

## **Impact assessment of offshore oil activities in the Arctic**

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The global demand for oil and gas has led to a notable increase in interest for oil and gas exploration in the Arctic. This paper presents the results of a comparative study of the legislation for impact assessment in Greenland, Denmark, Norway, Alaska (USA) and Canada. The point of departure for the study has been to compare the legislation, in order to seek inspiration for possible improvements in the Greenlandic system. The study is focused on public participation, data and data collection, and assessment of significance and alternatives. This paper points at various similarities and differences that lead to discussing how the countries may be inspired by each other.

### **Introduction**

There has been an increased interest in the possibilities for oil production in the Arctic in the last decade. This has led to activity both onshore and offshore. For example Greenland in 2012-2013 offered licenses for oil related activities in 15 geographical blocks in the sea east of Greenland (Government of Greenland n.d.). These activities have concerns for the sensitive environment in the arctic and calls for strict environmental regulation and protection, and ultimately for stopping the oil production projects. One of the important safeguarding tools in this regard is environmental impact assessment.

On this backdrop a study of the Greenlandic legislation for environmental impact assessment was carried out to clarify whether it is state of the art. The study was done as a comparative study, where the legislation for impact assessment in Greenland, Alaska, Canada, Denmark and Norway were compared. The countries were chosen because they have similarities with Greenland i.e. oil production and arctic connections. In the following section the specific methodology applied in the study is presented.

### **Methodology**

The basic methodology for the study was a document study of the legislation in the five countries. The documents studied were laws, acts and guidance what regulate oil activities and impact assessments. The documents were found via the websites of the authorities that are in charge of enforcing the legislation (i.e. competent authorities). This was supplemented with text on these websites used to interpret and understand the documents. For example information about permitting processes and impact assessments aimed at oil companies and citizens were reviewed.

The results of the document studies were gathered in tables for each country. These were then sent to two different kinds of actors for quality review:

- 1) The advisory board for the study, consisting of Danish and Greenlandic authorities and researchers
- 2) Competent authorities in the five countries

These actors had the possibility to respond with written comments, which 5 of them did.

In order to secure the relevance of the study to the Greenlandic situation, two workshops were held in Nuuk, Greenland:

- 1) An initial workshop helping to focus the study. It was decided to focus the comparative study on public participation, data, and methods for impact assessment.
- 2) A final workshop where the results of the analysis were presented and discussions contributed to forming policy recommendations.

In the following section selected results of the study are presented.

## Results

In this paper focus will be on presenting results related to the overall structure of the oil production and the impact assessments. The focus is on:

- The overall structure of the impact assessment system
- The requirements for public participation and where in the structure they are
- The requirements for assessment of significance and where in the structure they are

### *Comparison of overall impact assessment system structure*

Getting to the point of actually producing oil for market consumption is a process of permissions, investigation etc. This can be seen in figure 1 below. As part of the process of oil extraction several impact assessments have to be carried out at various stages in this lifecycle. For example at the strategic level when opening areas for licensing, and at project level before permits are given for site surveys, exploration drilling and production. Figure 2 below shows an overview of where in the lifecycle impact assessments are carried out in the five countries.

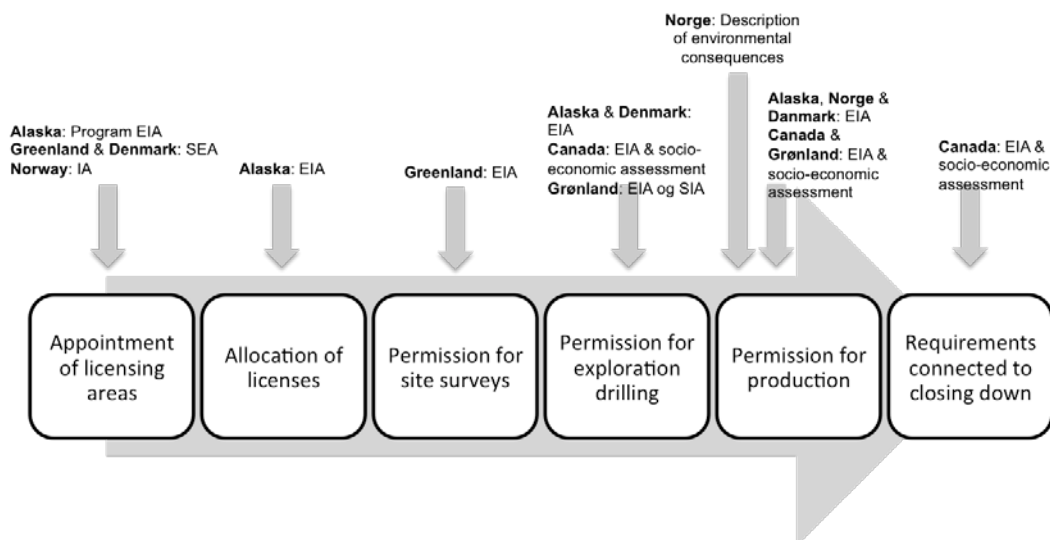


Figure 1: Standardised lifecycle for offshore oil extraction projects and what impact assessments are carried out at each stage in the five countries.

When comparing the countries Norway stands out. In Norway an impact assessment is carried out at the strategic level, in connection with opening up areas for licensing and thus oil production activities. After this the next full impact assessment is carried out when giving permission for actual oil production. In contrast to this, the other countries have different

forms of impact assessments during the intermediate stages. It is also interesting to see that Greenland and Canada are the only two countries to have specific separate assessment of social or socio-economic impacts. The other three countries have to varying degrees integrated assessment of social impacts in the environmental impact assessments.

*Comparison of requirements for public participation*

Impact assessment is often the main arena for public participation in relation to a project, and public participation is underlined as an essential feature of impact assessment. For example the IAIA best practice principles for EIA state that “EIA should be...Participative - the process should provide appropriate opportunities to inform and involve the interested and affected publics, and their inputs and concerns should be addressed explicitly in the documentation and decision-making”. (International Association for Impact Assessment 1999) Figure 1, shows information about where in the lifecycle impact assessment is carried out, and may also indicate where in the process the public is invited to participate. This is for example interesting when looking to Canada, where the first assessment is carried out in relation to exploration drilling. This is rather late in the decision process for the public to be involved compared to the other countries.

In order to analyse the impact assessment process in detail, a delimitation has been made to investigate the impact assessments carried out in relation to exploration drilling. In figure 2 below it can be seen where in the assessment process the public is invited to participate.

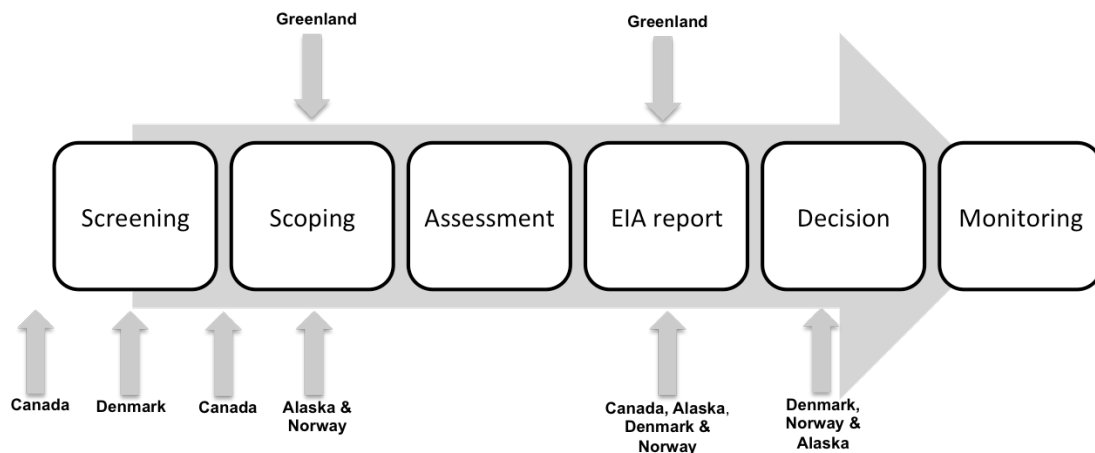


Figure 2 Overview of where in the impact assessment process there are demands for public participation in the five countries

As it can be seen from figure 2, four of the countries have demands for public participation in relation to the scoping phase, where the public is invited to give input to the content of the assessment. Denmark is the notable exception to this. Here, the screening decision is publicly announced, but there is no demand to involve the broad public in determining the scope of the assessment. All five countries have demands for public participation when an impact assessment report is published. Interestingly only in Denmark, Norway and Alaska we found demands that the final decision should be publicly announced. Interestingly only

Denmark and Norway have in their legislation established the possibility to complain about the impact assessment to an independent board after the decision.

### *Comparison of requirements for assessment of significance*

The assessment of significance is a basic part of impact assessment. In the IAIA best practice principles for EIA for example it is stated that *EIA should be... Focused - the process should concentrate on significant environmental effects and key issues; i.e., the matters that need to be taken into account in making decisions.* (International Association for Impact Assessment 1999) Thus an assessment needs to take place to establish what these significant effects are. Figure 3 gives an overview of what demands the five countries have for assessment of significance.

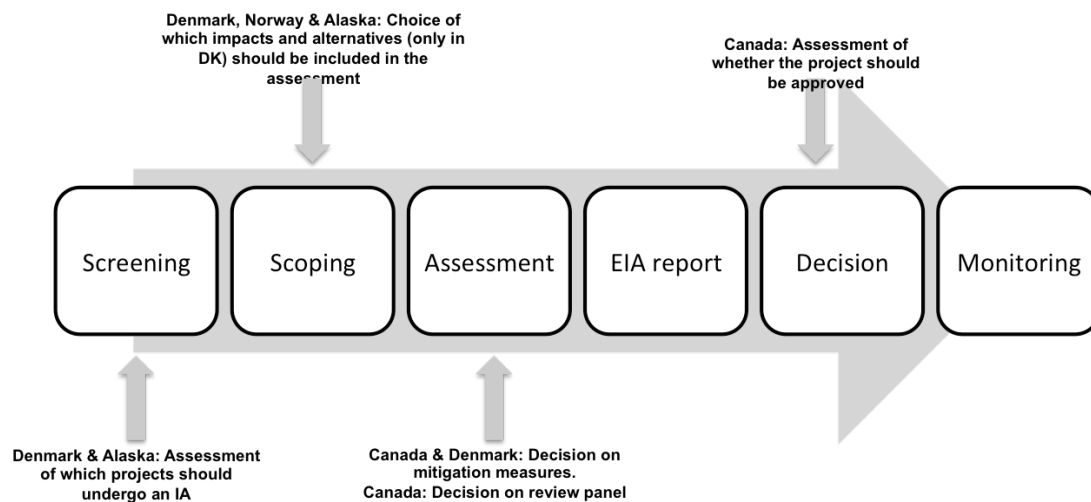


Figure 3 Overview of where in the impact assessment process the five countries have demands for assessment of significance

As can be seen from figure 3, Greenland is the only country that does not have any explicit demands for assessment of significance of impacts in their legislation. The other four countries have different demands for assessment of significance, which seem to fall into three categories:

- Assessment of which projects that have significant impacts in order to determine whether an impact assessment should be undertaken.
- Assessment of impacts are significant, in order to focus the impact assessment.
- Assessment of whether a project will lead to significant impacts in order to determine if it should be implemented and on conditions.

The first type of assessments often take place in the first stages of the impact assessment, while the second type often takes place in later stages.

### **Discussion and conclusion**

The analysis above reveals several places where similarities and differences lead us to discuss possible improvements in the national impact assessment legislation in the five countries.

Looking at the integration of impact assessment in the lifecycle for offshore oil extraction projects, Norway may be a source of inspiration for Greenland, with their system of an impact assessment at the beginning of the process that cancels the need for further impact assessment until the production stages. Such a system would save resources for both the proponents and the authorities, however, in order to secure the environment, it requires a good quality of the initial impact assessment, and that can encompass all the relevant issues until the production stage. A way forward would be an evaluation of the Norwegian system.

The analysis of the overall structure also sheds light on how social impacts are more explicitly addressed in Canada and Greenland in separate assessments, compared to Alaska and the two European nations. Here it would be interesting to see if Greenland could benefit from having an integrated approach to social and environmental impacts or whether the separate assessments are preferable.

For Greenland, the analysis poses a question mark regarding whether the public is involved at an early enough stage? In Greenland there are no specific demands for public participation in the planning and licensing stages. Thus Greenland might find inspiration in the other countries, where there is a demand for public involvement in impact assessment processes at earlier stages. Also regarding publication of the decision and the possibility for filing a complaint to an independent board of appeals the countries differ. Here, Greenland could perhaps find inspiration. However, this matter is also very dependent on the links to the court system, which might work very differently in the five countries.

Finally, Greenland is the only country making no explicit demand for assessment of significance. This seems odd considering the focus on this in best practice principles and in the other four countries. Perhaps Greenland could find inspiration to clarify the needs for assessment of significance.

The study presented here has some limitations that should be kept in mind. First the study has focussed on the legislation for impact assessment and has not analysed for example the rules for the general licensing process in the countries, and thus what these demand. Further the study has focussed on the demands in legislation and not how the authorities and proponents put these into practice. Thus, even though there are no demands for public participation in the scoping phase in Denmark, some proponents may voluntarily choose to call for input. On a forward looking basis, it would be very relevant to supplement this study with a study of this implementation of the legislation. The demands in legislation are however still essential, since they set the minimum requirements and provide specifications and boundaries for authorities, public and proponents.

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