPAR Marine Protected Areas (MPAs) (OSPAR Commission a, 2010).

The oil and gas developments in the OSPAR area have resulted in numerous offshore installations in the area. Since 1998 it is forbidden, with some exceptions, to dump disused offshore installations or leave them partly or wholly in place. Furthermore, the development of offshore installations is

³⁹ An MPA is an area of ocean protected from some, or all, human activities (Bergen and Carr, 2003)

monitored and there is a comprehensive inventory of all oil and gas offshore installations within the OSPAR area. The offshore oil and gas industry strategy has been developed to prevent and eliminate pollution from offshore sources and to protect the marine environment against the adverse effects of mining activities. It was also intended to restore marine areas which had already been adversely affected. The offshore oil and gas industry strategy has set out programmes and measures for all phases of offshore mining. The OSPAR Commission is obliged to collect information about threats to the marine environment; set up priorities for taking action; and develop and review environmental objectives. All oil and gas related work is implemented by the Offshore Industry Committee (OSPAR Commission c, 2010).

Oil-based drilling fluids have long been the main source of oil discharges in the sea until they were banned in 1992. Data on the number of installations with emissions and discharges, and the use, discharge, spill and emission of oil and chemicals are collected and assessed and published in annual reports. The discharges from oil and gas exploration and exploitation have been reduced by a number of measures from the OSPAR Commission. The total quantity of dispersed oil discharged into the sea is decreasing, although the amount of produced water and displacement water is increasing. Considerable efforts and investments have been made by the Contracting Parties to reach the target of 15% reduction of the total quantity of oil in produced water that is discharged and the performance standard of 30 mg/l of dispersed oil (OSPAR Commission c, 2010).⁴⁰

Moreover, OSPAR has adopted a harmonised mandatory control system for the use and reduction of discharges of offshore chemicals. The use of less hazardous or non-hazardous substances is promoted. Both chemical suppliers and national authorities are involved, there are guidelines for the suppliers and they must provide data and information about the chemicals to the authorities. The national authorities conduct pre-screening and takes appropriate regulatory action (OSPAR Commission c, 2010).

OSPAR managed to fulfil its goal of preventing marine pollution from dumping by ships and aircraft and from land-based sources. However, its overall goal of protecting the marine environment of the North-East Atlantic is not reached yet. Nevertheless, OSPAR certainly was of influence in diminishing pollution of the North-East Atlantic (Breitmeier et al., 2006).

⁴⁰ The average dispersed oil content in produced water only was 17,81 mg/l in 2006 (19,9 mg/l in 2005). In 2007 this went down to 12,5 mg/l due to the new OSPAR Reference analysis method (OSPAR Commission, 2009, p. 14).

Attachment 4: UNCLOS

The negotiations for the third United Nations Conference of the Law of the Sea took almost 10 years, from 1973 to 1982, leading to the United Nations Convention on the Law of the Sea. There obviously are many issues to be negotiated for a world ocean regime, the agenda of the conference consisted of more than a hundred major issues with still more technically difficult sub-issues (Miles, 2006, p. 49). Currently, there are 158 contracting parties to the Law of the Sea.

Reason for establishment

The United Nations Convention on the Law of the Sea (UNCLOS) divides the sea in several zones, addressing the balance of coastal and maritime interests with respect to all areas of the sea. These zones are depicted in figure 0.4.1. The exclusive rights and controls that the coastal state enjoys over the maritime areas off its coast decrease in stages when the distance from the coastal state increases (USA Department of State, 1995, p. 5). There are several parts of the convention of importance regarding mining. Here, the focus will be on part VI which is about the continental shelf, on part XI about the Area, and on part XII which concerns the protection and preservation of the marine environment.⁴¹ Part IX of UNCLOS also addresses “enclosed or semi-enclosed seas”, the definition of which also applies to the Arctic sea. It attends to environmental protection, and will therefore also be shortly discussed here.

Part VI of UNCLOS is about the continental shelf and is very important in respect to mining. It establishes exclusive control for the coastal states over the exploration and exploitation of the natural resources, including oil and gas, of the seabed and its subsoil within 200 miles of the coastal baselines and to the outer edge of the continental margin, in case this extends beyond 200 miles.⁴² Detailed provisions are set to determine the geological outer edge of the continental margin. The Commission on the Limits of the Continental Shelf (CLCS) was established to give advice and recommendations on the determination of these limits. The formula used for determining the continental margin is designed in such a way that virtually all seabed hydrocarbon resources fall under coastal state jurisdiction (USA Department of State, 1995, p. 30). When a coastal state wants to extend its continental shelf beyond the 200 mile zone, it has to provide details with supporting scientific and technical data of the intended limits to the CLCS. This has to be done within 10 years after the entry into force of the Convention for the state in question (UNCLOS, Annex II, art. 4). When the coastal state has established limits of the continental shelf, taking into account the advice of the Commission, these limits are final and binding and may not be contested. If the coastal state

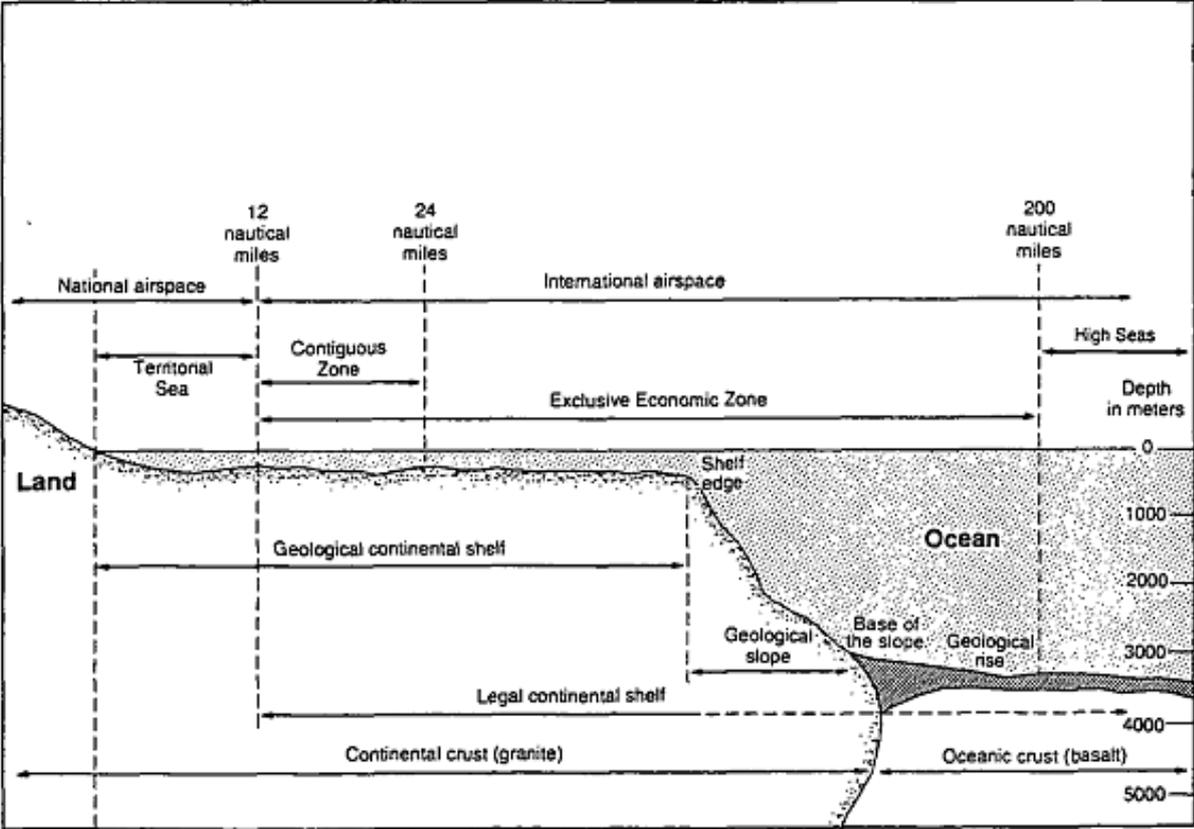
⁴¹ Also part II on the territorial sea and contiguous zone, part V on the Exclusive Economic Zone and part VII on the high seas are of relevance regarding the jurisdiction and sovereignty of coastal states over parts of the sea, and therefore also regarding mining. Furthermore, Annex III (basic conditions of prospecting, exploration and exploitation) is of importance when considering offshore mining. However, due to considerations of time and space these parts will not be discussed here.

⁴² According to article 76 of part VI the continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea by the natural prolongation of its land territory to the outer edge of the continental margin. When the outer edge of the continental margin does not extend up to 200 nautical miles from the baselines from which the breadth of the territorial sea is measured these 200 miles are considered to be the outer edge of the continental margin. The coastal state has sovereign rights over the continental shelf and may explore and exploit its natural resources.

disagrees with the Commission, it can make a new submission within reasonable time (USA Department of State, 1995, p. 32).

Figure 0.4.1: The legal zones in the sea as established by UNCLOS

Source: USA Department of State, 1995, p. 6



The seabed and ocean floor and its subsoil *beyond* the limits of national jurisdiction are defined as “the Area”⁴³ by UNCLOS. Exploration and exploitation of the resources in the Area are to be undertaken in accordance with the international regime as established by UNCLOS and by the revised Part XI of the Convention, also called the Agreement. This is based on the principle that these resources are the common heritage of mankind (USA Department of State, 1995, p. 7).

Part XI, Annexes III and IV of UNCLOS and the Agreement Relating to the Implementation of Part XI of UNCLOS form the regime concerning exploration and exploitation of mineral resources of the Area (the seabed mining regime). Article 136 prescribes that the Area and its resources are the common heritage of mankind. The Area and its resources are beyond any states’ sovereignty and are open to use by all in line with commonly accepted rules. However, mining activities are subject to regulation of the International Seabed Authority (ISA) which was established to manage the seabed mining regime. This Authority has to adopt rules, regulations and procedures to ensure effective protection of the marine environment from harmful effects of deep seabed mining activities. It can also disapprove areas for exploitation when there is a risk of serious harm from mining activities. Environmental impact assessments have to be conducted before mining can take place. The ISA is also required to exercise such control as is necessary to ensure compliance with the Convention and

⁴³ “the Area” is the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction. It is that part of the ocean floor seaward of coastal State jurisdiction over the continental shelf, that is, beyond the continental margin or beyond the 200 nautical mile zone (USA Department of State, 1995, p. 34).

approve plans of work. Furthermore, state parties are responsible for ensuring compliance by the nationals or enterprises they support (USA Department of State, 1995, pp. 33, 34, 36, 37).

Part XI of the Convention, which deals with mining of minerals on the ocean floor outside nationally regulated ocean areas, has brought about many concerns, mainly from industrialised countries. In order to achieve as wide participation as possible, the Secretary-General initiated a series of informal consultations to resolve these concerns. This resulted in an Agreement Related to the Implementation of Part XI of the Convention in July 1998. This Agreement is part of the Convention and should have removed the last obstacles for some states to become parties to the Convention (United Nations, 2007).

Part XII of the Convention establishes a comprehensive legal framework for the protection and preservation of the marine environment.⁴⁴ All sources of marine pollution are addressed, such as pollution from vessels, seabed activities, ocean dumping, and land-based sources. According to article 192 states are obliged to protect and preserve the marine environment. Other provisions require the states to, inter alia, adopt measures for pollution control to ensure that activities under their control are carried out in such a way as not to cause environmental damage to other states or cause the spread of pollution beyond their own offshore zones. Part XII requires states to adopt laws and regulations to protect the marine environment from seabed activities. The regulations must be equal to, or more effective than international rules, standards and recommended practices and procedures, and states must attempt to harmonise their policies at a regional level (UNCLOS, art. 208).⁴⁵ Regarding the rights and obligations of states to ensure compliance and enforce measures UNCLOS goes beyond other international agreements, which most times do not have express enforcement clauses (USA Department of State, 1995, p. 19-22).⁴⁶

Last, part IX about enclosed and semi-enclosed seas was negotiated by 15 to 20 states bordering smaller seas. Part IX consists of just 2 articles and only deals with the living resources of the sea, scientific research and the protection of the marine environment. In respect of these issues, only cooperation has been suggested.

⁴⁴ Part XII as well contains an article especially for environmental protection of ice-covered areas (article 234). However, it only applies to marine pollution from vessels in these ice-covered areas and within the limits of the EEZ. Coastal states can adopt and enforce laws where severe climatic conditions prevail and where there is ice for most of the year (UNCLOS, art. 234).

⁴⁵ Article 208 on "*Pollution from seabed activities subject to national jurisdiction*" requires states to "*adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands installations and structures under their jurisdiction [...] Such laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures.*"

Article 209 on "*Pollution from activities in the Area*" requires that "*International rules, regulations and procedures shall be established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area.*"

⁴⁶ Article 214 on "*Enforcement with respect to pollution from seabed activities*" requires that "*States shall enforce their laws and regulations adopted in accordance with article 208 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction, [...]*"

Development of the regime

UNCLOS entered into operation in 1994 after the 60th ratification. One cannot make reservations for parts of the Convention, it is to be ratified and implemented as a whole. Already in 1970, the United Nations General Assembly declared that the resources of the seabed beyond the limits of national jurisdiction were “the common heritage of mankind”. In negotiating the UNCLOS it was decided that both public and private enterprises could mine on the one hand and that also collective mining would take place. This system is managed by the ISA (United Nations, 2007).

UNCLOS has developed a very comprehensive governance framework regarding territorial claims. To date 158 states and the European Union have joined the Convention, it is even regarded as customary law. Almost all states have set limits for their territorial seas and EEZs. States who want to extend their continental shelf discuss this through the CLCS. UNCLOS was the first agreement to define such specific rights for coastal states beyond the territorial sea. Many states even claimed an EEZ before the UNCLOS was in force (Dotinga, H., personal communication, 25-01-2010).

Development of the problem

Regarding the problems of pollution and offshore mining, UNCLOS – a framework treaty - created the base for more specific regulations in regional or issue specific agreements. Nevertheless, Part XII can be regarded an innovative part of UNCLOS, earlier agreements regarding the law of the sea had little to mention regarding the marine environment. Part XII incorporates many “rules of reference” which require states to develop measures and regulations conform global or regional rules. They refer to more specific instruments such as OSPAR (Dotinga, H., personal communication, 25-01-2010). Furthermore, UNCLOS provides general support for the protection and preservation of the marine environment including the maintenance of rare and fragile ecosystems (Warner, 2001, p. 152). This means it allows for the establishment of Marine Protected Areas (MPAs), an effective instrument to protect the marine environment.⁴⁷

The “rules of reference” included in UNCLOS have led to the development of several regional and issue specific agreements. However, no explicit rule of reference was included for environmental protection. UNCLOS just requires states to “cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations [...]” (article 197). This is mainly because most environmental problems are best dealt with at the regional level (Dotinga, H., personal communication, January 25, 2010).

⁴⁷ Marine Protected Areas (MPAs) are management tools for different levels of conservation, management and the sustainable use of marine and coastal biological diversity and resources. It is an area of ocean protected from some or all human activities. MPAs come in many types - closed areas, no-take reserves, multiple use, zoning of oceans – and under different names - parks, reserves, sanctuaries. A MPA can be small or vast in size and can be established for a variety of management objectives (Czybulka, 2001, p. 184). In addition, MPAs have different governance modes: centralized or decentralized, co-management or community-based (Jentoft et al., 2007, p. 611).

Attachment 5: CRAMRA

The Antarctic is governed by the Antarctic Treaty System (ATS). The four main agreements under the ATS are:

- The Antarctic Treaty (1959)
- The Convention for the Conservation of Antarctic Seals (1972)
- The Convention on the Conservation of Antarctic Marine Living Resources (1980)
- The Protocol on Environmental Protection to the Antarctic Treaty (Environmental Protocol - 1991).

The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) was negotiated in 1988 and was to be part of the ATS. The Convention was however never ratified.

Reason for establishment

There was continuing controversy over mining; the oil crisis in the 1970s encouraged the development of a treaty to regulate all mineral activities, especially oil and gas mining. The oil crisis and the speculations that there might be hydrocarbons on Antarctica's continental shelf made the member states of the Antarctic Treaty fear that exploration and exploitation of oil and gas resources in the Antarctic would increase. Therefore, in the 1980s the Convention on the Regulation of Antarctic Mineral Resource Activities was held, with which one attempted to establish an Antarctic mineral resources regime (Joyner, 1996, p. 154). When the attempts to put CRAMRA in force failed, the 1991 Environmental Protocol was established (Vicuña, 1997, p. 174).

Development of the regime

Almost all subsequent developments of the ATS relate to environmental protection. Throughout the 1980s the Antarctic Treaty Consultative Parties (ATCPs) were involved in a series of Special Consultative Meetings to negotiate a mineral resources regime for the Antarctic.⁴⁸ Already in 1976 a special preparatory meeting on minerals was held by the Consultative Parties. The following year the fundamental principles concerning Antarctic mineral resources were adopted as Recommendation IX-I. In 1981 the framework for mineral negotiations was set out which provided that a minerals regime should be predicated on a set of five principles. In 1982 the Consultative Parties started with the design of institutions to implement these principles and in 1988 they reached consensus on an Antarctic minerals treaty (Joyner, 1996, pp. 154, 155).

CRAMRA established a viable mechanism for regulating mining activities in the Antarctic area. However, within 2 years after the negotiations were concluded CRAMRA was by many considered not to go far enough to adequately protect the Antarctic environment. Conservationists and environmental NGOs had raised considerable doubts about the ability of the regime to protect the Antarctic environment. In the spring of 1989 Australia and France decided not to sign the Convention. The decision of the Australian government was influenced by the occurrence of four

⁴⁸ Twenty ATCPs participated in the negotiation of CRAMRA: Argentina, Australia, Belgium, Brazil, Chile, China, France, the German Democratic Republic, the Federal Republic of Germany, India, Italy, Japan, New Zealand, Norway, Poland, South Africa, the Soviet Union, the United Kingdom, the United States and Uruguay. Thirteen other states were also involved as Non-Consultative Parties to the Antarctic Treaty: Bulgaria, Canada, Czechoslovakia, Denmark, Ecuador, Finland, Greece, the Republic of Korea, the Netherlands, Papua New Guinea, Peru, Romania and Sweden (Joyner, 1996, p. 152).

environmental disasters in polar waters in January, February and March of 1989⁴⁹, by rising environmental awareness among the population, and by the negative implication that CRAMRA might pose for the status of Australia's territorial claim. Also the decision of France not to sign the Convention was influenced by public pressure and the rise of green politics. Soon after, other Consultative Parties also had second thoughts about CRAMRA (Joyner, 1996, pp. 163, 164). It is unlikely that the Convention will ever be brought into force (Sands, 2003, p. 716).

Development of the problem

When the negotiations for CRAMRA failed, the member states negotiated the 1991 Protocol on Environmental Protection to the Antarctic Treaty and its then four annexes. However, the negotiations of the Protocol were characterised by a negative attitude. Some Consultative Parties and environmental organisations were of the opinion that even the question of mineral activities was an unacceptable assault on the Antarctic environment. Regardless of the environmental safeguards established under CRAMRA, they saw a mining prohibition as the only legitimate option. Any party interested in the regulation of prospective mining was seen as being opposed to environmental protection (Vicuña, 1997, p. 197). Under pressure of public opinion the ATCPs eventually opted for a mining ban; the protocol provides for a prohibition of all non-scientific exploitation of mineral resources. The Protocol was ratified in 1998 and is legitimate for a period of 50 years, thus until 2048 (Nowlan, 2001, pp. 45-47). Now, still no mining activities are being conducted in the Area and the Antarctic environment is being adequately protected. However, some fear that after the fifty year period in which the Protocol is legitimate Parties will walk out of it and start mining. Currently, exploitation of mineral resources in the Antarctic is not economically viable. It remains uncertain what will happen when mining does become profitable.

⁴⁹ On 28 January 1989 the Argentine supply ship *Bahia Paraiso* hit rocks offshore on the Antarctic Peninsula. About 250,000 barrels of diesel fuel leaked into the sea. On 7 February 1989 the British resupply ship *HMS Endurance* hit an iceberg in Antarctic waters. Photographic evidence shows that a spill probably occurred, although this was denied by the British Antarctic Survey. On 28 February 1989, the Peruvian research vessel *BIC Humbolt* ran aground and again oil leaked into Antarctic waters. On 24 March 1989 a disaster happened in Arctic waters when the *Exxon Valdez* struck a reef. About 11 million gallons of crude oil spilled into the Arctic sea (Joyner, 1996, p. 163).

Attachment 6: Helsinki Convention

Reason for establishment

The preamble to the 1974 Convention states all the specific reasons for which the Convention was established. They include: the exceptional characteristics of the Baltic Sea and the sensitivity of its living resources to a changing environment; development of human activities in the area; increasing pollution from rivers, estuaries, outfalls and pipelines; dumping and normal operations of vessels; and airborne pollutants (Fitzmaurice, 1992, p. 53). The current focus of the Convention is on promoting the ecological restoration of the Baltic Sea Area and the preservation of its ecological balance. Closely linked to this objective is the precautionary principle, which is stated in article 3 of the Convention. Other principles aimed for are the use of 'best available environmental practice', 'best available technology', and the polluter pays principle (Ehlers, 1993, pp. 197-199).

Development of the regime

Already in 1969 and 1970 the first conferences were convened regarding combating the pollution of the Baltic Sea. In 1974 the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area took place in Helsinki. Then there were seven Baltic States: Denmark, Finland, Federal Republic of Germany, German Democratic Republic, Poland, Sweden and the USSR. Also observers from Norway and several international organisations and intergovernmental organs participated in this conference. The Convention was signed on 22 March 1974 and came into force in May 1980 (Fitzmaurice, 1992, pp. 47, 48, 50). Partly because of the changes in political circumstances, the Helsinki Convention was revised in 1992. Currently, there are ten parties to the Convention, under which the European Economic Community. States participating are: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden (Helsinki Commission c, 2010).

Next to the Convention text and the Recommendations of the Commission, the regime has also developed by way of Ministerial Declarations. At the Commission's meeting in 1988 the ministers of the environment took a major step forward by making a 'Declaration on the Protection of the Marine Environment of the Baltic Sea Area'. They declared that inputs of most harmful substances would have to be reduced by about 50 percent of the total discharges by 1995. Moreover, in 1992 the 'Baltic Sea Joint Comprehensive Environmental Action Programme' (JCP) was established. It had the purpose of drastically reducing emissions and restoring the Baltic Sea's ecological balance (Ehlers, 1994, p. 617). This had to be done by eliminating the 132 most polluting sources within the Baltic Sea catchment area (Helsinki Commission b, 2010).

Development of the problem

The Helsinki Commission has been working to improve the environmental condition of the Baltic Sea since the beginning of the 1980s. This has largely been done through about 200 Recommendations by this Commission. The Commission has achieved a number of successes since its establishment. These successes mainly regard the reduction of discharges and emissions, but also include a ban on certain hazardous substances, stricter controls and monitoring, and the recovery of certain endangered species (Helsinki Commission a, 2010).

Attachment 7: Lessons learnt

OSPAR

Positive lessons:

- Annex V of OSPAR allows the OSPAR Commission to protect marine ecosystems and biodiversity from threats resulting from all other existing or new activities by adopting programmes and measures. And obliges the OSPAR Commission “to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to specific species or habitats.” This provides a legal basis for the implementation of MPAs.
- OSPAR Commission is active. It meets once a year and is supported by 6 committees which are in turn supported by working groups.
- Heads of Delegations meet regularly to prepare Commission meetings, to advise and to supervise development and implementation of the agreements.
- Secretariat organises meetings, conducts work programmes and manages reporting on implementation and monitoring.
- Monitoring.
- Prohibition on dumping or leaving partly in place of disused offshore installations.
- Programmes and measures for all phases of offshore mining in offshore strategy.
- Ban on oil-based drilling fluids.
- Reporting on number of installations, the use, discharge, spill and emission of oil and chemicals.
- Target of 15% reduction of the total quantity of oil in produced water that is discharged.
- Performance standard of 30 mg/l of dispersed oil.
- Promotion of use of less hazardous or non-hazardous substances with involvement of chemical suppliers and national authorities and guidelines for suppliers. Also suppliers must provide data about chemicals to authorities.
- Recommendations carry almost same weight as legally binding decisions. Often endowed with similar features as deadlines and reporting requirements.
- Long term goal of diminishing the concentration of hazardous substances as much as possible to resemble natural concentrations by 2020.
- Parties examine background of new issues, develop proposals for actions and measures, and prepare assessments of the effectiveness of OSPAR. National facilities are used and members finance national activities.
- Commission is member of other regional organisations (HELCOM, UNEP regional seas programme) and cooperates with other management authorities in the area.
- Convention is implemented by decisions, recommendations and other agreements. Implementation is promoted by scientific research, expert advice, compliance monitoring, review of implementation, verification of compliance, reviewing adequacy of commitments, and information management.
- Agreements made under OSPAR are converted into permits for industries. Commission controls these permits.
- Member states and industries control each other and call one and other to account.
- Data from parties is published.
- Management approach towards compliance; encouraged rather than forced.
- Agreements are only formulated when all members can agree on them.
- Before standard are set their feasibility is assessed.
- Industries and interest groups are involved in negotiations and can influence the discussion.
- All members have one vote and are equal.

Negative lessons:

- Some rules remain vague, often “where appropriate” is used, this is left to contracting parties.
- All members have one vote and are equal – small states can hamper decision making
- Commission has no power to enforce compliance.
- Bound to EU legislation.
- OSPAR only covers part of activities in OSPAR area.

CRAMRA

Positive lessons:

- Three phases for resource activities. First, ‘prospecting’, identifying areas where there might be resources, prior authorisation is not necessary. ‘Exploration’ is second, means the identification and evaluation of specific mineral occurrences or deposits. Occurs by exploratory drilling, dredging or excavations. Consensus by Antarctic Mineral Resources Commission⁵⁰ would be a necessary condition to proceed with the exploration stage. If approved, a special Regulatory Committee⁵¹ would be established to set requirements for exploration activities. Third stage, ‘development’, relates to activities associated with the exploitation of specific mineral resources. A development permit has to be issued at the Regulatory Committee, which would decide by two-thirds majority vote.
- Mining ventures were obliged to obtain state sponsorship and be approved by a consensus of the Antarctic Treaty Consultative Parties (ATCPs). The mining operator and the sponsoring state are liable for any damage caused by the operator’s activities and post environmental impact assessments at each step of the process are required.
- Article 4: Decisions about Antarctic mineral resource activities shall be based upon information adequate to enable informed judgements to be made about their possible impacts and no such activities shall take place unless this information is available for decisions relevant to those activities.
No Antarctic mineral resource activity shall take place until it is judged, based upon assessment of its possible impacts on the Antarctic environment and on dependent and on associated ecosystems, that the activity in question would not cause:
 - significant adverse effects on air and water quality;
 - significant changes in atmospheric, terrestrial or marine environments;
 - significant changes in the distribution, abundance or productivity of populations of species of fauna or flora;
 - further jeopardy to endangered or threatened species or populations of such species; or
 - degradation of, or substantial risk to, areas of special biological, scientific, historic, aesthetic or wilderness significance.No Antarctic mineral resource activity shall take place until it is judged that:
 - (a) technology and procedures are available to provide for safe operations and compliance with paragraphs 2 and 3 above;
 - (b) there exists the capacity to monitor key environmental parameters and ecosystem components so as to identify any adverse effects of such activity and to provide for the modification of operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the Antarctic environment or dependent or associated ecosystems; and

⁵⁰ This Commission consists of all states which are Consultative Parties and is the main regulatory body under CRAMRA (Joyner, 1996, p. 155).

⁵¹ Regulatory Committees were to be established for each area designated for possible minerals exploration and development. The Committee would play a critical role in supervising the mining activities, providing technical advice and extra environmental monitoring (Joyner, 1996, p. 156, Kearney, 1992, p. 41).

(c) there exists the capacity to respond effectively to accidents, particularly those with potential environmental effects.

The judgments referred to in paragraphs 2, 3 and 4 above shall take into account the cumulative impacts of possible Antarctic mineral resource activities both by themselves and in combination with other such activities and other uses of Antarctica.

- Antarctic Mineral Resources Commission, in which all Consultative Parties would be represented. Tasks of the Commission would be: facilitating exchange of scientific information, designating areas prohibited for mineral resource activities, adopting measures to protect the Antarctic ecosystem, and identifying areas for possible exploration and development. Decision making would occur by three-quarters majority vote, but for decisions relating to budgetary matters, principles of non-discrimination and identification of an area for possible mineral exploration and development consensus was required.
- Special Meeting of States Parties open to all parties of CRAMRA and have the largely symbolic role to advise the Commission on decisions relating to the identification of areas for possible mineral activities.
- Scientific, Technical and Environmental Advisory Committee advise the Commission and special Regulatory Committees on matters requiring expertise about mineral resource activities.
- Regulatory Committee, would be established for each area designated for possible mineral exploration and development. tasks were: preparatory work before identifying an area for exploration; examining and approving applications for exploration and development consents; considering and approving management schemes (i.e. contracts between operators and the Conventions regulatory body); issuing exploration and development permits; supervise exploration and development activities; and carrying out inspection and dispute-settlement functions. A Regulatory Committee could also postpone mineral resource activities if these resulted in “impacts on the Antarctic environment or dependent or associated ecosystems beyond those judged acceptable” pursuant to CRAMRA.
- Budget is financed by fees for prospecting, for requests for identification of areas for exploration and development, and for applications for an exploration or development permit. Financial resources also come from levies on operators.
- Compliance mechanism: monitoring by Regulatory Committees (art. 52); an inspection system (art. 12); a provision to suspend, modify or cancel activities when they had unacceptable environmental impacts (art. 51); a provision for liability and response actions (art. 8); and a remarkably strict dispute settlement mechanism.

Negative lessons:

- CRAMRA was by many considered not to go far enough to adequately protect the Antarctic environment. Conservationists and environmental NGOs had raised considerable doubts about the ability of the regime to protect the Antarctic environment.
- Failed to establish standards that can realistically be met and enforced. Also procedures to determine when such standards should be applied where not established. Neither did CRAMRA settle whether and when mining activities should be prohibited or regulated.
- Did not set the degree of environmental harm that would be tolerated, neither did it establish how to determine whether the threshold of unacceptable degradation to the environment was violated.
- Provisions were not specific enough and definitions were not clear.
- Weak role of the Scientific, Technical and Environmental Advisory Committee in the decision making process.
- Enforcement remained in the hands of individual governments. Each state differs in determining what environmental protection entails and in allocating financial and scientific resources, and levels of expertise.

Helsinki Convention

Positive lessons:

- The regulation under the Helsinki Convention regarding offshore activities applies to the seabed and its subsoil. Thus the subsoil is also protected from ecologically damaging activities.
- 'offshore activity' means "any exploration and exploitation of oil and gas by a fixed or floating offshore installation including all associated activities".
- Notification and consultation are obligatory and the parties have to take all appropriate measures to maintain adequate response ability for pollution incidents.
- it is very unusual for a contracting party to refuse to implement a Recommendation by referring to their non-binding nature.
- reporting system for the national implementation of its recommendations
- elaboration of 'best available technology' and 'best environmental practice' principles is found in Annex II to the Convention. Measures and possibilities to be considered in individual cases to ensure best environmental practice or best available technology are listed there. Furthermore, it is listed what should be considered when determining what combination of measures constitutes 'best environmental practice'.
- EIA and monitoring are required for offshore activities, only then a permit can be issued by the Commission. The environmental sensitivity of the sea area is to be assessed in detail.
- The use of oil-based drilling mud or muds containing other harmful substances needs prior authorisation and is to be restricted to exceptional cases. Oil-based drilling muds and cuttings arising from this are to be taken ashore. In specifically sensitive parts of the Baltic Sea Area also water-based mud and cuttings may not be discharged. In other parts of the sea authorisation from the appropriate national authority is required for discharging. In general, also chemicals and used materials have to be taken ashore. The oil content of production and replacement water may not exceed 15mg/l. In exceptional cases, when this threshold cannot be achieved, discharges with a maximum oil content of 40mg/l are permitted. These discharge standards are reviewed regularly so that a further reduction can be achieved.
- each offshore unit has a pollution emergency plan, that the parties to the Convention ensure that abandoned and disused offshore units are entirely removed, that disused drilling wells are plugged, and that the parties continuously exchange information.
- Commission consists of representatives of all contracting parties and meets at least once a year. Occasionally, also ministerial level meetings are held.
- Cooperation in scientific monitoring programmes, quality status assessment and research programmes has long been common.
- The Convention is financed by its members; the budget is contributed by them in equal parts (Helsinki Convention, 1992, art. 22(3)), with exception of the host country, Finland, which pays a 'headquarters contribution'.
- Reporting is required on the legal and other measures taken to implement the provisions and recommendations of the Convention. The reports need to contain information on the effectiveness of the measures taken and on problems encountered when implementing the provisions.
- Each party to the Convention has to require that operators or other persons in charge of offshore units shall report on any event involving a discharge or probable discharge of oil or other harmful substances.

Negative lessons:

- Because some recommendations are very precise and others are "vaguer", the implementation by various contracting parties differs to a great extent.
- the information provided on legal, administrative and other measures taken by the parties to implement recommendations do provide a basis for assessing the status of implementation, but do not provide a basis for assessing practical implementation, i.e. whether administrations and other actors actually apply and comply to the provisions and measures of recommendations.

- the information that the parties submit on implementation greatly varies in preciseness.
- Helsinki Commission does not have the possibilities of inspection and control.

Denmark and Canada Agreement

Positive lessons:

- Elaborate provisions on contingency planning
- When any works or undertakings pose a significant risk of pollution for the marine environment of the other party, each party shall provide the other with relevant information and data.
- Furthermore, cooperation is required for the purpose of scientific research and the exchange of information.
- Tailored to the Arctic conditions

Negative lessons:

- Does not give any details about the phases of offshore activities and the measures to be taken to minimise pollution risks.
- No behavioural change is required and there are no specified targets.

Copenhagen Agreement

Positive lessons:

- In order to maintain up-to-date the Copenhagen Agreement is continuously following the development within the use of biological and chemical response methods and certifying and developing equipment for response actions.
- Cooperate in: monitoring, investigation, reporting, production of evidence, abatement, assistance, and exchange of information.
- Direct contact between the responsible authorities of the contracting parties.
- Parties share experiences of means and methods of response action, monitoring activities and their results, and research and development.
- Exchanging information on all levels within the Copenhagen Agreement via plenary meetings, working groups, and bi- and trilateral activities.

Negative lessons:

- “The parties undertake to cooperate in the protection of the marine environment [...]”. Word ‘undertake’ severely weakens this general obligation.
- There are no requirements for installations or operations, the Agreement confines itself to general undertakings such as monitoring and reporting of pollution and is therefore more focused on actions to be taken after a pollution incident has taken place.
- No behavioural change is required by the Agreement and there are no specified targets.
- Parties have to attempt to cooperate and that they should be in contact.

Attachment 8: Objectives and principles of international instruments

Instrument	Objective	Principles
Arctic Council Offshore Oil and Gas Guidelines	<ul style="list-style-type: none"> - “to help secure common policy and practices” - “to define a set of recommended practices and outline strategic actions for consideration by those responsible for regulation of offshore oil and gas activities (including transportation and related onshore activities) in the Arctic” - “to assist regulators in developing standards, which are applied and enforced consistently for all offshore Arctic oil and gas operators” (PAME a, 2009, p. 4). 	<ul style="list-style-type: none"> - Principle of the Precautionary Approach - Polluter Pays Principle - Continuous improvement - Sustainable Development (PAME a, 2009, pp. 6,7).
OSPAR Convention	<ul style="list-style-type: none"> - “to prevent and eliminate pollution and to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected (OSPAR Convention, art. 2(1)(a)). - “to prevent and eliminate pollution from offshore sources and to protect the OSPAR maritime area against the adverse effects of offshore activities so as to safeguard human health and conserve the marine ecosystems. When practical, marine areas which have been adversely affected shall be restored” (OSPAR Commission, 2003). 	<ul style="list-style-type: none"> - the precautionary principle; - the polluter pays principle; - best available techniques and best environmental practice, including, where appropriate, clean technology - the principle of sustainable development - the integrated ecosystem approach - the waste management hierarchy of avoidance, reduction, re-use, recycling, recovery, and residue disposal (OSPAR Commission, 2003).
CRAMRA	<ul style="list-style-type: none"> - “assessing the possible impact on the environment of Antarctic mineral resource activities”; - “determining whether Antarctic mineral resource activities are acceptable”; - “governing the conduct of such Antarctic mineral resource activities as may be found acceptable”; and - “ensuring that any Antarctic mineral resource activities are undertaken in strict conformity with this Convention” (CRAMRA, art. (2)(1)). 	<p>No specific principles, but:</p> <ul style="list-style-type: none"> - the Antarctic Treaty area shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord (CRAMRA, art. (2)(1)).
Helsinki Convention	<p>“to prevent and eliminate pollution in order to promote the ecological restoration of the Baltic Sea Area and the preservation of its ecological balance” (Helsinki Convention, art. 3(1))</p>	<ul style="list-style-type: none"> - precautionary principle - the use of Best Environmental Practice and Best Available Technology - the polluter-pays principle - measurements and calculations are carried out in a scientifically

		appropriate manner (Helsinki Convention, art. 3(2-5)).
Denmark and Canada Agreement	“This Agreement applies to the prevention, reduction and control of pollution of the marine environment resulting from activities within the area covered by this Agreement” (Denmark and Canada Agreement, art. II).	None
Copenhagen Agreement	“to cooperate in the protection of the marine environment against pollution of the sea by oil or other harmful substances which present a grave and imminent danger to the material interests of one or more Parties” (Copenhagen Agreement, art. 1)	None

Attachment 9: Hypotheses regime development Dieperink

Conditions for regime development *

Source: Dieperink (1997) pp. 71, 72

Characteristics of the issue area:

1. The possibilities for regime formation increase when the problems are regarded as symmetrical⁵².
-

Value orientations and interest groups

2. The possibilities for regime formation increase when there is a rise in the value orientations in society in which more importance is attached to environmental quality.
 3. The possibilities for regime formation increase when the interest groups are more professional and internationalised.
 4. The possibilities for regime formation increase when the constituency of the negotiators is more homogeneous.
-

Analysis (of the issue area) and knowledge creation

5. The possibilities for regime formation increase when there are more data from research and knowledge increases.
 6. The possibilities for regime formation increase when a multidisciplinary and influential epistemic community arises.
-

Interaction possibilities

7. The possibilities for regime formation increase when the transaction density between states is greater.
 8. The possibilities for regime formation increase when there is more experience with comparable problems elsewhere.
 9. The possibilities for regime formation increase when there is an intergovernmental deliberative body which has the possibility to fulfil a facilitation role.
-

Bargaining strategy

- 10. The possibilities for regime formation increase when there are more options for trade-offs / this-for-that options between the parties.**
 11. The possibilities for regime formation increase when distributive strategies are converted into integrative strategies.
 12. The possibilities for regime formation increase when distributive and integrative issues are separated.
-

Bargaining tactics

- 13. The possibilities for regime formation increase when parties involved send widely composed delegations to the negotiations.**
 14. The possibilities for regime formation increase when there are more informal and open brainstorm sessions, in which the interests of all parties are seen as part of the problem to be solved.
 15. The possibilities for regime formation increase when there are more "objective criteria"⁵³ brought into the negotiating process.
 16. The possibilities for regime formation increase when there are better mutual relations between the parties.
 17. The possibilities for regime formation increase when the process is finished by entering contingencies and self-enforcing clauses into the agreement.
-

Role of a third party

⁵² For example, in a completely symmetrical situation of pollution the profits and costs which could be brought about by a regime equally divided over the actors.

⁵³ So-called objective criteria make an appeal on the reasonableness of the parties so that they are more willing to give up their initial position in negotiations for the good of bringing interests together.

18. The possibilities for regime formation increase when there is a mediator who makes suggestions in order to reach consensus.

* The hypotheses that turned out to be irrelevant for regime formation are in grey

The factors that are considered necessary for regime development are the hypotheses that were continuously confirmed; they are in bold

Concluding his research, Dieperink noticed that there might be some more explanations for the development of the Rhine regime, which were not captured in his hypotheses. First, there were continually initiatives to keep the dialogue going, which might have been a necessary condition for regime development. Secondly, there was the deterrent effect of a disaster occurring which was a powerful incentive for regime development. It strongly influenced the public opinion and the call for the formation of a regime. Last, there was a factor that hampered the development of the Rhine regime; the lack of political will (Dieperink, 1997, p.311).

Attachment 10: Hypotheses regime development Young and Osherenko

(Young and Osherenko, 1993, pp. 263-266) *Adapted by author*

Power-based hypotheses

Basic premise: Institutions, including international regimes, are structured by and reflect the distribution and configuration of power in international society.

1. Hegemony – The presence of a hegemon (an actor possessing an preponderance of material resources) is a necessary condition for regime formation in international society.
 - a. Benign hegemony: the hegemon, functioning as the dominant member of a privileged group, supplies institutional arrangements to others as public goods.
 - b. Coercive hegemony: the hegemon exercises structural power to impose institutional arrangements favourable to itself, regardless of the consequences for others.
2. Other power-based hypotheses:
 - a. A bipolar or bimodal distribution of power (producing a balance of power) is necessary for success in regime formation.
 - b. The greater the degree of symmetry in the distribution of power, the more likely efforts to create regimes are to succeed.
 - c. The existence of a small group of great powers in a given issue area enhances prospects for regime formation.

Interest-based hypotheses

Basic premise: Social institutions, including international regimes, arise from the interaction of self-interested parties endeavouring to coordinate their behaviour to reap joint gains that may but need not take the form of public goods.

1. Integrative bargaining and a veil of uncertainty: Institutional bargaining can succeed only when the prominence of integrative bargaining and/or the presence of a veil of uncertainty make it easy for the parties to approach the problem under consideration in contractarian terms.
2. Equity: the availability of institutional options that all participants can accept as equitable (rather than efficient) is necessary for institutional bargaining to succeed.
3. Salient solutions: The existence of a salient solution (or a focal point describable in simple terms) increases the probability of success in institutional bargaining.
4. Exogenous shocks or crises: Shocks or crises occurring outside the bargaining process increase the probability of success in efforts to negotiate the terms of international regimes.
5. Policy priority:
 - a. Success in regime formation can occur only when the issue at stake achieves high-priority status on the policy agenda of each of the participants.
 - b. Alternatively, it is easier to form a regime when the subject matter is not high on the political agendas of the parties.
6. Common good: A willingness to set aside narrow national interests in favour of some broader conception of the common good is necessary to achieve success in regime formation.

7. Science and technology:
 - a. The greater the tendency for parties to concentrate on scientific or technical considerations as opposed to political issues, the greater the likelihood of successful regime formation.
 - b. The greater the role of negotiators with scientific or technical competence in relation to those with political credentials, the greater the likelihood of successful regime formation.
 - c. It is easier to form a regime when the issues at stake are highly technical.
8. Relevant parties: All parties with an interest in the problem must participate in the negotiations for regime formation to succeed.
9. Compliance mechanisms: The probability of success in institutional bargaining rises when compliance mechanisms that the parties regard as clear-cut and effective are available.
10. Individuals as leaders: Institutional bargaining is likely to succeed when individual leadership emerges, it will fail in the absence of such leadership.

Knowledge-based hypotheses

Basic premise: Shared perceptions, beliefs, and understandings of causal mechanisms among the relevant parties as well as identifiable communities, including epistemic communities and advocacy organisations, that arise to propagate this knowledge are important determinants of regime formation.

Two alternative accounts of how cognitive concerns influence regime formation are identifiable in the literature.

1. Scientific convergence: Agreement or consensus within the scientific community regarding causal relations and appropriate responses is a prerequisite for regime formation (values are less important, though not irrelevant, to this hypothesis than to the next).
2. Epistemic communities: A group of individuals (whose membership usually transcends national boundaries and includes both scientists or experts and policy makers) who share a common view regarding causal mechanisms and appropriate responses and who have a common set of values, emerges in conjunction with the issue in question. For a regime to form, some mechanism (this can be an international organisation but might also be a less formal network) arises to link the members of this group. The resulting epistemic community is able to promote its own preferred arrangements and to prevent opposing views and values from becoming influential or dominant at the domestic level in each of the relevant states.

Contextual factors

National and global circumstances and event seemingly unrelated to the issue area under consideration play a major role in determining if and when international cooperation to address a particular problem or issue area occurs and in shaping the content of any regime that forms.

Attachment 11: Arctic states' policies

Canada

On 26 July 2009 Canada presented its Northern Strategy titled 'Our North, Our Heritage, Our Future'. The main objective is to affirm international recognition of Canada's presence and positions in the Canadian Arctic (Geopolitics in the High North, 2010). The Northern Strategy is made up of four integrated priorities:

- exercising our Arctic sovereignty;
- promoting social and economic development;
- protecting our environmental heritage; and
- improving and devolving Northern governance.

(Minister of Public Works and Government Services Canada, 2009, p. 2).

Under the heading 'exercising our Arctic sovereignty' Canada aims to strengthen the cooperation with other Arctic countries and engage "other countries that are showing more and more interest in the Far North's potential" (Government of Canada, 2009). At the same time, Canada greatly emphasises its sovereignty over Arctic lands and waters. This is done by maintaining a strong (military) presence, by enhancing stewardship of the region, by defining their domain and advancing their knowledge of the region. Canada provides for military presence in the region by an army training centre and by its Canadian Rangers. Also Canada's Arctic-capable fleet is strengthened in order to patrol the Northwest Passage (Minister of Public Works and Government Services Canada, 2009, p. 10).

Canada has jurisdiction over an area of 200 nautical miles from its coast and uses this for pollution prevention and for control of shipping traffic near its coast. Scientific studies are conducted to determine the extent of the continental shelf as defined under UNCLOS. As several other Arctic countries, Canada wants to secure recognition of the maximum extend of its continental shelf. It is expected that Canada will make its submission to the UN Commission on the Limits of the Continental Shelf by the end of 2013. It is underlined that this is a collaborative process in which Canada cooperates with Denmark, Russia and the U.S. to undertake scientific investigations (Minister of Public Works and Government Services Canada, 2009, p. 12).

Canada furthermore works with Northern communities and governments to maintain adequate search and rescue capacity. It also cooperates with six groups of international indigenous peoples that have permanent participant status in the Arctic Council (Minister of Public Works and Government Services Canada, 2009, pp. 12, 13).

Regarding social and economic development Canada works on strengthening its economic activity in the Arctic region in which aboriginal participation is emphasised. Mining projects and the Mackenzie Gas Project are regarded the cornerstones of "sustained economic activity" (Minister of Public Works and Government Services Canada, 2009, p. 15). The government of Canada supports exploration of oil and gas resources in the Beaufort Sea and announced a geo-mapping effort in order to find areas of mineral and petroleum potential. This should lead to investments from the private sector and employment opportunities in Canada's North (Minister of Public Works and Government Services Canada, 2009, p. 16).

When it comes to protecting the environmental heritage, science and technology are regarded very important. During the 2007-2008 International Polar Year, Canada conducted research focused

on climate change impacts and adaptation, and on the health and wellbeing of Northern communities. Canada takes a comprehensive approach towards environmental protection by ensuring that conservation is keeping pace with development. Also clean-up programmes to repair or remediate environmental damage at abandoned mines and other contaminated sites are regarded important. Environmental assessments are obligatory for companies undertaking industrial development. Moreover, they should establish a site closure and remediation plan and meet standards for operational and environmental safety (Minister of Public Works and Government Services Canada, 2009, pp. 24-27).

In Canada's northern strategy a chapter on the international dimension was included. Despite the dispute over the Northwest Passage, Canada regards the US as a valuable partner in the Arctic. They seek to deepen cooperation on emerging Arctic issues, bilaterally and through the Arctic Council and other multilateral institutions. Canada's bilateral relations with Russia include cooperative projects with indigenous peoples, trading, transportation routes, and environmental protection. Furthermore, Canada's common interests with the other Arctic states and cooperation with non-Arctic states on Arctic issues are mentioned. The Arctic Council is regarded an important setting for deepening understanding of the Arctic and for developing a common agenda among the Arctic states. It is supported as being the primary international institution for promoting cooperation in the Arctic and Canada is dedicated to ensuring that the Council has the strength and capacity to react to emerging challenges in the Arctic (Minister of Public Works and Government Services Canada, 2009, pp. 34, 35).

In the Northern strategy also the Ilulissat Declaration is mentioned. By this, Canada again emphasises that the existing legal framework that applies to the Arctic Ocean, especially the Law of the Sea, is regarded sufficient for a solid foundation for responsible management of the Arctic Ocean by the five coastal states. It is however not mentioned that Canada does not see the need for a new international legal regime to govern the Arctic Ocean (Minister of Public Works and Government Services Canada, 2009, p. 37).

Denmark

In May 2008 the Danish Foreign Ministry and the Greenland Home Rule government published a joint paper on Arctic governance; *Arktis i en brydningstid. Forslag til strategi for aktiviteter i det arktiske område*.⁵⁴ In this strategy paper a shift can be noticed away from sustainable development and protection of the Arctic environment to "a growing awareness that the consolidation and development of the Arctic societies must rest on economic development [...]" (Petersen, 2009, p. 53). In the same month Denmark invited the five Arctic coastal states for a meeting in Ilulissat, Greenland, in order to discuss cooperation in the management of the Arctic Ocean. Furthermore, at the beginning of 2008 an official defence commission was set up to make an analysis of the implications for Danish security of Arctic developments with respect to energy, minerals and supply. These three initiatives illustrate the growing awareness within Denmark of the Arctic as an important region in international politics (Petersen, 2009, p. 35).

However, there is another reason for increased interest in Arctic affairs; the introduction of 'Self Rule' for Greenland in June 2009. Self Rule includes the option of independence; if chosen by the people of Greenland, Denmark would no longer be an Arctic state. If Greenland does not choose for complete independence it is likely that Denmark will become increasingly involved in Arctic politics.

⁵⁴ Unfortunately, this paper is only available in Danish, information on the Danish Arctic strategy was therefore obtained from secondary sources.

The Self Rule government is given ownership over the underground and offshore seabed of Greenland, which means Greenland has control of its natural resources. Issues as defence, foreign policy, sovereignty control and other authority will remain a formal Danish privilege. Because the defence of Greenland's interests (there are estimates of large oil and gas reserves on Greenland's continental shelf) will require experience in politics, diplomatic resources and perhaps even physical presence it is probable that Greenland will become even more dependent on Denmark. Sovereignty control around Greenland will be an increasingly important task for the Danish navy and air force (Petersen, 2009, p. 36-39, 71). Chances are that Denmark will be silent about more far reaching regulations in the Arctic until Greenland has made a decision (Saksina, personal communication, 29-04-2010).

Greenland has regulated offshore hydrocarbon activities through its 2009 Mineral Resource Act. This Act aims to ensure that hydrocarbon activities are performed in a sound manner regarding safety, health, the environment, resource exploitation and social sustainability. Best international practices are taken into account (Burgaard, personal communication, 08-06-2010).

The Kingdom of Denmark – Denmark, Greenland and the Faroe Islands - holds the chairmanship for the Arctic Council as from April 2009 to April 2011. The Danish minister of foreign affairs declared to want to secure a strong platform for the Arctic Council in order to safeguard continued sustainable development in the Arctic region and develop tools for a better future for the peoples of the Arctic. Exploitation of renewable and non-renewable resources is seen as being crucial to the development of the Arctic. However, this development should take place on a sustainable basis (Møller, 2009). In contrast to the exploitation of resources and the economic development in the Arctic, the minister does not elaborate on this sustainable basis, neither in his speech nor in other documentation regarding Arctic governance.

Denmark claims to see both the challenges and opportunities posed by increased access to Arctic waters and wants to seek cooperation in relation to search and rescue. Regarding the role of observers in the Arctic Council, Denmark welcomes their input in the Councils' work. Denmark sees a great potential for observer participation and contribution and aims for facilitating discussions between the Arctic Council member states on the role of observers (Møller, 2009).

A major issue for Denmark are the claims to the continental shelf. To promote cooperation and prevent tensions in the Arctic they convened the meeting between the five coastal states in Ilulissat where the states declared their commitment to UNCLOS (Petersen, 2009, p. 36) (Ministry of Foreign Affairs of Denmark, 2009, p. 11). Denmark has submitted a claim to the UN Commission to the Limits of the Continental Shelf (CLCS) itself, which includes the Lomonosov Ridge. This Ridge has also been claimed by Russia and Canada. Denmark is nevertheless interested in negotiations with Canada, and has already agreed with Norway to negotiate regarding the claims to the continental shelf. Denmark is furthermore in dispute with Canada regarding Hans Island in the Nares Strait. Canada made a compromise in setting the border line right across the Island, but Denmark held on to its claim for the entire Island. The true matter here is the division of the continental shelf north of Greenland and Canada. Nevertheless, at the same time Denmark cooperates with Canada in investigating the connection between the Greenlandic-Canadian continental shelf and the Lomonosov Ridge (Petersen, 2009, p. 44, 52, 53).

The emphasis in the Ilulissat Declaration on UNCLOS was very important for Denmark. With this they aimed to offset two alternative ideas for Arctic governance that were being mentioned in the international debate. The first idea was implementing a moratorium on the exploitation of natural resources in the Arctic, an idea which is clearly opposed to the Danish emphasis on Arctic economic

growth. The second idea was that of an international Arctic Treaty inspired by the Antarctic Treaty. Denmark however, wants to maintain its sovereign rights. According to Denmark there are no serious arguments for an internationalisation of the Arctic Ocean. It does however, see the need for further regulation of sector-specific problems, for example regarding the protection of the marine environment and resource extraction (Petersen, 2009, pp. 57, 58). An Interview with a representative of the Greenland Bureau of Minerals and Petroleum indicated that Denmark and Greenland would most likely not accept the decision making procedure and dispute settlement mechanism as proposed in this thesis (Burgaard, personal communication, 08-06-2010).

Finland

When writing this thesis, the government of Finland was still preparing a report on an Arctic Strategy. The future Finnish Arctic Strategy will have three entry points. First, the geographical and historical interests of Finland towards Arctic issues. Secondly, Arctic issues should be dealt with within a rule-based multilateral framework in which comprehensive security is emphasised. For this, the Arctic Council should be strengthened as a global forum for enhancing the international governance of Arctic issues. Finnish Arctic policy should encourage cooperation. And third, the future of the Arctic is regarded not just a concern of the Arctic states but a legitimate concern for all. The Arctic Council should see external actors with an interest in the Arctic as a gain, not as an interference. This is a remarkable statement, since most Arctic nations do not want interference of other states. Finland however argues for admitting new observer states and organisations, including the European Commission (Stubb a, 2009).

In anticipation of this strategy Alexander Stubb, Finnish Minister of foreign affairs already gave some more hints on the direction of the strategy. The energy reserves of the Arctic are emphasised, it is stated that climate change will make utilisations easier. However, for Finland the main point is that there is no new scramble for Arctic resources, sovereignty rights being the main political issue. Stubb refers to the seabed beyond national jurisdiction as being the common heritage of mankind, a “detail” often overlooked by the Arctic Coastal states (Stubb a, 2009).

Existing multilateral channels must be used for cooperation and consultation. The Arctic Council is regarded the appropriate intergovernmental forum for taking the issues forward (BarentsObserver, 2009). For Finland, UNCLOS is sufficient to deal with the territorial claims in the Arctic (Stubb b, 2009). Despite the fact that it was not invited, Finland welcomes the Ilulissat Declaration, in which the Arctic coastal states have stated that UNCLOS is a solid foundation for managing the Arctic Ocean (Stubb a, 2009). No new arrangements are necessary; “we in fact have all the mechanisms in place already” (BarentsObserver, 2009). Nevertheless, multilateral governance of the Arctic should be strengthened. Finland aims at cooperation and taking into account the interests of all Arctic states and states beyond the Arctic region. (Stubb a, 2009).

What is furthermore emphasised by the Finnish Minister of foreign affairs is the role of indigenous peoples “whose voice must be heard loud and clear, now and in the future” (Stubb a, 2009).

Iceland

Attention within Iceland for the Arctic has increased in recent years and in April 2009 Iceland published its first Arctic strategy.⁵⁵ The main priority for Iceland is regional cooperation in the Arctic;

⁵⁵ Unfortunately, this strategy is only available in Icelandic. The information on the strategy is obtained from second-hand sources.

the Arctic Council is to be the primary forum to deal with the Arctic environment and human security. This was emphasised by Iceland sending a letter of protest when the five Arctic coastal states met outside the Arctic Council at Ottawa in 2010. Also when the Ilulissat meeting was being initiated in 2007 Iceland voiced its concern about the five Coastal states meeting separately (Guðmundsson, 2010, p. 98).

Iceland does not see the need for any additional or new international organisations or forums to deal with international relations in the Arctic. UNCLOS is regarded the main regulatory framework, however it is stressed that the Arctic Council is the main forum and that its work should be strengthened. Furthermore, Iceland wants to enhance cooperation between the Arctic Council and other Arctic organisations with the aim to place the Arctic Council at the centre of Arctic regional forums (Guðmundsson, 2010, p. 99). Regarding hydrocarbon activities, Iceland is already a Contracting Party to the OSPAR Convention.

In the address to the 6th ministerial meeting of the Arctic Council of the Minister of Social Affairs Ásta Ragnheiður Jóhannesdóttir, it was emphasised that Iceland pays great attention to resource development and environmental protection. Sustainable use of natural resources is regarded important as well as research and cooperation with other communities throughout the Arctic and with its indigenous peoples (Jóhannesdóttir, 2009).

Norway

In 2006 Norway presented its first High North Strategy, a follow up was published in March 2009, entitled “new building blocks in the North”. This follow-up does not deviate much from the 2006 document. The seven priority areas of the Norwegian High North Strategy are:

1. Develop knowledge about climate and the environment in the High North.
2. Improve monitoring, emergency response and maritime safety systems in northern waters.
3. Promote sustainable development of offshore petroleum and renewable marine resources.
4. Promote onshore business development.
5. Further develop the infrastructure in the north.
6. Continue to exercise sovereignty firmly and strengthen cross-border cooperation in the north.
7. Safeguard the culture and livelihoods of indigenous peoples.

(Norwegian Ministry of Foreign Affairs, 2009, p. 7)

In the Norwegian High North Strategy it is described that these goals are to be reached through increased international cooperation on resource exploitation, environmental management and research (Offerdal, 2010).

Knowledge is regarded to be at the core of the Norwegian High North Strategy. Aim is to promote knowledge development to enable the Norwegians to “fully seize the opportunities and address the challenges we are facing in the north” (Norwegian Ministry of Foreign Affairs, 2009, p. 8). Further, it is the Norwegian goal to have world-class expertise on maritime activity in Arctic areas. The focus is on creating knowledge on the climate and the environment, this should enable Norway to improve its management of the sea and land areas in the Arctic region and the resources found there (Norwegian Ministry of Foreign Affairs, 2009, pp. 8, 22).

Also emergency response and maritime safety are important issues for Norway. An increasing number of ships, among which a large number of Russian oil tankers, is passing by the Norwegian coast. This requires improved monitoring, emergency response, and maritime safety systems. Norway regards it as important to maintain their high health, safety and environmental standards as

hydrocarbon activities in the region increase. In this, Norway wants to promote regional cooperation (Norwegian Ministry of Foreign Affairs, 2009, p. 13).

Furthermore, Norway advocates sustainable exploitation of resources and has closed several areas for exploitation. Norway is regarded one of the frontrunners regarding environmental protection in the Arctic and by some regarded to be one of the countries most willing to start negotiations regarding offshore hydrocarbon activities and environmental protection. This position might also be motivated by the fact that many Russian oil tankers sail along the Norwegian coast (Molenaar, personal communication, 24-03-2010 – Hacquebord, personal communication, 22-04-2010). However, in a speech to the European Parliament in 2008, Norwegian foreign minister Jonas Gahr Støre indicated that there already is a comprehensive multilateral regime that applies in the Arctic; UNCLOS. He also said that only if real needs have been identified with precision, would Norway be willing to negotiate new regulations in particular fields. Their priority is the implementation of UNCLOS through concrete policies (Støre, 2008). According to Dr. Saksina, Støre was the “master mind” behind the Ilulissat Declaration, which indicates that the Arctic states do not want new regulations (personal communication, 29-04-2010).

In the 2006 strategy, exercising sovereignty and authority in the Arctic region was an important topic. The 2009 follow-up seems to be less focussed on these issues. It is still mentioned, but now in combination with the statement that “dialogue and constructive cooperation with the coastal states in the north, particularly Russia, are an important dimension of Norwegian foreign policy” (Norwegian Ministry of Foreign Affairs, 2009, p. 37). The presence and activity of armed forces in the Arctic region are regarded a key part of maintaining stability and security in the region. Armed forces are also present for the protection of national security and sovereignty, for maintaining contingency capacity and to ensure that Norway can maintain its role in resource management (Norwegian Ministry of Foreign Affairs, 2006, pp. 7, 19). Moreover, Norway has submitted a claim for the extension of its continental shelf to the UN CLCS. It has also submitted a claim for the delimitation of the continental shelf of Svalbard (Spitsbergen) (Norwegian Ministry of Foreign Affairs, 2006, p. 16).

Regarding hydrocarbon activities, mainly the economic dimension is emphasised. The government aims at ensuring that these activities enhance competence in Norway in general and in North Norway in particular; local and regional business developments should be promoted (Norwegian Ministry of Foreign Affairs, 2006, p. 8). It is noticed that the energy resources of the North are of growing interest to the rest of the world and are therefore an arena for international cooperation (Norwegian Ministry of Foreign Affairs, 2006, p. 13). Norway claims to take a systematic and methodical approach to the opening up of new areas for hydrocarbon activities and for awarding exploration and exploitation permits. It is ensured that impact assessments are drawn up which are based on the need to meet strict environmental standards and the precautionary principle. Norway furthermore asserts that it has created conditions which maintain full transparency and sound control processes which facilitate the coexistence of different users of the sea (Norwegian Ministry of Foreign Affairs, 2006, p. 16). Additionally, Norway aims at developing its expertise and technology in order to enable hydrocarbon exploitation in a “responsible and efficient way” and to increase knowledge on oil spill response actions in Arctic conditions (Norwegian Ministry of Foreign Affairs, 2006, p. 27, 28). Environmental protection regarding offshore hydrocarbon activities is already at a high level in Norway since it is a Contracting Party to the OSPAR Convention.

Norwegian policy furthermore intends to safeguard the language, culture and livelihoods of indigenous peoples in the Arctic region (Norwegian Ministry of Foreign Affairs, 2009, p. 42). Indigenous peoples are to have a strong position and play a key role in their own development.

Therefore, the government of Norway involves indigenous peoples in High North issues and intends to protect the natural resource base for indigenous peoples' economic activity, of their cultural heritage and traditional knowledge and of reindeer husbandry areas (Norwegian Ministry of Foreign Affairs, 2006, p. 37, 38).

Norway's 2006 High North strategy is focused to a great extent on maintaining close bilateral relations with Russia. It is realised that challenges in the areas of the environment and resource management can only be solved in cooperation with Russia (Norwegian Ministry of Foreign Affairs, 2006, p. 9). The Barents Sea should become a "sea of cooperation", in which Norway can cooperate closely with Russia on the sound exploitation of the hydrocarbon resources. Norway sees itself as the steward of the North, and therefore wants to advocate ambitious environmental goals and promote the establishment of high environmental standards for the offshore industry, also in Russia. Collaboration on the marine environment is given high priority. Norway is already cooperating with Russia on maritime safety, oil spill response and emergency and rescue services and has recently agreed on a joint statement concerning the delimitation of the continental shelf in the Barents Sea and part of the Arctic Ocean; it is divided in two equivalent parts. This agreement will regulate fishing and mining in an area of 173,000 square kilometres of the Arctic shelf (Anishyuk, 2010). A more elaborate treaty concerning cooperation and delimitation in the Barents Sea and the Arctic Ocean is envisaged. It should include detailed rules and procedures to ensure efficient and responsible management of hydrocarbon resources in cases where deposits should extend across the delimitation line (Joint Norwegian and Russian Statement, 2010).

Russia

In May 2009 Russia released its "basics of the state policy of the Russian Federation in the Arctic" which was already signed in September 2008. The basic national interests of Russia in the Arctic are:

1. use of the Arctic zone of the Russian Federation as a strategic resource base providing the solution of problems of social and economic development of the country;
2. maintenance of the Arctic as a zone of peace and cooperation;
3. preservation of unique ecological systems of the Arctic;
4. use of the Northern Sea Route as a national single transport communication of the Russian Federation in the Arctic;

(Basics of the state policy of the Russian Federation in the Arctic for the period till 2020 and for a further perspective – from now on: Russian Arctic state policy, 2008, p. 2).

After its basic national interests, the state policy defines the basic objectives of Russia in the Arctic. A first objective is to expand its resource base in the Arctic region in order to meet Russia's requirements for hydrocarbons, marine living resources and "other kinds of strategic raw materials" (Russian Arctic state policy, 2008, p. 3). In 2001 Russia was the first to claim part of the Arctic Ocean which currently falls beyond national jurisdiction. This claim was however rejected by the CLCS, therefore Russia is preparing a new claim. This claim was preceded by Russia planting its flag on the seabed beneath the geographical North Pole in 2007 (Petersen, 2009, pp. 45, 46). Recently, Russia adopted a more cooperative approach by concluding an agreement with Norway concerning the delimitation of the Barents Sea and part of the Arctic Ocean. The Russian president Medvedev even suggested setting up joint enterprises to explore oil fields and gas depots lying under the border (Anishyuk, 2010). However, this suggestion is most likely motivated by the lack of expertise of the Russians regarding offshore mining. This could be a trade-off; western expertise in exchange for

environmental regulations in Russian offshore oil- and gas mining (Hacquebord, personal communication, 22-04-2010).

A second objective is to defend and protect the state border by maintaining a “favourable operative regime” including armed forces. It is a priority for Russia to delimitate marine spaces and to create a safety system for the protection of Russian territories, population and objects in the Arctic region “which are crucial for the national security of the Russian Federation from threats of extreme situations of a natural and “technogenic” character” (Russian Arctic state policy, 2008, pp. 3, 4). The state policy thus discloses that it is one of Russia’s major goals to establish special military formations in the Arctic to protect Russian national interests in different military and political situations (Zysk, 2010). The exact meaning of the state policy on this issue remains unclear; some state that Russia identifies the Arctic as being prone to future military conflict, especially over its resources (Kefferpütz, 2010, p. 2). Others state that the main purpose of the military preparations is to combat terrorism at sea, suppress illegal activities and migration, and to protect marine biological resources (Zysk, 2010). Nevertheless, it is certain that Russia is increasing its military activities in the region. Furthermore, Russia wants to optimise the control system, especially boundary control, in the Arctic (Russian Arctic state policy, 2008, p. 5).

Third, Russia aims at preserving and maintaining environmental protection and to “liquidate” ecological consequences of increasing economic activities. It is regarded necessary to preserve the biological diversity of the Arctic and to expand a network of specially protected areas. As protection measures Russia wants to introduce wildlife management and protection regimes, monitoring of pollution and restoration of natural landscapes. However, national interests and the necessity of preservation in the light of expansion of economic activities are to be taken into account (Russian Arctic state policy, 2008, pp. 3, 5). Furthermore, there is some scepticism about the actual willingness of the Russians to protect their environment. It is said that they often mention they are treating their natural environment with care, but that the way oil and gas drilling is currently conducted in Russia proves the opposite (Hacquebord, personal communication, 22-04-2010). However, others are convinced of the good intentions of Russia. Dr. Saksina (a Russian herself) from the WWF notices an increasing interest of Russia in the Arctic environment. A conference in Moscow on sustainable management, state responsibility and protection of the marine environment of the Arctic is being organised (personal communication, 29-04-2010).

Regarding international cooperation, Russia aims to maintain mutually advantageous agreements with sub-Arctic states. It is a strategic priority to actively interact with the sub-Arctic states for delimitating maritime areas on the basis of international law and mutual arrangements “taking into account national interests of the Russian Federation” (Russian Arctic state policy, 2008, p. 4). Russia wants to strengthen relations within the framework of a.o. the Arctic Council and with other international forums devoted to the Arctic, such as the European Union. Furthermore, Russia indicates the creation of a uniform regional system of search and rescue and prevention of man-caused contingencies and response to this as priorities in its state policy (Russian Arctic state policy, 2008, p. 3). When it comes to shared concerns, Russia is often willing to negotiate with the parties concerned. Third parties are however seldom welcome to such talks and if an agreement is negotiated it probable very vague (Schlingemann, personal communication, 21-04-2010 – Hacquebord, personal communication, 22-04-2010).

Russia also finds the improvement of quality of life of indigenous peoples in the Arctic of importance together with improvement of social conditions of economic activities in the Arctic. Russia aims at realising health services and educational programmes for indigenous peoples living in

the Arctic region within Russia. They further want to preserve the cultural heritage and languages of the indigenous populations (Russian Arctic state policy, 2008, pp. 4, 5).

Overall, Russia aims at maintaining its role of “a leading Arctic power”. It is regarded necessary to build up competitive advantages to strengthen the position of Russia in the Arctic, the Arctic is to be transformed into Russia’s “top strategic base for natural resources by 2020” (Zysk, 2010). At the same time Russia claims to aim for international security and the maintenance of peace and stability in the Arctic region (Russian Arctic state policy, 2008, p. 9).

Sweden

The Arctic Council is regarded a very important forum by Sweden; its political dimension should be strengthened so that the Arctic Council can provide leadership in the Arctic. Sweden welcomes additional observer states in the Arctic Council, including the European Commission, the involvement of which is appreciated in any case (Bildt, 2009). Sweden realises that the Arctic is an issue of concern also to other countries outside the Arctic, although the Arctic states have the territorial rights and obligations, and thus a responsibility for what happens in the Arctic (Freivalds, 2004).

Regarding oil and gas exploitation Sweden argues for an follow up of the Arctic Council Oil and Gas Guidelines and its recommendations, especially concerning streamlining SEA procedures (Bildt, 2009). Sweden also pays close attention to its indigenous peoples; they should be able to share in the welfare. Further, research and science are of importance to Sweden, this has always played a major role in policy development which should also be the case in the future. Polar research is regarded an international effort for which cooperation with other states is required (Freivalds, 2004).

Overall, Sweden aims for harmony between the different interests in the Arctic. This is to be achieved by cooperation between the Arctic states and by carefully guiding economic development so as to ensure sustainable development. Already in 2004 Sweden has started cooperation with Norway, Finland and Russia on cross border emergency and rescue services agencies in the Barents region. Sweden wants to expand this cooperation into a circumpolar framework (Freivalds, 2004).

Sweden could be regarded as having an enlightened point of view, they might be the only country that is open to a more comprehensive and even binding regime for the Arctic. This makes the country fit for taking up a leadership role in regime formation in the Arctic (Schlingemann, personal communication, 21-04-2010 – Saksina, personal communication, 29-04-2010). However, when it comes to offshore hydrocarbon activities, Sweden has little to contribute since it is not a coastal state.

United States

Also the United States recently published an Arctic strategy; in January 2009 the Arctic Region Policy was signed. The policy reflects an increased US interest in the Arctic related to altered national policies on homeland security and defence, the effects of climate change, increased human activity in the region, the ongoing work of the Arctic Council and awareness of the resources in the region (Lundestad, 2010). The objectives of this policy are to:

1. Meet national security and homeland security needs relevant to the Arctic region;
2. Protect the Arctic environment and conserve its biological resources;
3. Ensure that natural resource management and economic development in the region are environmentally sustainable;
4. Strengthen institutions for cooperation among the eight Arctic nations;
5. Involve the Arctic's indigenous communities in decisions that affect them; and

6. Enhance scientific monitoring and research into local, regional, and global environmental issues.

(National Security Presidential Directive and Homeland Security Presidential Directive - from now on: NSPD and HSPD, 2009)

The first objective refers to increasing human activity in the Arctic region, therefore the US emphasise a more active and influential national presence to protect its Arctic interests and to protect sea power. It is pointed out that the US has “broad and fundamental national security interests in the Arctic region” (Lundestad, 2010). Furthermore, the freedom of the seas, especially in the Northwest Passage, is emphasised. It is stated that greater capacity to protect US air, land and sea borders in the Arctic region will be developed as necessary. Awareness regarding the Arctic marine domain is to be increased. Also, the US want to encourage the peaceful resolution of disputes in the Arctic region (NSPD and HSPD, 2009).

What is notable, is that under the heading ‘international governance’ it is stated that in the light of changes in the Arctic “governments should consider, as appropriate, new international arrangements or enhancements to existing arrangement” (NSPD and HSPD, 2009). This could be interpreted as the US being willing to make new and more far-reaching international agreements concerning the Arctic. Nevertheless, it is also stated that the US want the Arctic Council to remain “a high-level forum devoted to issues within its current mandate and not be transformed into a formal international organization [...]” (NSPD and HSPD, 2009). The US is however open to updating the structure of the Arctic Council. Any suggestion for a regime along the lines of the Antarctic Treaty is a priori rejected; an “Arctic Treaty” is not regarded appropriate nor necessary. Furthermore, it is advised that the Senate should approve accession of the US to the Law of the Sea in order to define with certainty the area of the Arctic seabed and subsoil within the US (NSPD and HSPD, 2009). In sum, the policy states that the US are willing to operate independently in the Arctic, while at the same time the need for international cooperation in the region is emphasised (Lundestad, 2010).

The US can be characterised as being open-minded, but at the same time they have never been to keen on international agreements (Molenaar, personal communication, 24-03-2010). Their argument for not engaging in international agreements is often that they will solve things on their own (Schlingemann, personal communication, 21-04-2010). The US are opposed to law that allows “one nation to make another nation do something”. Cooperation within the Arctic Council seems to be enough for now for the US (Holder, personal communication, 03-05-2010). The Arctic strategy is also not that clear on the intentions for protection of the marine environment, therefore we will just “have to wait and see” (Saksina, personal communication, 29-04-2010).

Some unresolved boundary issues are also mentioned in the Arctic policy. There is an unresolved boundary dispute between the US and Canada in the Beaufort Sea; an area which may contain oil, natural gas and other resources. Also, there is a pending dispute between the US and Russia; the US await ratification of a maritime boundary treaty concluded in 1990 by Russia (NSPD and HSPD, 2009).

Regarding research, the US promotes international scientific cooperation and has made significant investments in the infrastructure to collect environmental data. In the Arctic policy it is stated that the US seek to ensure that energy development occurs in an environmentally sound manner, taking into account the interests of indigenous peoples, as well as open and transparent market principles. It is only stated to a limited extent how this should be executed; the US should cooperate with the other Arctic nations, efforts to protect the Arctic environment must be risk-based, proceed on the basis of the best available information and marine ecosystem-based

management should be pursued (NSPD and HSPD, 2009). Response capacity in the Arctic is an important issue in US policy. It is recognised that the cleaning up of an oil spill is significantly more difficult in colder temperatures and ice-covered waters. The US Coast Guard already cooperates with Canada in contingency planning and aims to engage other Arctic nations and international organisations in this (NSPD and HSPD, 2009).