

MEMORANDUM

To: Arctic Council

From: [Jim Tozzi](#)
Center for Regulatory Effectiveness

Date: September, 2014

Re: Regulatory Options for Arctic Resource Management

Summary

The European Union has proclaimed that it should have a significant role in the management of the resources of the Arctic. To this end it is taking actions to become a member of the Arctic Council.

It should be noted however that the development of the Arctic should be science-based and the EU has adopted as a fundamental element of its operating framework a celebrated anti-science principle—the *Precautionary Principle*.

The European Union should not be considered for membership to the Arctic Council until which time it rescinds its adoption of the Precautionary Principle. In its place consideration should be given to adopting the principles adopted by the Norwegian government for the development of its Arctic resources. In that the EU program is defined by its adoption of the Precautionary Principle the Norwegian program might be characterized as a government managed information-based regulatory regime as described herein.

I. Introduction

In the Arctic region, diminishing levels of sea ice, retreating land ice, decreasing snowfall, and thawing permafrost are “providing new development opportunities including easier access to oil and gas, minerals and fisheries.”¹ In 2009, the United States Geological Survey estimated that undiscovered Arctic oil represented “more than double the amount of oil that has been previously found”² in the region and that there was more than three times as much undiscovered gas as oil.

The Arctic states³ themselves have the most immediate interest in deciding how to deal with the panoply of issues affecting the region, including biodiversity, the rights of indigenous persons, fossil fuel resource management, fisheries, and climate change. Regional and global bodies, however, have increasingly asserted that they also have vested interests to be considered in Arctic policy-making. At the global level, the United Nations Environmental Programme (“UNEP”) has warned that:

¹ U.N. Environmental Programme, UNEP Year Book 2013: emerging issues in our global environment 9 (2013).

² Donald R. Gautier et al., *Assessment of Undiscovered Oil and Gas in the Arctic*, 324 Science 1175, 1178 (May 29, 2009).

³ Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden and the United States.

Changes in the Arctic will have consequences far beyond this region, including a global rise in sea levels and probably more extreme weather across much of the northern hemisphere. These current and future consequences of climate change require urgent responses. Arctic and non-Arctic countries share responsibility for protecting this region, in particular by limiting their greenhouse gas emissions.⁴

At the regional level, the European Union (“EU”), with its three Arctic Member States, has argued that there is a “legitimate interest [in Arctic policy for] the EU and other third countries as stakeholders by virtue of their rights and obligations under international law, its commitment to environmental, climate and other policies and its funding, research activities and economic interests, including shipping and exploitation of natural resources.”⁵

Beyond the UN and the EU, there are several other intergovernmental organizations with some kind of relevant role, responsibility, or articulated Arctic interests, such as the Arctic Council, the Barents Euro-Arctic Council, the Northern Dimension Institute, and the Nordic Council. Additionally, a multitude of international agreements (both bilateral and multilateral), including the United Nations Convention on the Law of the Sea, the Ilulissat Declaration, and the Common Northern Dimension Policy also bear relevance on different aspects of Arctic regulation.

With so many competing interests and multilateral obligations, the near-term prospects for a consistent and practicable Arctic policy remain unclear. This paper examines two legal and regulatory approaches that could be applied to expanded offshore oil and gas activities in the Arctic. The first is based on the precautionary principle as articulated by the EU, while the second follows the Norwegian enforced self-regulation system.

II. Regulatory Options

A. *Precautionary Principle*

1. General Principle

The precautionary principle “is the most notable anticipatory principle existing in national and international law with special relevance for human-induced environment problems.”⁶ This approach calls for governmental action in the present even though scientific progress will reveal the true scope of the potential problem at some point in the future. Similarly broad and hortatory language has been used to express the principle in multiple legal and economic contexts, but the lack of practical content renders it difficult to evaluate in terms of either scope or effectiveness. We recognize that the EU does not utilize the precautionary principle in the extreme in all instances because it would bring most of its programs to a grinding halt but it does utilize it to the maximum extent possible, particularly when it is beneficial to EU member states.

One of the earliest articulations of the principle most often cited is that found in the German *Federal Emission Control Act of 1974*.⁷ Under this law, the federal authorities required that installations subject

⁴ UNEP 2013 Year Book, *supra* note 1, 19.

⁵ Resolution of 20 January 2011 on a sustainable EU policy for the High North, Eur. Parl. Doc. TA 24 ¶ 1 (2011).

⁶ Christian Gollier, Bruno Jullien & Nicolas Treich, *Scientific progress and irreversibility: an economic interpretation of the ‘Precautionary Principle,’* 75 J. of Pub. Econ. 229, 230-231 (2000) (citation omitted).

⁷ Bundes-Immissionsschutzgesetz [Federal Emission Control Act], Mar. 21, 1974, BGBl. I at 721 (F.R.G.).

to licensing for emissions and discharges be constructed and operated in such a way that, *inter alia*, “[p]recautions [were] taken against harmful environmental effects, in particular by such measures as are appropriate according to the best available techniques.”⁸

Since enactment, the German approach has evolved and gained popularity to the point of being included in international agreements and the environmental laws of several countries. The *United Nations World Charter for Nature*⁹ of 1982 represents one of the earliest multilateral endorsements of some form of the principle. In the non-binding *Charter*, the General Assembly set out a five-tier escalating approach to regulation of “activities which may have an impact on nature.”¹⁰ Three of the five standards deal with a range of interpretations/applications of the precautionary principle in some way. Under its strictest provision, the *Charter* calls for complete avoidance of “activities which are likely to cause irreversible damage to nature.”¹¹ The second most stringent standard provides that activities “likely to pose a significant risk to nature”¹² should be authorized only after an exhaustive examination, during which the proponents of the activities must “demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed.”¹³ A lower standard of prior risk assessment and risk minimization planning is applicable to “activities which may disturb nature.”¹⁴ The *Charter* does not include definitions or other quantification guidance for terms such as “irreversible damage,” “significant risk,” or “potential adverse effects.”

In a more distilled version of the precautionary principle, one of the highest profile articulations of the principle emerged in 1992 with the *Rio Declaration on Environment and Development* from the United Nations Conference on Environment and Development (informally referred to as the “Earth Summit”). Principle 15 of the *Declaration* provides that:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. 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.¹⁵

Consistent with the earlier *Charter*, the *Declaration* does not describe, quantify, or otherwise define the key elements of this provision, such as “serious or irreversible damage” or “cost-effective,” leaving individual nations to interpret these terms as broadly or as narrowly as they like. One such national implementation measure is the French *Loi Barnier*,¹⁶ first enacted in 1995. This law codified its own version of principle, providing that:

The precautionary principle, according to which the absence of certainty, given our current scientific and technical knowledge, should not delay the use of effective and

⁸ *Id.* § 5.

⁹ United Nations General Assembly [U.N.G.A], *World Charter for Nature*, U.N. Doc. A/RES/37/7 (Oct. 28, 1982).

¹⁰ *Id.* Art. 11.

¹¹ *Id.* Art. 11(a).

¹² *Id.* Art. 11(b).

¹³ *Id.*

¹⁴ *Id.* Art. 11(c).

¹⁵ United Nations Conference on Environment and Development, June 3-14, 1992, *Rio Declaration on Environment and Development*, Prin. 15, U.N. Doc. A/CONF.151/26 (Aug. 12, 1992).

¹⁶ Law No. 95-101 of Feb. 2, 1995, *Journal Officiel de la République Française* [J.O.] [Official Gazette of France], Feb. 3, 1995, p. 1840.

proportionate measures preventing a risk of grave and irreversible damages to the environment, at an acceptable economic cost.¹⁷

As demonstrated in the *Emission Control Act*, the *Charter*, the *Declaration*, and the *Loi Barnier*, variations of the principle are similar in their lack of specificity. Terms such as “serious,” “grave,” “acceptable,” “appropriate,” and “proportionate” remain undefined while still calling for preventative and/or precautionary measures. Additionally, the full scope of the risks and benefits to be considered in arriving at conclusions on such key quantifying adjectives is missing from these iterations of the principle. For example, references to “cost-effective measures” and “economic cost” may be construed narrowly to relate solely to a particularly petroleum activity and its direct environmental impact or it may be understood to cover a society-wide issue that addresses additional goals such as national revenues, employment, national security, public health, and resource management. This range of interpretations “seems to offer guidance only because people blind themselves to certain aspects of the risk situation, focusing on a mere subset of the hazards that are at stake.”¹⁸

Beyond the vagueness in articulating the principle, interpretive authority in this context is generally left to administrative and/or regulatory bodies and courts. This means that the nature and extent of the principle whether found in domestic law or international agreement is not fully understood when included in binding treaty provisions and/or legislation.

2. European Union Actions

(a) *Treaty on European Union and Commission Communication*

Early in 1992, even before the *Rio Declaration*, the countries of the European Community adopted the precautionary principle with their agreement to the *Treaty on European Union* (commonly referred to as the “*Maastricht Treaty*”). The *Treaty* declares that:

Community policy on the environment . . . shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.¹⁹

As with other versions, this articulation of the precautionary principle is “devoid of practical content . . . and formulated in such a manner as to provide the basis for regulatory policies.”²⁰ With this broad language, in the context of the EU, the principle supports national environmental legislation such as that in France and Germany discussed above. At the Union level, elaboration of the principle has fallen to the Commission, the Court of Justice, the Court of First Instance, and the Parliament through a range of formal and informal actions that address elements of the rule in specific circumstances, rather than establishing clear legal standards at a categorical level.

Recognizing the potential confusion about the principle, the European Commission issued the most comprehensive discussion of the issue in 2000 with its *Communication from the Commission on the Precautionary Principle*.²¹ In its explanation of the rationale for the *Communication*, the Commission found that it was “necessary to clarify a misunderstanding as regards the distinction between reliance on

¹⁷ *Id.* art. 1.

¹⁸ Cass R. Sunstein, *The Paralyzing Principle*, Regulation, Winter 2002-2003, at 32, 37.

¹⁹ Treaty on European Union, Feb. 7, 1992, 1992 O.J. (C 191) 1, Art. 130r(2) (now Art. 191).

²⁰ Gollier, *supra* note 6, at 231.

²¹ *Communication from the Commission on the Precautionary Principle*, COM (2000) 1 final (Feb. 2, 2000).

the precautionary principle and the search for zero risk, which in reality is rarely to be found.”²² The *Communication* attempts further refinement by providing a framework for application of the principle that includes risk assessment, risk management, and risk communication, with particular relevance to the risk management element “only in the event of a potential risk, even if this risk cannot be fully demonstrated or quantified or its effects determined because of the insufficiency or inclusive nature of the scientific data.”²³

The *Communication* also addresses potential areas of confusion and/or misapplication of the principle by directing that it should be “used by decision-makers in the management of risk . . . [and] should not be confused with the element of caution that scientists apply in their assessment of data.”²⁴ Demonstrating the concern for such outcomes, the Commission warned “that the precautionary principle can under no circumstances be used to justify the adoption of arbitrary decisions.”²⁵ To forestall such results, the *Communication* includes guidance that the decision-making process “should be transparent and should involve as early as possible and to the extent reasonably possible all interested parties.”²⁶ If the process outlined in the *Communication* is followed, then the Commission envisions that any measures involving the precautionary principle be: proportional, non-discriminatory, consistent, based on an examination of the potential benefits and costs, subject to review in light of new scientific data, and capable of assigning responsibility for producing the scientific evidence necessary for a more comprehensive risk assessment.²⁷

Even with the Commission’s attempt to outline the general terms of the principle’s applicability within the EU, the *Communication* concludes with a recognition of “the crucial importance [the Commission] attaches to the distinction between the decision to act or not to act, which is of an *eminently political nature* [A] decision to invoke the precautionary principle[, however,] does not mean that the measures will be adopted on an arbitrary or discriminatory basis.”²⁸

(b) Directives

While the precautionary principle became a part of the foundational documents of the EU in 1992, the *Marine Strategy Framework Directive*, enacted in 2008, represented the first significant application of the principle to offshore oil and gas operations by directing Member States to:

[E]stablish and implement [programs] of measures which are designed to achieve or maintain good environmental status in the waters concerned [and such measures] should be devised on the basis of the precautionary principle and the principles that preventive action should be taken, that environmental damage should, as a priority, be rectified at source and that the polluter should pay.²⁹

²² *Id.* at 9.

²³ *Id.* at 13.

²⁴ *Id.* at 3.

²⁵ *Id.* at 13.

²⁶ *Id.* at 4.

²⁷ *Id.*

²⁸ *Id.* at 22 (emphasis added).

²⁹ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive), 2008 O.J. (L 164) 19.

The *Marine Strategy Framework Directive* does not establish a full-scale regulatory regime; instead it serves to “deliver the environmental pillar of the future maritime policy for the European Union.”³⁰ The process outlined in the *Framework Directive* calls for Member States to undertake, *inter alia*, “an economic and social analysis of the use of [each State’s marine] waters and the cost of degradation of the marine environment.”³¹

With offshore oil and gas operations representing one of the uses of marine waters to be analyzed under the *Framework Directive*, in June 2013, the European Parliament and Council expanded the scope of its legislation to address such activities more specifically with enactment of the *Offshore Oil Directive*.³² In its prefatory paragraphs, the Directive cites Art. 191 of the *Treaty* as “creat[ing] an obligation for all Union action to be supported by a high level of protection based on the precautionary principle, and on the principles that preventive action needs to be taken, that environmental damage needs as a matter of priority to be rectified at source and that the polluter must pay.”³³ Throughout the remainder of the *Offshore Oil Directive*, Member States are required to adopt specific licensing, operational, reporting, and liability provisions with full compliance to be achieved by July 19, 2015. In addition to the enacted articles, the *Offshore Oil Directive* includes nine annexes of highly detailed requirements elaborating on the primary provisions discussed below.³⁴

B. A Government Managed Information-based Regulatory Regime

1. General Principles

In contrast with a detailed and complex government-articulated regulatory system, “enforced self-regulation” and “meta-regulation” offer a kind of collaborative strategy that involves the regulators and the regulated working together to arrive at an acceptable end result. Perhaps at its most basic, enforced self-regulation envisions a “negotiation occurring between the state and individual firms to establish regulations that are particularized to each firm.”³⁵

Similarly, meta-regulation “provides scope to devise incentives that encourage corporate management to adopt internal regulations and systematic compliance processes that address social, environment and ethical responsibilities.”³⁶ When embedded in law, this approach “ensure[s] that these . . . responsibilities have been included in the compliance systems of companies in a manner that befits the company in question.”³⁷

Depending upon the exact definitions of the terms used, the regulatory system for petroleum activities in Norway is often cited as an example of these approaches³⁸ given that it “is aiming toward a more pragmatic, experience-based yet government-controlled regime.”³⁹

³⁰ *Id.* ¶ 3.

³¹ *Id.* Art. 8(1)(c).

³² Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, 2013 O.J. (L 178) 66.

³³ *Id.* ¶ 1.

³⁴ *See infra* Part III.

³⁵ Ian Ayres & John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* 101 (1992).

³⁶ Mia Mahmudur Rahim, *Legal Regulation and Corporate Social Responsibility* 279 (2013).

³⁷ *Id.*

³⁸ *See generally* Preben H. Lindøe, Michael Baram & John Paterson, Paper Presented at PSAM 11 & ESREL 2012 Conference on Probabilistic Safety Assessment: Robust Offshore Risk Regulation – as assessment of US, UK and Norwegian approaches (June 2012).

2. Norwegian Actions

While Norway is not a Member State of the European Union, it is a Member of the European Economic Area (“EEA”) and bound by the terms of the *EEA Agreement*,⁴⁰ including its environmental “horizontal provision.” Specifically, the *EEA Agreement* provides that “[a]ction by the [signatory nations] relating to the environment shall be based on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source, and that the polluter should pay.”⁴¹

Operating within the framework of the *EEA Agreement* and its approach to the concept of prevention/precaution, Norway has developed an overall oil and gas regulatory system with the stated goal of being “carried out in a long-term perspective for the benefit of the Norwegian society as a whole. In this regard the resource management shall provide revenues to the country and shall contribute to ensuring welfare, employment and an improved environment”⁴² This structure combines a preventive action element that also involves a robust consultative process in which the dangers identified in the *EEA Agreement* are mitigated in a broader context rather than directly or indirectly prohibiting certain petroleum activities altogether.

(a) Act No. 72 Relating to Petroleum Activities

The *Petroleum Act* constitutes the major piece of legislation covering the life cycle of any petroleum resource activities, whether onshore or offshore, beginning with exploration and continuing through decommissioning of installations along with ongoing liability for pollution damage.

As a general matter, the *Petroleum Act* requires that petroleum activities “take due account of the safety of personnel, the environment and of the financial values which the facilities and vessels represent, including also operational availability.”⁴³ This articulation of the three broad categories of risk that must be considered informs the more specific provisions of the law. The statute further provides that:

The petroleum activities must not unnecessarily or to an unreasonable extent impede or obstruct shipping, fishing, aviation or other activities, or cause damage or threat of damage to pipelines, cables or other subsea facilities. All reasonable precautions shall be taken to prevent damage to animal life and vegetation in the sea, relics of the past on the seabed and to prevent pollution and littering of the seabed, its subsoil, the sea, the atmosphere or onshore.⁴⁴

The first step in the actual process of the regulated petroleum activities establishes a consistent approach for those that follow. When the Ministry of Petroleum and Energy (“MPE”) contemplates opening a new area for exploration and possible production, the law requires an assessment to determine “the impact of the petroleum activities on trade, industry and the environment, and of possible risks of pollution, as well as the economic and social effects that may be a result of the petroleum activities.”⁴⁵ The MPE does not

³⁹ Risk Governance of Offshore Oil and Gas Operations 22 (Preben Hempel Lindøe, Michael Baram & Ortwin Renn eds., 2013).

⁴⁰ Agreement on the European Economic Area, 1994 O.J. (L 1) 3.

⁴¹ *Id.* Art. 73(2).

⁴² Act 29 Nov. 1996 No. 72 relating to petroleum activities, Nov. 29, 1996, nr. 72 § 1-2 (amended 2011) (Norway).

⁴³ *Id.* § 10-1.

⁴⁴ *Id.*

⁴⁵ *Id.* § 3-1.

make this decision in isolation; instead the Norwegian model begins by ensuring that “local public authorities, central trade and industry associations and other organizations which may be presumed to have a particular interest in the matter”⁴⁶ are consulted. This is in addition to the public announcement and minimum three-month comment period also required.

Once an area has been designated open for production, generally the MPE must again issue a public announcement indicating that applications for production licenses may be submitted over no less than ninety days. Approval of an application is mandated under the law to be “done on the basis of factual and objective criteria, and the requirements and conditions stated in the [opening] notification.”⁴⁷ Beyond these broad legislative provisions, the details of the application process are left to be covered by governmental regulations.⁴⁸

While the licensing process under the law is largely procedural in nature, the provisions for the development and operation of petroleum resources under such a license include more substantive requirements. Under Chapter 4 of the *Petroleum Act*, production must “take place in such a manner that as much as possible of the petroleum . . . will be produced.”⁴⁹ The law also mandates that it “take place in accordance with prudent technical and sound economic principles and in such a manner that waste of petroleum . . . is avoided.”

In order to ensure the effectiveness and efficiency called for, the *Petroleum Act* requires that a licensee obtain approval from the MPE of its plan for development and operation. This plan must “contain an account of economic aspects, resource aspects, technical, safety related, commercial and environmental aspects, as well as information as to how a facility may be decommissioned and disposed of when the petroleum activities have ceased.”⁵⁰ Furthermore, the MPE “may, when particular reasons so warrant, require the licensee to produce a detailed account of the impact on the environment, possible risks of pollution and the impact on other affected activities, in respect of a larger defined area.”⁵¹

Near the end of the operations of a particular facility or the expiration of a license, the law requires that a licensee obtain the approval of the MPE for its decommissioning plan.⁵² In making its decision the MPE must “stipulate a time limit for implementation of the decision [with an emphasis on] technical, safety, environment and economic aspects as well as to consideration for other users of the sea.”⁵³

From production through final decommissioning, the *Petroleum Act* mandates that licensees “at all times maintain efficient emergency preparedness with a view to dealing with accidents and emergencies which may lead to loss of lives or personal injuries, pollution or major damage to property.”⁵⁴ This obligation is in addition to any conditions stipulated in approvals of development, operation, or decommissioning plans.

(b) Regulations to Act Relating to Petroleum Activities

⁴⁶ *Id.*

⁴⁷ *Id.* § 3-5.

⁴⁸ *Id.*

⁴⁹ *Id.* § 4-1.

⁵⁰ *Id.* § 4-2.

⁵¹ *Id.*

⁵² *Id.* § 5-1.

⁵³ *Id.* § 5-3.

⁵⁴ *Id.* 9-2.

The implementing regulations promulgated by the MPE elaborate on the broad standards articulated in the *Petroleum Act* by providing additional requirements and details required at each step of the covered petroleum activities.

(1) Opening of an Area

Addressing the first stage of such efforts, Chapter 2a of the *Petroleum Regulations* outlines a process for conducting the impact assessment called for under § 3-1 of the *Petroleum Act* for opening new areas to petroleum activities. In keeping with the consultative approach enshrined in the law, the regulations require the MPE to issue a draft program in which it “describe[s] the aspects to be addressed by the impact assessment, including the assessments needed to establish an appropriate decision base.”⁵⁵ This draft must be made available to the authorities and industrial organizations concerned and publicly available online with an open comment period of not less than six weeks. The resulting program must be based on the draft and the comments received with an explanation as to how the comments were considered and reflected in the final version according to which the impact assessment will be conducted.⁵⁶

Consistent with the approved program, an impact assessment must address a wide range of factors under the regulations, including, *inter alia*, not only the environmental impacts at a national level,⁵⁷ but also those regarding living conditions for animals and plants, the sea bed, water, air, climate, landscape, emergency preparedness and risk.⁵⁸ In addition to the environmental aspects, an assessment must describe the “assumed impacts on employment and commercial activities, as well as expected economic and social effects of the petroleum activities.”⁵⁹ As with the draft assessment program, the *Petroleum Regulations* mandate an open, consultative process involving relevant authorities, central industrial organizations and the public.⁶⁰

In the third step of the deliberative process to open an area for petroleum activities, the regulations further require that such a proposal, including the assessment of impacts and comments received during the consultative process (and an evaluation of the importance of those comments), along with any conditions to reduce/compensate for significant adverse effects must be submitted to the Storting (the Parliament of Norway).

(2) Production Licensing

Once an area has been opened for petroleum activities, an applicant for a production license must submit a range of information relating to the production plan, including the applicant’s experience, and its capabilities.⁶¹ In evaluating such an application, the MPE must make its decision “[i]n the interest of furthering the best possible resource management,”⁶² with the criteria for making such governmental determinations being based on: “the technical competence and financial capacity of the applicant [and] the applicant’s plan for exploration and production in the area for which a production license is sought.”⁶³

⁵⁵ Regulations to Act relating to petroleum activities, June 27, 1997 § 6b (amended July 2, 2012) (Norway).

⁵⁶ *Id.*

⁵⁷ *Id.* § 6c(b) and (d).

⁵⁸ *Id.* § 6c(e).

⁵⁹ *Id.* § 6c(c)

⁶⁰ *Id.* § 6c.

⁶¹ *Id.* § 8.

⁶² *Id.* § 10.

⁶³ *Id.* § 10.

Under the regulations, the MPE, in granting a license, may impose conditions and requirements that “shall be based solely on the need to ensure that the petroleum activities . . . are carried out in a proper manner.”⁶⁴ The *Petroleum Regulations* further explain the factors that elaborate this otherwise vague standard to include: “national security, public order, public health, transport safety, environment protection, protection of biological resources and national treasures of artistic, historic or archaeological value, the safety of the facilities and the employees, systematic resource management (*e.g.* production rate or the optimization of the production activities) or the need to ensure fiscal revenues.”⁶⁵

(3) *Test Production Permission*

Having received a production license, a licensee must again apply for test production permission after having proven a deposit by drilling. Such a test production license must address eight specific points: “(a) description of the purpose of the test production, (b) description of geological and reservoir engineering aspects, (c) test production [program], (d) description of facilities that will be used, (e) description of equipment for metering petroleum, including fiscal measurement, (f) overview of expenses, (g) description of overall safety issues, [and] (h) description of environmental impact.”⁶⁶

(4) *Environmental Impact Assessment Program*

Similar to the process employed by the MPE for deciding to open a new area to petroleum activities, a licensee must submit a proposed program for an environmental impact assessment for the development and production requested. Such a proposal must include “a short description of the development, of relevant development solutions and, *based on available knowledge*, of envisaged effects in relation to other commercial activities to the environment, including possible transboundary environmental impact.”⁶⁷ This proposed program must be submitted to the regulatory authorities and industrial organizations concerned for a comment period of not less than six weeks. After such a comment period, the MPE makes its decision on the acceptability of the assessment program based on the proposal itself as well as all comments received during the consultative process. Any approval must also indicate how the comments have been assessed and reflected in the final document.⁶⁸

(5) *Development Plan and Environmental Impact Assessment*

In order to advance to full development and production, a licensee must again apply to the government with a plan for development and operation containing the impact assessment as conducted pursuant to an approved program. Such a request addresses an expanded list of issues relative to the test application, including a development plan, a description of the geographical aspects associated with the location, a proposed production schedule, and a “description of technical solutions, including solutions aimed at preventing and minimizing environmentally harmful discharges and emissions.”⁶⁹ Additional required elements cover emergency preparedness, anticipated manner of disposal of the facilities once petroleum activities have ceased, and information on the economic aspects of the proposed activity.

⁶⁴ *Id.* § 11.

⁶⁵ *Id.*

⁶⁶ *Id.* § 18.

⁶⁷ *Id.* § 22 (emphasis added).

⁶⁸ *Id.*

⁶⁹ *Id.*

The impact assessment element in the development and operation plan, at a general level, “shall state the reasons for the effects that the development may have on commercial activities and environmental aspects, including measures to prevent and remedy such effects.”⁷⁰ More specifically, the assessment must address several additional points, including the justification(s) for the development solution proposed, alternative development programs not chosen, ultimate disposal of the proposed facilities, technical emergency preparedness, and methods of environmental monitoring. Furthermore, the assessment must “describe the environment which may be significantly affected, consider and make a balanced judgment with regard to the environmental impact of the development.” Consistent with the production licensing provisions of § 11, the assessment must also:

[D]escribe emissions to sea, air and soil, describe possible material assets and monuments of cultural heritage which may be affected as a result of the development, consider the consequences of the technical solutions chosen, clarify how environment criteria and impact on the environment have been taken into account in the technical solutions that have been chosen, describe possible and planned measures in order to prevent, reduce and if possible compensate for any significant adverse effects on the environment.⁷¹

Again, the regulations require that the MPE undertake a consultative process prior to ruling on the acceptability of an impact assessment. The proposed assessment itself must be shared with relevant regulatory authorities and industrial organizations as well as made available to the public on the Internet (with relevant background material to the extent possible) for a comment period of not less than six weeks. On the basis of the comments received, the MPE may require additional assessments or documentation, with any additional assessments being available to the authorities and previous commenting parties for not less than two weeks.

The MPE does not rule specifically on the acceptability of the impact assessment as a stand-alone item, the approval process relates to the production license application of which the assessment is one part. It does, however, issue a proposed “assessment of the impact of the development and the comments received, and how these comments have been weighted.”⁷² It must also “consider whether conditions to reduce and compensate for significant adverse effects should be set” and, where it deems it necessary, the MPE may require the development of an environmental monitoring program “to monitor and compensate for adverse impacts of importance.”⁷³

(6) Cessation of Petroleum Activities and Decommissioning

When approved petroleum activities are to be ended, a licensee must develop and submit a decommissioning plan to the MPE as well as the Ministry of Labour and Social Affairs (“MLSA”), with copies to the Norwegian Petroleum Directorate (“NPD”) and the Petroleum Safety Authority (“PSA”).⁷⁴ Each disposal alternative proposed must address not only details about the operation and deposit, but also “technical, safety-related, environmental aspects [and the] relationship to other users of the sea, including information and evaluations on the impact of fisheries and shipping.”⁷⁵

⁷⁰ *Id.* § 22 (emphasis added).

⁷¹ *Id.* § 22a(b).

⁷² *Id.* § 22a.

⁷³ *Id.*

⁷⁴ *Id.* § 43.

⁷⁵ *Id.* § 44.

As with the development plan discussed above, early in the decommissioning process, a licensee must submit a proposed program to the MPE for the impact assessment of the various disposal alternatives with a discussion, “based on available knowledge, of envisaged effects to the environment and to other activities.”⁷⁶ The resulting impact assessment executed pursuant to the MPE-approved program must “contain a description of the effect that each of the relevant disposal alternatives may have on commercial and . . . environment aspects, and what can be done to reduce discharges and emissions in connection with disposal, and to remedy any damage or inconvenience.”⁷⁷

This approved assessment program and the resulting impact assessment are included as key elements in the MPE’s approval relating to a proposal disposal under the *Petroleum Act*’s mandate that such decisions include an emphasis on “technical, safety, environmental and economic aspects as well as . . . consideration for other users of the sea.”⁷⁸

(c) Guidelines

The Norwegian regulatory structure for petroleum activities, particularly the *Petroleum Act* and its implementing regulations, as discussed above, reflect a broad, performance-based approach that leaves many of the rules “open to multiple interpretations.”⁷⁹ For many of the more detailed and technical areas, the MPE, National Petroleum Directorate (“NPD”) and the Petroleum Safety Authority (“PSA”) have issued guidelines, interpretations, supervisory audit reports, identical letters,⁸⁰ and other documents that are less formal both in terms of procedure and enforceability. Examples of these efforts include:

- Guidelines for development and operation plans issued jointly by the MPE and the MLSA,⁸¹
- NPD guidelines for designation of wells and wellbores;⁸² and
- PSA guidelines regarding the technical and operational regulations.⁸³

In addition to the official sources, the Norwegian regulators explicitly refer to industry standards to inform their interpretation and application of legislative and regulatory requirements. Such guidance may

⁷⁶ *Id.* § 45.

⁷⁷ *Id.*

⁷⁸ *Petroleum Act* § 5-3.

⁷⁹ Charles Ebinger, John P. Banks & Alisa Schackmann, *Offshore Oil and Gas Governance in the Arctic: A Leadership Role for the U.S.*, Brookings Energy Security Initiative Policy Brief 14-01, Mar. 2014, at 24.

⁸⁰ An ‘identical letter’ is a “communication with the same wording sent to all or selected groups of players in the petroleum sector, depending on whom the content is relevant for.” Petroleum Safety Authority Norway, <http://www.ptil.no/identical-letters/category894.html> (last visited Apr. 27, 2014).

⁸¹ Ministry of Petroleum and Energy and Ministry of Labour, *Guidelines for plan for development and operation of a petroleum deposit (PDO) and plan for installation and operation of facilities for transport and utilisation of petroleum (PIO)*, http://www.npd.no/Global/Engelsk/5-Rules-and-regulations/Guidelines/PDO-PIO-guidelines_2010.pdf (last visited Apr. 27, 2014).

⁸² National Petroleum Directorate, *NPD guidelines for designation of wells and wellbores*, http://www.npd.no/Global/Norsk/5-Regelverk/Te matiske-veiledninger/Bronner_betegnelse_og_klassifisering_e.pdf (last visited Apr. 27, 2014).

⁸³ Petroleum Safety Authority Norway, *Guidelines regarding the technical and operational regulations*, http://www.ptil.no/technical-and-operational-regulations/category637.html#_Toc377727546 (last visited Apr. 27, 2014).

come from Norwegian-specific groups such as the Norwegian Oil and Gas Association or broader groups such as the International Maritime Organization.⁸⁴

III. Comparative Analysis and Discussion

While the differences in the regulatory options discussed in Part II are apparent at a general level, a comparison of key provisions of the EU *Offshore Oil Directive* and the Norwegian *Petroleum Act* provides more specific variations between the two approaches.

A. Basic Approach

From a foundational level, the *Petroleum Act* and the *Offshore Oil Directive* articulate very different substantive goals/purposes of their respective regimens. As described above,⁸⁵ Norway takes a broad approach to justifying its petroleum resource management to encompass considerations for government revenues, national welfare, employment, environmental conditions, and industrial development with the recognition that there are also regional and local policy issues that must inform their actions. These sensibilities are further reinforced in the law by a mandate that any actual production activity “take place in accordance with prudent technical and sound economic principles and in such a manner that waste of petroleum or reservoir energy is avoided.”⁸⁶

The *Offshore Oil Directive* relies almost exclusively on broad environmental factors to support its conclusions. Of the sixty-five prefatory paragraphs describing the context, justifications, and goals of the *Offshore Oil Directive*, there are only passing references to non-environmental elements such as some of those identified by Norway. The first of these is indirect in that it points to the objectives of the *Framework Directive*⁸⁷ as also being relevant to offshore oil and gas activities and describes that *Framework Directive* as calling for the development of “a coherent approach to the seas taking into account all economic, environmental and social aspects through the use of maritime spatial planning and marine knowledge.”⁸⁸ With regard to incorporating those same concerns more directly into the regulatory scheme articulated in the *Offshore Oil Directive*, the only consideration addressed in the prefatory justifications that does not relate to environmental or worker safety declares that “[p]roduction of offshore oil and gas is a significant element in security of the Union’s energy supply.”⁸⁹ Even this energy security concern is later recast somewhat into a restrictive element by urging Member States to ensure “continuous expert regulatory oversight . . . in order to ensure there are effective controls in place for preventing major accidents, and limiting their impacts to persons, the environment, and security of the energy supply.”⁹⁰ Beyond these vague references, the *Offshore Oil Directive* omits the broader economic and social aspects of petroleum activities as informing its regulatory regime.

B. Process Considerations

With regard to the substantive provisions of the *Offshore Oil Directive*, there is also a clear difference between the EU and Norwegian approaches. As with the multi-faceted concerns underpinning the

⁸⁴ See generally Petroleum Safety Authority Norway, <http://www.ptil.no/standards/category884.html> (last visited Apr. 27, 2014).

⁸⁵ See *supra* Part II.B.2.

⁸⁶ *Petroleum Act* § 4-1.

⁸⁷ See *supra* note 29.

⁸⁸ *Offshore Oil Directive*, Para. 7.

⁸⁹ *Id.* Para. 8.

⁹⁰ *Id.* Para 12.

Petroleum Act discussed above, the Norwegian implementing measures require consideration of many different factors.

In order to open an area for possible petroleum production, the *Petroleum Act* mandates an evaluation of the impact of the proposed activities “on trade, industry and the environment, and of possible risks of pollution, as well as the economic and social effects that may be a result of the petroleum activities.”⁹¹ This approach is further elaborated upon in the *Petroleum Regulations* so as to require the preparation of an impact assessment prior to the opening of any new areas. Such an impact assessment must include, *inter alia*, “a description of the relationship to national plans relevant for the area to be opened for petroleum activities, and of relevant environmental goals/standard laid down through national guidelines, national environmental goals, [and] white papers”⁹²

As with the substantive requirements of the law, the process for developing an impact assessment requires a broad range of participants. Prior to execution of an impact assessment, the MPE must prepare a draft programme according to which the assessment will be made. At this very early stage, the *Petroleum Regulations* require that the draft programme be made available to the public generally as well as any concerned authorities and industrial organizations for not less than six weeks.⁹³ Only after this consultative stage does the MPE compile a report addressing the comments received and how they are reflected in the resulting assessment programme. While the *Offshore Oil Directive* also requires public participation prior to the authorization of any new exploration operations, it again focuses on the environmental factors to the exclusion of other considerations. Article 5 mandates that the public participation process meet the requirements of either other environment-related Directives⁹⁴ or its alternative standard. This new public participation rule provides that the “public concerned” be identified so as to include those persons “affected or likely to be affected by, or having an interest in, the decision to allow exportation operations, including relevant non-governmental organizations such as those promoting environmental protections. . . .”⁹⁵

C. Functional Elements

As a general matter, the Norwegian *Petroleum Act* requires that “all *reasonable* precautions”⁹⁶ against environmental damage be taken in relation to petroleum activities. The *Offshore Oil Directive*, however requires that such operations be carried out “on the basis of systematic risk management so that the residual risks of major accidents to persons, the environment and offshore installations are *acceptable*,”⁹⁷ with that level of acceptability being defined as the point where “the time, cost or effort of further reducing it would be *grossly disproportionate* to the benefits of such reduction.”⁹⁸ While specific economic values are not assigned to these terms in either provision, the difference between a “reasonable precaution” and one that would be “grossly disproportionate” to any benefits is obvious on its face even without a court or other interpreting authority articulating a method of calculation and comparison.

⁹¹ *Petroleum Act* § 3-1.

⁹² *Petroleum Regulations* § 6c.

⁹³ *Id.* § 6b.

⁹⁴ See Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, 2001 O.J. (L 197) 30, and Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, 2011 O.J. (L 26) 1.

⁹⁵ *Offshore Oil Directive* Art. 5(2).

⁹⁶ *Petroleum Act* § 10-1.

⁹⁷ *Offshore Oil Directive*, Art. 3(4) (emphasis added).

⁹⁸ *Id.* Art. 2(8) (emphasis added).

In a qualifying provision to its “grossly disproportionate” standard, the *Directive* provides that “regard shall be had to best practice risk levels compatible with the undertaking,”⁹⁹ although the effect of such “regard” is not described. This uncertainty contributes to creating a final legislative standard that would appear difficult to evaluate for implementation purposes, but a standard of “grossly proportionate” mitigated with any level of “regard” to best practices would still appear to be significantly more restrictive than any reasonableness standard, including that of the *Petroleum Act*.

Perhaps the starkest difference between the EU and Norwegian approaches arises in a comparison of their respective information and reporting requirements for preparing and carrying out offshore operations. The Norwegian law provides that a licensee must submit a development and operation plan that must “contain an account of economic aspects, technical, safety related, commercial and environmental aspects, as well as information as to how a facility may be decommissioned and disposed of when the petroleum activities have ceased.”¹⁰⁰ The implementing regulations carry forward the same comprehensive approach to the plan information by requiring a description of the development and an impact assessment.¹⁰¹ The development description must address: (1) the development strategy and concept, (2) the geological and reservoir engineering aspects and production schedule, (3) technical solutions (including those designed to prevent and minimize environmentally harmful discharges and emissions), (4) information on managements systems, (5) information on operation and maintenance, (6) information on economic aspects, (7) relevant licensing information, (8) proposed disposal information upon time of production cessation, (9) transportation facilities, (10) marketing of the gas, (11) technical measures for emergency preparedness, (12) resource management, and (13) any other matters required under safety regulations.¹⁰² Consistent with these general information points embedded in the law and regulations, the Norwegian Petroleum Directorate has issued guidelines that explain the information that should be included in such a plan.¹⁰³ Having issued guidelines that lack the same force of law that statutes or regulations would, the Norwegian authorities are able to make any adjustments necessary to adapt to developments in technical, economic, or environmental considerations.

In contrast to the Norwegian approach, before any operations begin the *Offshore Oil Directive* requires the submission of a series of documents (or “adequate descriptions”¹⁰⁴ of the required information) covering: (1) the corporate accident prevention policy, (2) the safety and environmental management system, (3) a design notification, (4) the scheme of independent verification, (5) a report on major hazards, (6) amendments to the major hazards report in the event of a material change or dismantling of an installation, (7) the internal emergency response plan, (8) a notification of well operation (as relevant), (9) a notification of a combined operation (as relevant), (10) a relocation notification (as relevant), and (11) any other “relevant document” requested by the Member State competent authority.¹⁰⁵ Additionally, Annex I of the *Directive* provides further requirements for the contents of the documents required in the primary text. As demonstrated by the information required by the *Directive*, the EU has focused all of the information requirements on safety and environmental matters, unlike the Norwegian example that

⁹⁹ *Id.*

¹⁰⁰ *Petroleum Act* § 4.2.

¹⁰¹ *Petroleum Regulations* § 20.

¹⁰² *Id.* § 21.

¹⁰³ Norwegian Petroleum Directorate, Guidelines for plan for development and operation of a petroleum deposit (PDO) and plan for installation and operation of facilities for transport and utilisation of petroleum (PIO), Feb. 4, 2010.

¹⁰⁴ *Offshore Oil Directive* Art. 11(1).

¹⁰⁵ *Id.*

considers the full range of issues associated with petroleum extraction, including those related to the environment and human safety.

IV. Conclusion

The precautionary principle as a concept calls for and justifies present day governmental measures to mitigate environmental problems, the extent of which will be revealed only at some future time. This approach is further complicated when translated into multilateral and national legal instruments that attempt to describe those future problems with undefined terms such as “serious” or “grave” and qualify the authorized measures by using additional undefined terms such as “acceptable,” “appropriate,” or “proportionate.” This combination of vague modifiers associated with the principle’s key elements renders any resulting regime exceedingly difficult to evaluate from an implementation perspective.

In addition to the uncertainty within the principle itself, when implemented strictly on its own this regulatory approach fails to consider the full range of issues associated with the subjects of its restrictions. As one such implementing measure, the *Offshore Oil Directive* includes only brief references to any considerations other than those associated strictly with environmental and safety issues, with no mention of other important questions such as those relating to effective resource management, employment, government revenues, national welfare, or industrial development. The Norwegian approach to the same issues, however, provides a clear point of contrast. Unlike the EU, Norway has articulated a process that provides significant weight to environmental concerns while also recognizing those other governmental interests left unaddressed by the EU’s implementation of the precautionary principle.

As opportunities for additional petroleum activities present themselves in the Arctic region, the Norwegian model would be better suited than that of the EU to ensuring that a clear and balanced approach is implemented to provide for strong environmental protections while also considering other legitimate societal considerations.

Endnotes

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