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HYDROCARBON DEVELOPMENT AND MARITIME SHIPPING FOR THE CIRCUMPOLAR ARCTIC IN THE CONTEXT OF THE ARCTIC COUNCIL AND CLIMATE CHANGE

by Magdalena A K Muir*

INTRODUCTION

The Arctic sea ice cover is undergoing an unprecedented transformation—sea ice thinning, a reduction in extent, and a reduction in the area of multi-year ice in the central Arctic Ocean. The Arctic Climate Impact Assessment (“ACIA”) Scientific Report documents overall changes, and also provides sea ice projections for the next century, which show increasing ice-free areas in the coastal zones and increases in marine access throughout the Arctic Ocean.

One of the consequences of climate change for the Arctic is the greater opportunity for hydrocarbon development and maritime shipping.¹ This is in part due to climate change as a result of thinner ice and higher overall temperatures. Recent energy prices have increased political and commercial interest in exploiting these resources.² Increased economic activity in this region, together with the current retreat of Arctic sea ice facilitates developments such as the Northern Sea Route around Scandinavia, Russia, and Asia, and the Northwest Passage through the North American Arctic.³ Continued sea ice reductions will lengthen the navigation season in all regions and increase maritime access to the Arctic’s natural resources

CLIMATE CHANGE AND ARCTIC DEVELOPMENT

These changes represent both a challenge and an opportunity for governments and local Arctic communities as traditional ways of life and natural ecosystems have been partially protected by the remote and extreme Arctic environment. Opportunities for resource development and marine transportation are additional challenges. Climate change may increase the fragility and decrease the resilience of sensitive Arctic environments, as well as the adaptability of its residents and indigenous peoples.

Climate changes have been extensively documented in the ACIA Scientific Report, while the impacts of climate impacts on Arctic people are discussed in the Arctic Human Development Report, of both 2004. The ACIA Scientific Report is already

well known,⁴ and its results have been incorporated in the Intergovernmental Panel on Climate Change Fourth Assessment Report.⁵

The Arctic Human Development Report is the first overview of human well-being covering the entire Arctic region.⁶ Sponsored by the Arctic Council and published in 2004, the

report was mandated under the Arctic Council’s 2002 Ministerial Declaration as a priority project designed to provide the knowledge base for the sustainable development work of the Council.⁷ The report contains eleven substantive chapters, and offers a wide-ranging scientific assessment of achievements and challenges relating to human development in the Arctic.⁸ Arctic societies are resilient in response to change. Today they

are facing an unprecedented combination of rapid and stressful changes involving environmental forces like climate change and socioeconomic pressures associated with global and regional development. At the same time, this report recognizes that the Arctic has become a leader in the development of innovative political and legal arrangements, including co-management regimes governing the use of natural resources, collaborative arrangements designed to facilitate cooperation between public governments and indigenous peoples organizations, and transnational arrangements like the Northern Forum and the Arctic Council itself. These regimes will also apply to hydrocarbon development and maritime shipping.⁹

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Circum-arctic assessments of hydrocarbon development and marine shipping are now occurring, which provide state of the art reviews of hydrocarbon development and marine shipping in the context of this climatic and socio-economic change. Two of these assessments, the Arctic Oil and Gas Assessment and the Arctic Marine Shipping Assessment (“AMSA”), will be completed for the end of 2008, and are briefly reviewed in this Article. All these documents and policy initiatives have occurred under the sponsorship of the Arctic Council, and the eight circum-arctic governments and six international indigenous organizations that make up this Council.

The member states of the Arctic Council are Canada, Denmark-Greenland-Faroe Islands,¹⁰ Finland, Iceland, Norway, Sweden, the Russian Federation, and the United States of America.¹¹ The Council also includes international indigenous organizations, which are also known as Permanent Participants. They are the Aleut International Association, the Arctic Athabaskan Council, Gwich’in Council International, the Inuit Circumpolar Conference, Raipon and the Saami Council.¹² The Arctic Council is a political organization but the scientific work of the Council, including the assessments discussed here, are carried out by six expert working groups that focus on issues such as monitoring, assessing, and preventing pollution in the Arctic, climate change, biodiversity conservation and sustainable use, emergency preparedness and prevention, and the living conditions of Arctic residents.¹³

ARCTIC OIL AND GAS ASSESSMENT

In 2002, Arctic Council Ministers requested its working groups collaborate on an assessment of hydrocarbon activities in the Arctic, with the Arctic Monitoring and Assessment Programme (“AMAP”) Working Group coordinating the work.¹⁴ The objective of the assessment is to present a holistic assessment of the environmental, social, economic, and human health impacts of current oil and gas activities in the Arctic, and to evaluate the likely course of development of Arctic oil and gas activities and their potential impacts in the near future. The assessment is intended to offer a balanced and reliable document for future management of oil and gas activities in the Arctic and is intended to be completed for 2008.

The hydrocarbon assessment includes chapters on oil and gas activities; socio-economic impacts; input and fate of hydrocarbons in the environment; toxicity and organism-level impacts, including impacts on human health; and ecosystem-level impacts. The final chapter provides an overall assessment and presents recommendations for scientific follow-up. Similarly to the ACIA Scientific Report, there is an overview report for policy-makers and the general public. Earlier documents and two draft chapters are present on the AMAP website.¹⁵


Key findings of the Arctic Oil and Gas Assessment are that extensive oil and gas activity has occurred in the Arctic, with much oil and gas produced and much remaining to be produced. Natural seeps are the major source of petroleum hydrocarbon contamination in the Arctic environment, and petroleum hydrocarbon concentrations are generally low. On land, physical dis-

turbance is the largest effect. In marine environments, oil spills are the largest threat. The impacts on individuals, communities, and governments can be both positive and negative. Human health can suffer from oil and gas pollution and social disruption, but revenues can improve health care and overall well-being. Technology and regulations can help reduce negative impacts, but responding to major oil spills remains a challenge in remote, icy environments. For the future, more oil and gas activity is expected, and many risks remain. However, planning and monitoring can help reduce risks and impacts.¹⁶

ARCTIC MARINE SHIPPING ASSESSMENT

The Arctic Marine Shipping Assessment arises from the Arctic Marine Strategic Plan, which was adopted in 2004 by the Arctic Council. At that time the Protection of the Arctic Marine Environment Working Group was requested to conduct the assessment. This assessment is ongoing, and will be presented to the Arctic Council at the end of 2008. The assessment reviews existing marine shipping and projected marine shipping for 2020 and 2050. The assessment will also include a discussion of the environmental, social and environmental impact on present maritime activity and will project future activity. Last, the assessment will provide analysis and recommendations. Additionally, there is a focus on AMSA datasets including datasets on shipping, traditional and indigenous marine and ice uses, accidents, and ice conditions. A variety of interim documents are present on the Protection of the Arctic Marine Environment website. The most recent discuss the future of navigation by the mid-century, and possible future scenarios for development, exploitation, and political stability.¹⁷ The combination of all these documents and datasets will facilitate a coherent approach to Arctic shipping and any development of regional or circum-arctic shipping, such as the Northeast or Northwest Passage.

CONCLUSION

This Article has very briefly reviewed assessments of hydrocarbon activity and marine shipping in the context of the Arctic Council and climate change. These assessments are part of an ongoing and extensive program of action of the Council, and will conclude by 2008. Like the Arctic Climate Impact Assessment Scientific Report, each assessment will conclude but also contain the seeds of their continuance. These assessments form the groundwork of integrated approaches to hydrocarbon development and maritime shipping that may be national, regional, circum-Arctic, or global. They also illustrate some of the unique approaches to resource management that are evolving in the Arctic. Parties interested in Arctic resource development and its management should follow these assessments, and related activities of the Arctic Council and its working groups through the websites and related news services and feeds. 

Endnotes: Hydrocarbon Development and Maritime Shipping
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ENDNOTES: HYDROCARBON DEVELOPMENT AND MARITIME SHIPPING *continued from page 39*

¹ James Graff, *Fight for the Top Of the World*, TIME, Oct. 1, 2007, at 29–34.

² Gregory Meyer, *Crude Oil Breaches \$117 Barrier*, WALL ST. J., Apr. 22, 2008, at C14.

³ Graff, *supra* note 1, at 32 (providing map showing shorter shipping distance using Northwest Passage and the Northern Sea Route).

⁴ JIM BERNER ET AL., ARCTIC CLIMATE IMPACT ASSESSMENT (Carolyn Symon et al. eds., Cambridge Univ. Press 2004), available at <http://www.acia.uaf.edu> (last visited Apr. 22, 2008). This Report is an international project of the Arctic Council and the International Arctic Science Committee (“IASC”), to evaluate and synthesize knowledge on climate variability, climate change, and increased ultraviolet radiation and their consequences. The assessment was released at the ACIA International Scientific Symposium held in Reykjavik, Iceland in November 2004.

⁵ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (last visited Apr. 22, 2008). The main activity of the IPCC is to provide in regular intervals Assessment Reports of the state of knowledge on climate change. The IPCC also produces special reports, methodological reports, technical papers, and supporting materials. More information on all these matters, and climate change in the Arctic, is found at <http://www.ipcc.ch>.

⁶ ARCTIC COUNCIL, ARCTIC HUMAN DEVELOPMENT REPORT (Oran R. Young et al. eds., Stefansson Arctic Institute 2004), available at <http://www.svs.is/AHDR/AHDR%20chapters/Chapters%20PDF.htm> (last visited Apr. 22, 2008) [hereinafter AHDR].

⁷ Inari Declaration, Arctic Council website, http://arctic-council.org/filearchive/inari_Declaration.pdf (last visited Apr. 22, 2008) [hereinafter Inari Declaration].

⁸ Inari Declaration, *id.*

⁹ AHDR, *supra* note 6.

¹⁰ Denmark, Greenland, and Faroe Islands function as one Member State at the Arctic Council as the United Kingdom of Denmark. Despite this designation at the Arctic Council, home rule arrangements for the Faroe Islands and Greenland recognize extensive self-government.

¹¹ Member States, Arctic Council website, http://arctic-council.org/section/member_states (last visited Apr. 22, 2008).

¹² Permanent Participants, Arctic Council website, http://arctic-council.org/section/permanent_participants (last visited Apr. 22, 2008).

¹³ Working Groups, Arctic Council website, http://arctic-council.org/section/working_groups (last visited Apr. 22, 2008). Further information on the Arctic Council is found at <http://www.arctic-council.org/>. There is also the opportunity to register for news feeds and ongoing communications. After years of a rotating Secretariat that shifted with the current Chair, a semi-permanent Arctic Council Secretariat has been established in Tromsø, Norway that will function till 2012 through the Norwegian, Danish, and Swedish Chairs of the Council.

¹⁴ See generally Welcome to AMAP, AMAP website, <http://www.amap.no/> (last visited Apr. 22, 2008).

¹⁵ Oil and Gas Assessment (OGA), AMAP website, <http://www.amap.nooga/> (last visited Apr. 22, 2008). Key documents include the draft OGA Overview Report and draft versions of two chapters concerning social and economic aspects of hydrocarbon activities, and the scientific findings and recommendations.

¹⁶ Press release, Arctic Council, Release of Arctic Council Oil and Gas Assessment (Jan. 21, 2008), available at http://arctic-council.org/article/2008/1/release_of_the_arctic_council_oil_and_gas_assessment (last visited Apr. 22, 2008).

¹⁷ See Protection of the Arctic Marine Environment website, <http://arcticportal.org/en/pame/>. Some of the relevant documents include the March 2008 reports Arctic Marine Shipping Assessment – Scenarios of the Future, and The Future of Arctic Marine Navigation Scenario Narratives Report.