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Environmental Audit
Committee

Protecting the Arctic

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Volume II

Additional written evidence

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The Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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Publications

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/eacom. A list of Reports of the Committee in the present Parliament is at the back of this volume.

The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume.

Additional written evidence may be published on the internet only.

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The current staff of the Committee are Simon Fiander (Clerk), Nicholas Beech (Second Clerk), Lee Nicholson (Committee Specialist), Andrew Wallace (Senior Committee Assistant), Anna Browning (Committee Assistant), Yago Zayed, Committee Support Assistant, and Nicholas Davies (Media Officer).

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List of additional written evidence

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SUMMARY OF PRESENTATION 2 FEBRUARY 2012 AT NORTHERN LIGHTS CONFERENCE 2012—
SESSION III

ARCTIC OCEAN TECHNOLOGY: UTILIZING R&D TO OVERCOME RESOURCE DEVELOPMENT CHALLENGES¹

INTRODUCTION

RESTCO is focused on remote community sustainability starting with energy security but including the necessary local social and community development needed to create healthy and long term solutions. RESTCO publishes monthly a web newsletter called “Spill Monitor”. Check our website for more information.

The presentation will be divided into three parts: first, some background on R&D in the Arctic related to oil and gas development that sets the scene where these activities are to be undertaken followed by a short account of the current process to regulate the oil and gas industry in the Canadian Arctic; second, a review of oil industry practices and technologies with regard to offshore drilling/spill cleanup capabilities especially in the Arctic; and third, some considerations about possible R&D directions for safer and lower risk offshore drilling in the Arctic.

The conclusions are presented in the form of some recommendations for how best to approach oil spill remediation in the Arctic Ocean. It will become clear from this presentation that industry does not possess the means to cleanup oil spills in ice covered waters at this time. It is therefore essential that R&D be undertaken before such industrial activities begin in earnest. In some countries oil exploration in the Arctic is already underway which places the whole Arctic Ocean in danger due to the lack of suitable technology for dealing with spills. The paper ends with a reference section that covers the subject of oil spill cleanup technology and background information about the impact of oil spills.

In fact even under Soviet rule in the 1970s, the scientists in Russia were well aware of this risk. In a paper (1) from 1976 by Acad. A. F. Treshnikov, Director of the Arctic and Antarctic Institute in what was then Leningrad, he concluded with the following:

“In Alaska and other northern areas where extensive oil development has been started, there exists a real threat that the arctic environment could change as a result of oil spillage. Conceivably, part of the recovered oil could spill over water and ice to become incorporated into the gyral over the Canadian Basin, where it might accumulate for many years”.

A glimpse of R&D done in the Beaufort Sea 30 years ago, and the National Energy Board report on Offshore Drilling in the Arctic Ocean

Figures 1 and 2 in the presentation—Summary reports of the Beaufort Sea Project (2)—are the covers of summary books indicating that early in the oil and gas industrial development in the Canadian Arctic in the mid-1970s, a major study took place called the Beaufort Sea Project. It was in today’s dollars approximately a \$50 million dollar multi-disciplinary study funded by the Federal Government and Industry. Some 45 technical reports were completed and five summary books published. This is basic information related to the environment where industrial development was underway in the 1970s and is again being planned. RESTCO has made these very important reports that were out of print available on our web site. We have also suggested that all the technical reports be put on-line and this is being done by Fisheries and Oceans Canada from their Victoria location.

Looking at current technology proposed for cleanup of oil spills in the ice covered Arctic Ocean—OR—Can anyone clean up an Arctic oil spill?

When you review current industry capability for maritime oil spill cleanup and put it into an Arctic scenario, the situation does not look encouraging.

Figure 17 in the presentation Drill ships in the Arctic—illustrates the impact on the native culture of industrialization in the Arctic. Note enormous difference in scale between the industrial activities and the hunter.

What are RD&D requirements (especially the final D for demonstration) leading to safe and low risk drilling off-shore in the Arctic?

From our review of oil spill cleanup technology, it is clear that considerable improvements must be made and could be achieved related to actual methods of removing the oil from the environment after a spill and in the logistics and management of the cleanup effort. One of the key points is to have adequate equipment and trained people readily available to act quickly when the spill is first detected. In order to accomplish this in the Arctic, there will have to be serious and well funded R&D accompanied by demonstrations and tests of

¹ <http://www.restco.ca/Northern%20Lights%2023b%20Jan%202012%20presentation%20ADAMS%20-%20Session%20III%20Final.pdf>

the approach with actual oil spills similar to the ones earlier described in the Beaufort Sea Project in the 1970s. The lack of real tests in the environment due to concerns with damage to the areas where the tests are conducted should be weighed against the prospects of the enormous risk of assuming that field tests with stimulant oils or virtual simulation tests will reflect the real situation.

Finally, the equipment must be positioned close to the probable location of Arctic oil spills and the closest local population trained to respond and kept prepared by regular training exercises. Backup workers and equipment must also be available within a day or so. Equipment and workers could be delivered by air from a central Arctic location where significant cleanup equipment could be kept in readiness. Canada is currently boosting its Arctic research capabilities and the Department of National Defence is also enhancing Arctic capabilities and improving Arctic infrastructure; both are initiatives which could be harnessed to improve Arctic oil spill response capabilities.

Figures 42—44 in the presentation—A new Canadian approach to oil spill cleanup, Gravity separation method of oil recovery in EST oil cleanup vessels, and Proposed Polar class oil cleanup vessel show a Canadian oil spill cleanup technology which is being tested by the Canadian Coast Guard. The company, Extreme Spill Technology Inc. (8), has currently some smaller vessels being built in China. The method of oil removal from the water is simple and effective compared to other skimmer designs and waves would be less of a problem for this type of skimmer. Tests are needed in ice covered waters to see what designs would best operate in the Arctic. Ice breaking capacity would also be required in most cases when an ice cover is present at the time of the spill and vessels capable of transporting the collected oil and water would be required.

There are also new materials that can be used to coagulate and render non-toxic spilled oil which are now being marketed in Canada. For example the products of the company Spill Green Inc. which demonstrated the cleanup capability of their material with used motor oil in an ice water mixture at the RESTCO Forum held in Ottawa in September (9).

CONCLUSIONS

There are four recommendations:

1. A quick response to avoid the oil becoming widely dispersed and impossible to collect which is critical if the spill occurs under moving ice. Logistics issues are key to successful spill remediation in the Arctic where pre-positioning of spill cleanup assets is a necessity.
2. New technology is required and a potential effective skimmer is being tested and more ice coping effective approaches are needed with field testing part of the process.
3. Do not burn the oil due to the impact of soot and do not use dispersants which are toxic themselves and can transfer the oil from the surface where it could be collected and into other regions of the water column or to the bottom with serious and at present uncertain consequences.
4. Use non-toxic coagulants for smaller spills such as the product Spill Green (see www.spillgreen.com).

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2. Beaufort Sea Project Summary Report reprints see http://www.restco.ca/BSP_Reprints.shtml
3. National Energy Board Reports on the Review of Offshore Drilling in the Arctic see <http://www.neb-one.gc.ca/fetch.asp?language=E&ID=A37753>
4. See <http://www.cbc.ca/news/business/story/2011/09/12/north-national-energy-board-roundtable-offshore-oil.html>
5. ITOPF Handbook 2011/12 see www.itopf.com for information and to request a copy. ITOPF also is a source of many technical publications related to oil spills.
6. For an excellent review of the 1989 Exxon Valdez oil spill see http://www.eoearth.org/article/Exxon_Valdez_oil_spill taken from the Encyclopedia of Earth first published (2010).
7. SL Ross Report to the National Energy Board, “Spill response gap study for the Canadian Beaufort Sea and the Canadian Davis Strait”. 12 July (2011).
8. Extreme Spill Technology see www.spilltechnology.com
9. For Spill Green product information see www.spillgreen.com and for the test of the product see http://www.restco.ca/Inuvik_RT_Ottawa_Presentations.shtml for the Spill Green presentation on 13 September 2011:
 - The ITOPF 2011 handbook (PDF 3.3 MB) (54 pp).
 - The Macondo Blowout Environmental Report January 2011 (PDF 2.5 MB) (9 pp).

The Captain Mark Turner report on Newfoundland Labrador offshore oil spill prevention and response capabilities December 2010 (PDF 4 MB) (273 pp).

The SL Ross Report—Spill Response Gap Study for the Canadian Beaufort Sea and the Canadian Beaufort Sea and Davis Strait July 2011 (PDF 111 KB) (37 pp).

The PEW report—Oil Spill Prevention and Response in the U.S. Arctic Ocean: Unexamined Risks, Unacceptable Consequences Summary November 2010 (HTML) Full Report November 2010 (PDF 7.9 MB) (146 pp).

The NUKA report—Oil Spill Response Mechanical Recovery Systems for Ice Infested Waters: Examination of Technologies for the Alaska Beaufort Sea. June 2007 (PDF 2.7 MB) (100 pp).

The WWF report “Lessons not learned: 20 Years after the Exxon Valdez Disaster—Little Has Changed in How We Respond to Oil Spills in the Arctic” Feb 2009 (PDF 1.1 MB) (16 pp).

COSTCO BUSAN Oil Spill in San Francisco Bay November 2007 (video 1 minute).

Alaskan oil boom 2000 tests “What If An Oil Spill Happened in the Arctic?” July 2011 (video 2 minutes).

The 26 minute video video recapping BP’s Gulf Gusher’s effects August 2011 (HTML & video).

The Beaufort Sea Project Reports.

Western Arctic Oil Spill Response Gaps—World Wildlife Fund Canada—March 2011 (PDF 1.8 MB) (28 pp).

CBC Doc Zone—Blowout—Is Canada Next.2010.12.09 (video) 44 minutes.

Overview of Historical Canadian Beaufort Sea Information—February 2009 (PDF 2.5 MB) (99 pp).

History of petroleum industry in Canada (PDF 1.7 MB) (14 pp).

LAB EXERCISE: 3 Spill Tools: An Oil Spill Response Exercise: <http://www.eoearth.org/resources/view/166779/?topic=50365> To evaluate three approaches—dispersant—burning—skimmers.

Getting Spill Tools—Each Spill Tool can be downloaded from the Web at: <http://response.restoration.noaa.gov/spilltools>. For additional information: <http://response.restoration.noaa.gov/orr.spilltools@noaa.gov>—(206) 526-6317.

North Slope Borough Oil Spill Mitigation, a paper by Extreme Spill Technology Inc., see www.spilltechnology.com to download a copy.

14 February 2012

Written evidence submitted by the Centre for Ecology and Hydrology

- Increased shipping and any other form of fuel combustion, like development of settlements and industries will increase NO_x input to the Arctic atmosphere:
 - The contribution to NO_x at these high latitudes from ship traffic is considerable and visible from space using remote sensing tools.
- The MARPOL convention on marine pollution aims to restrict pollutant emissions from international shipping. However, whilst the convention is likely to have a major impact in reducing SO₂ emissions over the next decade, the controls will not be effective in controlling the high emissions of NO_x from ships.
- Computer simulations with atmospheric transport models have demonstrated that NO_x emissions from international shipping make a major contribution to nitrogen deposition in northern Europe and contribute to levels of pollution which pose a threat to biodiversity.
- Arctic soils, rivers, lakes, fauna and flora are adapted to an environment poor in biologically available nitrogen. Consequences of unrestricted development in the Arctic will increase the presence of biologically reactive nitrogen, which:
 - increases emissions of the potent greenhouse gas nitrous oxide; and
 - changes the species composition of its fauna and flora.

15 February 2012

Written evidence submitted by Platform

SUMMARY

- The Arctic region represents exceptionally challenging conditions for the oil industry. The limits of currently available oil spill response technology mean that pursuing development of oil fields in areas affected by sea ice is currently incompatible with environmental protection.
- The recent blind support by the UK government of a proposed Arctic deal between BP and the Russian company Rosneft represents a deeply problematic evasion of public and parliamentary oversight.

- Resource extraction must be governed by the principle of free, prior, informed consent of Indigenous groups, as set out in the UN Declaration of the Rights of Indigenous Peoples. The general representation of Indigenous groups on the Arctic Council does not guarantee the observance of this right by companies and governments in the case of specific projects.

BACKGROUND

1. Platform is a London-based research organization that has monitored the impacts of the British oil industry for over fifteen years, exploring the social, economic and environmental shifts that result from oil and gas extraction and transportation. Our work is regularly cited by governments, academia, media, and corporations. We are consulted for expertise by human rights defenders, parliamentarians and journalists, and have deep knowledge on Nigeria, Iraq, the Former Soviet Union and North Africa.

USING COMMERCIAL OPPORTUNITIES VERSUS ENSURING THE PROTECTION OF THE REGION'S ENVIRONMENT

2. The Arctic is a true “frontier” for the oil industry, with exceptionally challenging conditions. The limits of currently available oil spill response technology mean that pursuing development of oil fields in areas affected by sea ice is currently incompatible with environmental protection.

3. Specifically, the challenges are: a need to protect drilling equipment from floating ice in the warmer months, and then during Winter either to tow it away or allow it to freeze in. In places affected by drifting icebergs, oil drilling platforms need to be able to shut down and move aside in a matter of hours, if an approaching iceberg is too large to be towed away. This means that oil wells in seasonal ice waters take longer to complete. Although climate change is causing the sea ice cover to retreat, according to current models seasonal ice will not disappear entirely from the Arctic Ocean during the 21st Century. Furthermore as the ice retreats, it still leaves rough weather and storms, characteristic of high-latitude conditions.

4. An oil spill in these conditions would be much more persistent than in a warmer climate (low temperatures hamper the processes of evaporation and bacterial degradation),ⁱ and the interaction between an oil slick and sea ice could have severe and unpredictable effects.

5. The specifics of Arctic marine wildlife (characteristically long lifespan and short reproductive rates, and the dependence on plankton as the basis of the food chain) mean that damage from an oil spill would be particularly harmful to these populations.

6. Of the available spill response technologies, (a) the use of chemical dispersants is all but impossible under ice; (b) sea ice and high winds render using containment booms (temporary floating barriers) difficult, and (c) in-situ burning of oil in low temperatures is much less effective. BOEMRE (the US offshore resource regulator) estimates that mechanical containment and recovery methods are only effective on one to twenty percent of spilled oil in broken ice.ⁱⁱ

7. Extreme weather and long periods of darkness limit the time periods when emergency response and rescue can be carried out. Industry consultancy Nuka Research and Planning Group has come up with a way to measure this problem using the concept of a “response gap”, meaning conditions where drilling or transport operations can be carried out, but emergency response cannot. For instance, research commissioned by the WWF showed that in Prince William Sound (the site of the Exxon Valdez spill 18 years ago), a response gap exists 38% of the time: that is, no emergency response work could be carried out for 38% of the year (and during 65% of the winter months). Prince William Sound is sub-Arctic and much more accessible than the remote areas of the Chukchi, Beaufort, and Kara Seas, where drilling concessions have been granted by Russia and the US. A study by the Norwegian Meteorological Institute found that containment booms can only be used in the Barents Sea roughly every other day.ⁱⁱⁱ

8. With sparsely populated shorelines and lack of established monitoring, it could be a long time before a spill is even noticed by environmental regulators. In Spring 2003 the staff of the Nenetsky National Park in Russia found traces of an oil spill around the island Dolgy after it had already caused the deaths of hundreds of birds. There has been no official record of the spill; according to environmental group Bellona it could have been caused by an accident on a test drilling site by a subsidiary of Russian oil and gas company Gazprom. To date, no company has taken responsibility.^{iv}

9. Industry experts recognise that regulation, as well as financial and intellectual investment in safety technology, has failed to keep up with the development of offshore drilling. Retired Admiral Thad Allen, the commander of US federal response to both the Deepwater Horizon spill and Hurricane Katrina, noted in an interview in August 2010: “Oil spill response is all predicated on the lessons of the 1989 Exxon Valdez disaster. The legislation that came out of that disaster focused on tanker safety and phasing out single-hull oil tankers, on making sure the party responsible for the disaster meets its liability requirements, and on cleanup as directed by the Oil Pollution Act. [...] In the 10 years after that accident [...] oil drilling was moving offshore and going deeper underwater. So the technology changed, and the overall response structure didn't keep pace with those changes and the emerging threat”.^v

10. In some cases this lack of financial and intellectual investment is beginning to be addressed, such as with the \$2 billion bonds as upfront payment for emergency response that Greenland now requires from any

company wishing to drill in its waters.^{vi} However, this still is a unique measure among the Arctic states and also needs to be complemented by safety regulation.

11. Oddgeir Danielsen, oil and gas expert at the Norwegian Barents Secretariat, comments that even now, in the Barents Sea off the coast of Norway, drilling plans are well ahead of emergency response capability, and there is “a need to show decision makers that time and money need to be spent on safety”. He said, “I hope that a major accident is not what is needed before relevant action is taken”.^{vii}

12. Despite assurances from oil companies, the capability to adequately respond to oil spill in Arctic conditions does not currently exist.

13. If the UK is serious about its commitment to environmental protection, it should prevent its companies from taking on oil drilling in the Arctic while there is no proven capability to adequately respond to oil spills in the region.

EVALUATING POTENTIAL EFFECTS OF RESOURCE EXTRACTION—ENSURING FREE, PRIOR, INFORMED CONSENT OF INDIGENOUS COMMUNITIES

14. Apart from the above mentioned threats to environment, oil extraction poses significant challenges to societies of the Arctic region through its potential to reshape the region’s landscape and economy. The estimated indigenous population of the Arctic region is over a million, a third of the total population, living in diverse conditions. The potential impacts of resource extraction are debated within and between these indigenous communities, a fact often ignored by the more powerful players in Arctic resource politics.

15. Above all, industrial development must be governed by the principle of free, prior, informed consent of Indigenous groups, as set out in the UN Declaration of the Rights of Indigenous Peoples. This principle implies (a) information about and consultation on any proposed initiative and its likely impacts, (b) meaningful participation of indigenous peoples; and (c) representative institutions.^{viii}

16. The representation of Indigenous groups as permanent observers in the Arctic Council is a necessary, but not sufficient, condition to securing these legal rights in relation to resource development. It has not, and cannot secure corporate and government compliance with the principles of free, prior, informed consent with regards to each community and each extraction project.

17. Russia has exhibited numerous violations of these rights. On the Kola Peninsula attempts to institute an elected Saami Parliament are being at best ignored and at worst thwarted by the local administration. Meanwhile a piece of land formerly used by a reindeer collective was reclassified by the local administration, with the effect of making it available for pipeline construction for gas extracting consortium Shtokman Development AG without consultation with the Saami. Lukoil (the country’s second largest oil company) is accused of denying multiple oil pipeline leaks occurring around River Pechora, and attempting to “hide” them from the regulators and the indigenous population.^{ix}

18. While the Indigenous Peoples of other Arctic states have a better position in advocating for their rights, many issues remain. There needs to be clarity over the short and long-term effects of oil extraction projects on regional economies: how many jobs are provided and for how long, as well as the impacts on other activities. The impacts of oil drilling and extraction on the prospects of fishing and whaling are not fully understood and potentially destructive. Seismic testing, used to assess potential oil prospects, produces intensive high-pitch sounds, which is very disruptive to whales and other wildlife. There has been international alarm over their use off Sakhalin (Russia) where grey whales feed in the summer,^x and residents of Barrow, Alaska, fear that whales may start avoiding their waters if exploration goes ahead next year.^{xi}

19. UK companies beginning operations in the Arctic should be made to take these concerns seriously, and should be held legally responsible if they fail to respect Indigenous People’s rights.

ECONOMIC IMPLICATIONS OF ARCTIC ENERGY RESERVES

20. According to analysis by market research firm Bernstein Research,^{xii} the significant costs associated with the technological challenges of extracting hydrocarbons in the Arctic region mean that “Fiscal takes will be crucial to make any Arctic developments viable”. That is, without significant tax breaks companies are unlikely to consider oil and particularly gas fields in the region profitable.

21. An unpublished US Geological Survey (USGS) report obtained by *Spiegel* newspaper^{xiii} reached a similar conclusion in relation to the East Greenland Rift Basin in particular (estimated reserves of 7.5 billion barrels of oil). According to the report, at extraction cost of \$100 a barrel (this cost would not include transportation or tax), only 2.5bn barrels of oil could be commercially extracted with a 50% probability of success. Even based on a highly improbable \$300 extraction cost per barrel, only 4.1 billion barrels could be raised, with the same 50% probability.

22. Therefore in the medium term Arctic oil and gas reserves represent an unaffordable, as well as extremely risky and unreliable, source of energy.

CONCERNS OVER CURRENT FOREIGN POLICY ON THE ARCTIC

23. In this context, the unquestioning support lent by the UK government to BP in signing a controversial deal with the Russian company Rosneft in 2011 was particularly problematic. Documents revealed by the Foreign and Commonwealth Office under Freedom of Information legislation show that BP had been in communication with FCO officials about the tie-up with Rosneft for 18 months.^{xiv} Chris Huhne, then Energy Secretary, attended the signing ceremony at three days' notice.

24. FCO and DECC appeared to unconditionally support the deal despite significant public concern around the safety of oil extraction in the Arctic, as well as Russian authorities' disrespect for the rights of its Indigenous population. The ministries did not seek public or parliamentary discussion over this position.

RECOMMENDATIONS

25. The UK should require its companies to apply British environmental and social responsibility standards in the Arctic. This implies proving capability to drill safely in icy conditions and to clean up oil spills, before industrial drilling is allowed to commence.

26. At the very least, the UK should *not* lend diplomatic and government support to oil companies in signing deals (in the Arctic and elsewhere) that are associated with severe environmental and human rights concerns.

27. We strongly encourage the Committee to solicit comment (oral or written evidence) from a range of Indigenous Peoples' groups, both those represented at the Arctic Council and those that are not, to better assess the implications of oil and gas extraction in Arctic communities and support their right to free, prior, and informed consent.

REFERENCES

i For more information on specific effects of oil spills see:

(1) Pew Trust, "Oil Spill Prevention and Response in the U.S. Arctic Ocean: Unexamined Risks, Unacceptable Consequences". http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/PEW-1010_ARTIC_Report.pdf

(2) WWF "Drilling for Oil in the Arctic: Too Soon, Too Risky", <http://www.worldwildlife.org/what/wherewework/arctic/WWFBinaryitem18711.pdf>

ii U.S. Dept. of the Interior, Minerals Management Service, Arctic Oil Spill Response Research and Development Program, A Decade of Achievement at 14 (2009), <http://www.boemre.gov/tarprojectcategories/PDFs/MMSArcticResearch.pdf>.

iii Barents Observer, "Oil spill cleanup possible only every other day in Barents Sea", 31 March 2006 <http://www.barentsobserver.com/index.php?cat=16282&id=316544&showforumform=1&find=>

iv "Gotova li Rossiya k dobyche nefi na shelfe?" ("Is Russia ready for oil extraction on the continental shelf?"), Bellona http://www.bellona.ru/russian_import_area/energy/renewable/39202

v "Deepwater Horizon's Enduring Lessons", National Journal <http://insiderinterviews.nationaljournal.com/2010/08/deepwater-horizons-enduring-le.php>

vi The Guardian, "Greenland wants \$2 billion bond from oil firms keen to drill in its Arctic waters" 12 November 2010 <http://www.guardian.co.uk/business/2010/nov/12/greenland-oil-drilling-bond>

vii Personal communication.

viii UN Department of Economic and Social Affairs, "International Workshop on Methodologies Regarding Free Prior and Informed Consent And Indigenous Peoples" www.un.org/esa/socdev/unpfii/documents/workshop_FPIC_IFAD.doc

ix Kola Sami activist, Save Pechora action group—personal communication.

x BBC News, "Russia's oil exploration threatens gray whales", 24 June 2010 <http://www.bbc.co.uk/news/10403820>

xi BBC News, "Native Alaskans say oil drilling threatens way of life", 20 July 2010 <http://www.bbc.co.uk/news/world-us-canada-10549107>

xii Oswald Clint, Bernstein Research. "Arctic Drilling: does any of it make sense?" Presentation for Finding Petroleum conference, 2011 <http://c250774.r74.cf1.rackcdn.com/bernsteinresearch.pdf>

xiii Spiegel Online, "The Exorbitant Dream of Arctic Oil", 26 January 2011 <http://www.spiegel.de/international/business/0,1518,741820,00.html>

xiv The Telegraph, "Foreign Office 'backed BP in Rosneft talks'," 27 March 2011 <http://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/8410043/Foreign-Office-backed-BP-in-Rosneft-talks.html>

Written evidence submitted by the Scottish Marine Institute

SUMMARY

- Majority of Arctic resourced are with coastal state EEZs (ie. 200 nm) and are directly controlled by aforementioned states under a mix of domestic instruments and international commitments.
- The advent of an Arctic “treaty” is highly unlikely due to sovereignty issues. However, there is enormous scope for increased cooperation, information sharing, and knowledge exchange to improve Arctic environmental protection. While the chance of a binding Arctic regime is remote, the pressing issue is the implementation of existing environmental treaties across all Arctic states.
- Very little industrial expansion has occurred to date, however the prospects are highly likely that expansion will occur. Nonetheless, oil and gas exploitation and increased shipping offers opportunities for the UK to be a “responsible player” and drive sustainability through all aspects of Arctic operations and collaboration.
- Increasing scientific and diplomatic effort is essential to improving Arctic protection. The UK has a unique role to do this through its good relations with Arctic states; via the EU; and through building ties with emerging influential states such as China, Japan and Korea.
- The UK should increasingly look North as its traditionally looked South.

How the effects of global warming might open up the region to commercial opportunities, and how the UK in taking advantage of these might ensure that the region's environment is protected

1.1 The Arctic has been the focus of unprecedented interest in recent years. Much of the narrative on the Arctic tends to characterise the region as an arena for resource-driven jurisdictional and geopolitical rivalry. Such States primarily comprise the Arctic coastal States but considerable interest in the region has been shown by extra-regional powers such as the EU (including the UK), China and South Korea.

1.2 Events in the Arctic in recent years provide compelling evidence of global climate change well documented in scientific and media circles. The 2004 Arctic Climate Impact Assessment (ACIA), the Arctic Monitoring and Assessment Program (AMAP) update and recent Snow, Water Ice & Permafrost in the Arctic (SWIPA)² conclude that the Arctic continues to warm with key indicators such as air temperature and sea ice changing at rates previously unanticipated.

1.3 In September 2007 the summer sea ice minimum had shrunk to its lowest level ever recorded since measurements began. The United States National Snow and Ice Data Centre (NSIDC) reported that the average five-day mean sea ice extent in September 2007 was 4.13 million square kilometres (km²) an enormous reduction from the 1979–2000 average of 6.74km² million. Summer ice extents for subsequent years (2008–10) have closely tracked that for 2007, while not quite reaching the record low level. In 2008 average September ice extent was recorded as 4.67km² million, the second lowest on record. In 2009, conditions recovered slightly to 5.36km² million, but still 1.68km² million below the average. The figure for 2010 reached a summer minimum of 4.6km² million recorded for 19 September 2010, the third-lowest on record. On September 9, 2011 sea ice extent dropped to 4.33 million square kilometres the second lowest on record. Overall changes in sea ice can be observed in Figure 1. Arctic summer sea ice extent appears from the recorded data to be on a continual and long-term downward trend, losing 11.2% of volume per decade.

1.2 There are several physical, political and economic mechanisms and principles that will influence resource expansion and maritime activity in the Arctic. They include:

- Sub regional dynamics of temperature changes and ice reduction.
- International markets for commodities. For example, the changes in US non-conventional gas supply (ie. Shale gas) significantly downgraded the profitability of Arctic exploration and delivery to US markets. Arctic expansion is linked to international market performance.
- Majority of Arctic marine resources (eg oil, gas, fish) are within the EEZs of Arctic coastal states. Exploitation and management measures are primarily a matter of domestic concern and responsibility influenced by international agreements on environmental management.
- The advent of an “Arctic Treaty” that removes sovereign power from Arctic littoral states is highly unlikely and is generally not supported. In addition, calls for a “zone of peace” or treaty covering the central Arctic Ocean, while noble in nature, are in fact peripheral to the issues of resource management (see above point) that drive sustainability in the Arctic. A focus on effective implementation of the existing international framework and increased cooperation and coordination of environmental science and management will deliver more pragmatic outcomes.

² <http://amap.no/swipa/>

- We can only speculate on the linkages between climate change, physical forcing on sea ice and industrial development. While changes in summer distribution have allowed minor navigational opportunities through the Northern Sea route, wholesale change (and commercially viable) shipping is yet to emerge. However the trend is that regional shipping is on the rise, particularly in the Barents Sea. This region, in proximity to the UK sphere of influence, opens opportunities (eg ports, trade) and raises security and environmental concerns (eg an oil spill). The driver for oil and gas development in the Barents has been increased exploration not sea ice reduction. This is in part driven by the recent border agreement between Russia and Norway opening up a significant area (175,000km²) for exploration.

What the consequences will be of unrestricted development in the Arctic

2.1 The retreat of sea ice has resulted in considerable speculation as to a corresponding increase in economic activity across the Arctic. Despite an increase in political activity and some breakthroughs in navigation and oil and gas, very little industrial expansion has actually occurred in the Arctic, with the majority occurring within the Barents Sea, a zone of geopolitical interest to the UK.

2.2 Suggestions that the Arctic is the focus of a multi-player “land grab” and a resource related “scramble” have been widespread since reports of the melting of Arctic summer sea ice and Russia’s planting of a flag on the sea floor in 2007. In this context, claims to maritime jurisdiction on the part of the Arctic coastal States have often been characterised as source of dispute and triggers for conflict. An alternative perspective is that the claims of the Arctic States are, in fact, predominantly consistent with international norms. All of the Arctic coastal states, save for the United States, are parties to the United Nations Convention on the Law of the Sea (UNCLOS) (however the US observes UNCLOS as customary international law) and all Arctic states, including the United States, have advanced maritime jurisdictional claims consistent with the UNCLOS, notably 12 nautical mile (nm) breadth territorial seas and 200nm EEZs.

2.3 In accordance with Article 76 of UNCLOS, the Arctic States have made, or are in the process of preparing, submissions related to the outer limits of the continental shelf seaward of the 200nm limits of claimed EEZs, to the relevant United Nations scientific body—the Commission on the Limits of the Continental Shelf. While such submissions have provoked considerable interest, they are also consistent with UNCLOS the agreed international norm for marine jurisdictional law and order.

2.4 Thus, while the Arctic is not free of maritime jurisdictional disputes, it can be argued, however, that the Arctic is subject to fewer disputes than elsewhere. Suggestions that the Arctic littoral States are engaged in a form of “land grab” seem misplaced. In fact the opposite seems to be happening—longstanding maritime boundary disputes are capable of resolution. Of note in this context is the resolution, through a treaty on the delimitation of a maritime boundary, of Norway and Russia’s longstanding dispute over the Barents Sea, an issue that has been unresolved for 40 years. Through the agreement, signed on 27 April 2010, the two sides agreed to divide up an overlapping area of approximately 175,000km².

2.5 While coastal states are engaged in a race of sorts to gather the scientific information, all are doing so in accordance with the terms of UNCLOS. The threats from “unrestricted development” in reality stem from the national capacity to manage resource exploitation in line with a range of international commitments and in line with global strategies for sustainable development. There is considerable variation between different States in terms of ratification of international agreements and the financial, technical or political capacity to implement a range of agreements such as those presented by OSPAR, the Convention on Biodiversity (eg the ecosystem approach to management) or the International Maritime Organisation. There are significant gaps within in each regime that can threaten Arctic biodiversity (a good example is the lack of knowledge of benthic habitat distribution in the Arctic or the patchy implementation of the Ballast Water convention under the IMO). This is where the UK can play a significant role in ensuring knowledge transfer and capacity building in terms of scientific monitoring, technological innovation, and the linking of science to policy through practical means of delivering the ecosystem approach.

2.6 While the rapid expansion of industrial activity is open to debate, there is no doubt that increasing activity is occurring at a more measured pace. This activity requires a coordinated, science based ecosystem approach, not one based on a “race to the bottom”. For example, pan-Arctic guidelines on oil spill prevention are immature, and the safety basis of polar shipping, the Polar Code, is a voluntary mechanism within the IMO (but is on the path to being mandatory). A considerable amount of work on coordination and building support for management across borders is needed, and the UK can play a role in facilitating technological transfer, science and knowledge to its Arctic partners and actively through the Arctic Council and its relevant working groups (PAME, AMAP, CAFF etc).

How Arctic energy reserves might impact on UK energy security and policy

2.7 Rather than “unrestricted development”, it appears that at least in terms of oil and gas, development is proceeding in piecemeal fashion with minor expansion in key maritime sectors. There have been suggestions that the Arctic offers great potential in terms of seabed energy resources and even represents the “last great frontier” for oil and gas exploration. This notion has created much excitement, especially in the media, and

tends to underpin the idea of a “race for resources”. This perception of the Arctic as a major energy resource has, in turn, informed the thinking of policy-makers in all Arctic states.

2.8 Recent discoveries in the Barents Sea such as the Skrugard development are the only recent discoveries despite extensive exploration over the past decade. Skrugard is estimated to contain around 250 million barrels of recoverable oil equivalent and is located approximately 100 miles North of the Snovit gas development (along with the Goliat field are the only producing field in the Norwegian Barents region). The expectation is of further development particularly in the recently opened eastern Barents sector with Russia. Moreover, reports such as the USGS assessment specify in oil and gas resources rather than recoverable reserves. This is an important distinction. Even if an optimistic estimated recovery rate of 35% of oil reserves translating to proven reserves (rather than the industry “rule of thumb” of 10% for frontier provinces) the USGS’s figure of 90 billion barrels of oil rapidly scales down to potential reserves of 31.5 billion barrels. When it is considered that global consumption of conventional oil totalled approximately 26.9 billion barrels in 2010 (approximately 87 million barrels per day) alone, the potential significance of Arctic oil in global context is thrown into stark relief.

2.9 In the context above, while oil and gas exploration may not be the *el dorado* as painted by the press, significant finds have and will occur and these will be of interest to the UK in terms of energy security. It should also be specified that while increasing oil and gas discoveries represents a potential level of security for UK supply, the debate over energy independence and green energy production is central to the Arctic debate particularly in the context of increasing climate change. The UK should work through multilateral fora to ensure that a balanced view of energy development unfolds in the region, acknowledging that further carbon intensive development in oil and gas will increase the severity of climate change, which ironically, is at its most intensive in the polar regions.

How new Arctic shipping routes and fishing grounds might affect UK maritime and fisheries policy

3.1 Conventional wisdom suggests that as the Arctic warms, so sea ice coverage will be reduced and thus the seasonal Arctic navigational “window” will expand. A key finding of the ACIA report was that “reduced sea ice is likely to increase maritime transport and access to resources.” This scenario has stirred long-standing, but also long-dormant, dreams of the opening of shipping routes between the Atlantic and the Pacific Oceans by way of the Arctic: namely the Northwest Passage and the Northern Sea Route (formerly known as the Northeast Passage).

3.2 Northwest Passage offers a 9,000km (4,860nm) distance saving over the route between Europe and Asia via the Panama Canal and a 17,000km (9,180nm) saving as compared with the Cape Horn route. Navigation traffic in the Arctic is clearly on the rise, led by increasing instances of “adventure cruising” in Arctic waters, increased support traffic for oil and gas developments on the periphery of the Arctic, and to some extent from the pursuit of migrating stocks by fishing fleets.

3.3 Opening up of Arctic sea lanes and sea borne trade patterns have been encouraged by recent commercial transits of the Northern Sea Route. For example, two heavy lift vessels of Germany’s Beluga shipping group, the *Beluga Fraternity* and *Beluga Foresight* successfully completed what was billed as the first commercial transit of the Northern Sea Route (sailing from Pusan in Korea to Hamburg in Germany) between July and September 2009. Whilst these vessels were relatively small 2010 saw the passage of the SCF *Baltica*, being the first high-tonnage tanker through the Northern Sea Route. The *Baltica* departed Murmansk on 14 August 2010 and arrived in Ningbo, China on September 6, 2010 carrying a cargo of 70,000 tonnes of gas condensate. The 22-day voyage was estimated to be twice as fast as would be expected on the alternative route via the Suez Canal.

3.4 Despite the excitement caused by these voyages, there exist strong reasons to doubt the viability of such routes for large-scale, regular transportation in the near-term. The first and most obvious factor that mitigates against the use of the Northwest Passage for regular inter-oceanic transits is that, while the waterway in question may be ice-free at the end of the Arctic summer, the Arctic navigational “window” is still narrow. For much of the year, and year-round in the event of a cold summer, ice is likely to remain a key factor and a threat to safety of navigation. The hazardous nature of navigation in the Arctic will necessarily have implications in terms of operating costs, both as a result of the need to use ice-strengthened vessels with ice-breaker support in some cases and potentially vast increases in insurance costs.

3.5 Nevertheless, it is clear that Arctic navigation is on the rise and the opportunities offered by Arctic sea lanes are highly likely to be investigated in the future. Thus, even though significant challenges remain great potential does exist. Increasing shipping activity in the Arctic has prompted efforts on the part of littoral States, especially Russia and Canada, to exert more control over navigation, largely on environmental grounds, which, in turn, has sharpened already existing disputes with States such as the United States over navigational freedoms.

3.6 As a key player in international maritime fora (ie UNCLOS and the IMO) the UK will have an influential role in driving shipping safety and standards in the Arctic. The emergence of a mandatory Polar Code will be important for ship safety and may offer opportunities for the UK ship building industry, but it does not cover all of the polar marine safety and environmental protection issues. Some issues must be addressed in other conventions such as MARPOL. In addition Arctic specific issues are not included in the ballast water

convention and other conventions. Considerable effort by the Arctic states, supported by influential maritime states such as the UK, in the IMO and its related instruments such as MARPOL will be essential to ensure safety and minimise environmental impact.

How the Government might use its place on the Arctic Council to influence resource exploitation and steer development in the region a more sustainable path. And what other opportunities exist for the UK to influence politics in the region to ensure sustainable development of the region

4.1 As a permanent observer to the Arctic Council the UK has an important role to play in building partnerships, knowledge transfer, responsible development and environmental protection. It is a respected player but if it is to build influence, more resources will be required for it to participate in various aspects of the Arctic Council. Traditionally the UK view has been to look south to the Antarctic, and while this should continue, the Arctic is of critical strategic importance to the UK.

4.2 Through its involvement in NATO and its relationship with individual states the UK will remain committed to various alliances in the context of ensuring a safe and sustainable region. There is scope, subject to increased investment in diplomatic and scientific engagement, a potential role for the UK to act as an “honest broker” in Arctic affairs. This could occur in several ways, via the EU where the UK has substantial investment and expertise in Arctic affairs (and in the context that the EU is not a member of the Arctic Council); and in building the UKs influence and partnership with other non Arctic States. For example, China is increasingly active in the Arctic and will considerably influence the direction of Arctic navigation and energy development. However, due to frosty relations with Norway over the Nobel Peace Prize, it has not been able to enter the Arctic Council as a permanent observer. There is clearly a role for the UK in discussing Arctic affairs with China and building a productive and collaborative relationship through scientific, diplomatic and knowledge exchange.

4.3 The UK has an important future role to play in the region through its geopolitical position; its reliance on imported energy and food resources; its maritime strength; its role in the EU; and relations with Arctic and non-Arctic states. Increasing the UK Arctic capability in terms of environmental protection requires a clear policy commitment and resources above and beyond the current approach if it hopes to remain, and increase, its influence in Arctic affairs.

THE SCOTTISH MARINE INSTITUTE AND ARCTIC RESEARCH

5.1 SAMS undertakes interdisciplinary research projects exploring all aspects of the Arctic marine environment and is involved in a variety of policy debates and knowledge transfer. Areas of expertise include:

- Sea ice physics.
- Physical oceanography of arctic seas.
- Palaeo-oceanography of arctic seas.
- Pelagic ecology.
- Benthic ecology and biogeochemistry.
- Pollution in the Arctic.
- High latitude technologies for measurement, monitoring and data transfer.
- Engagement in policy and governance of the Arctic.

5.2 The Scottish Marine Institute is committed to exploring the policy issues that surround integrated oceans management in the Arctic. This includes research and teaching in fisheries, energy, shipping, conservation and socio-economic impacts. Our scientists in the Centre for Sustainable Coasts research on the management and international governance of polar environments under marine resources, and human impacts in the Arctic. Improved understanding of the complex international and national regimes that govern the Arctic is necessary to prepare for the future challenges brought about by pressures such as climate change. Scientific and policy research aims to contribute to UK and international policy debates in the region and improve systems of governance and international cooperation.

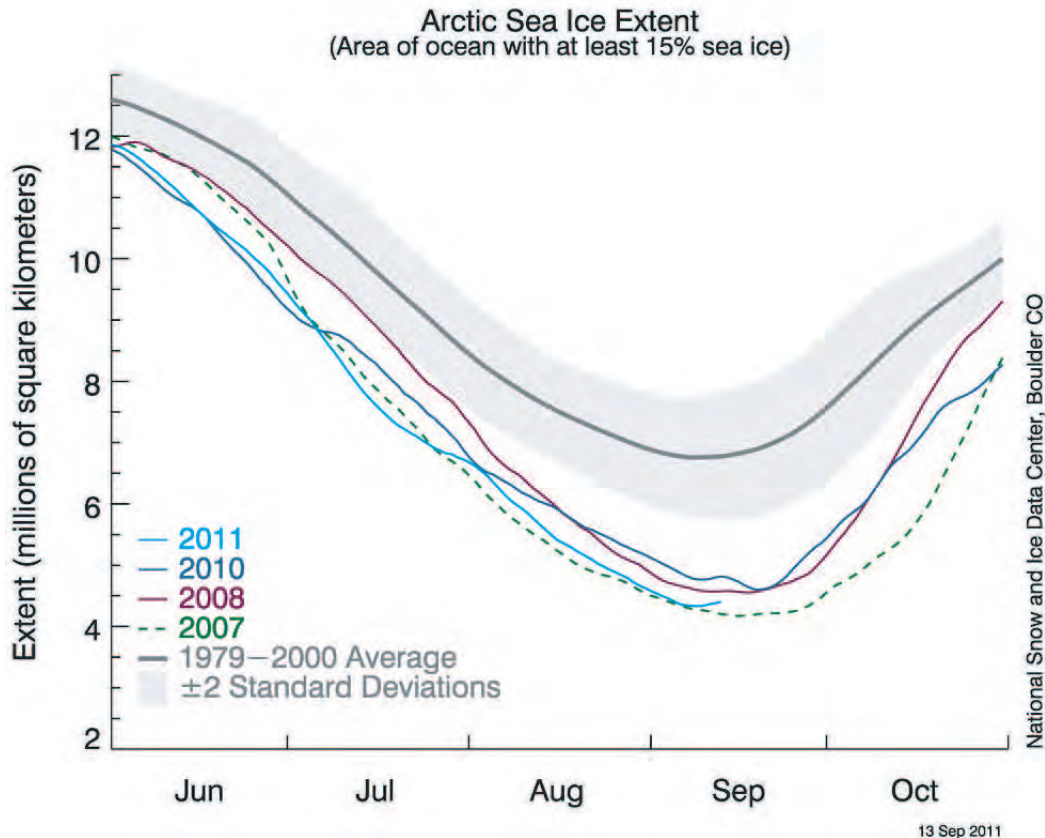
ADVISORY COMMITTEES

5.3 Several members of our staff are active on Arctic consultative, advisory and policy boards and committees, eg:

- Membership of NERC Polar Science Working Group.
- Membership of the International Arctic Science Committee.
- Membership of the Arctic Social Science Network.
- Chair of the Data Buoy Cooperation Panel which instigated the International Arctic Buoy Program.
- Contributor to Arctic Ocean Sciences Board.
- Working Group on AUV Operations in the Polar Oceans.
- Scientific Ice Expedition (SCICEX) Science Advisory Committee.

— Evidence to the UK House of Commons Science and Technology Select Committee—Investigating the Oceans.

Figure 1
ARCTIC SEA ICE EXTENT 2007–2011



Source: National Snow and Ice Data Centre (<http://nsidc.org/arcticseaicenews/2011/09/>).

10 February 2012

Written evidence submitted by Professor Clive Archer

1. SUMMARY

- This submission examines the institutional aspect of protecting the Arctic.
- It challenges the view that there is either a “free-for-all” or “an armed mad dash for resources” in the Arctic. The resources there are mostly either under national control or governed by international law.
- There is a rich patchwork of institutions and organizations covering the Arctic region and providing the opportunity for cooperation between Arctic states and between non-Arctic countries and the Arctic states.
- All this activity is at its weakest when dealing with cross-boundary ecosystems.
- The UK is in a good position within these institutions but needs to maintain its standing, especially by funding Arctic-related research.
- Cooperation by the UK with key Arctic states such as Norway and Canada will help advance the UK’s standing in the region.

Professor Clive Archer is an emeritus professor in International Relations at Manchester Metropolitan University where he was a research professor from 1996 to 2009.

2. THE ARCTIC AND RESOURCES

Various estimates have been made of the resource potential of the Arctic region. These estimates—such as the US Geographical Society’s one for undiscovered oil and gas reserves—are tentative, have been changed over time and show the vast amount of estimated resources in the region to be either within the sovereign territory of the Arctic states or within their exclusive economic zones (EEZs):

- The US Geographical Society estimated that as much as 22% of the world's undiscovered petroleum resources *could* be found in the Arctic. Much of this was within Russian territory/EEZ and would be difficult to access.
- Gazprom, together with Total and Statoil, is preparing to develop the Shtokman field in the Russian sector of the Barents Sea now that the dividing line in that sea has been agreed with Norway.
- There is a renewed interest in strategically important minerals (iron, base and precious metals, and specialised metals such as molybdenum) in the Scandinavian peninsula, covering parts of Norway, Finland, Sweden and western Russia. This is one of the most promising mineral regions in Europe. The Norwegian government estimates that some \$250 billion of minerals could be found in the Norwegian High North.
- The Northeast Sea passage has been opening up, chopping 40% off the length of a sea journey from Hamburg to Yokohama, compared with the Suez Canal route. In 2010, six ships went through the Northeast passage; in 2011 it was 34. Det norske Veritas has estimated that there is the potential for 480 transit journeys through Arctic waters by 2030, and 850 by 2050, though there is some debate as to the extent that international shipping will want to use this route under present circumstances.

3. THE ARCTIC INSTITUTIONAL FRAMEWORK

There are a number of international agreements and institutions that underpin the governance of the Arctic regions. The most important are:

The Arctic Council (AC)

This is the major international organization covering sustainable development and environmental protection in the Arctic region. Full Membership is for the eight Arctic states; six indigenous peoples' organizations have permanent participants' status; nine intergovernmental and inter-parliamentary organizations have observer status, as do eleven non-governmental organizations, and six non-Arctic states (including the UK) have Permanent Observer Status. Working parties deal with environmental monitoring, contaminants, flora & fauna conservation, protection of the marine environment and sustainable development. The Council has task forces on institutional issues, search and rescue, and on oil spill preparedness and response. A permanent secretariat is being established in Tromsø.

In May 2008, 5 Arctic coastal states (including Russia & US) committed themselves in the Ilulissat Declaration to a legal framework for the Arctic region and an orderly settlement of claims.

The Barents-Euro Arctic Council (BEAC) and Forum

Cover the region to the north of the Scandinavian peninsula and has the Nordic states and Russia as full members. UK is an observer in BEAC; the European Commission has full membership.

The UN Convention on the Law of the Sea

Covers the Arctic Ocean, although the US has not yet ratified this agreement. Nevertheless, the work of the UN's *Commission on the Limits of the Continental Shelf (CLCS)* is of particular importance when determining national claims to the continental shelf in the Arctic Ocean. So far only Norway has had its claim determined.

Multilateral institution

Have particular relevance for the region and include:

- The Northeast Atlantic Fisheries Commission (NEAFC).
- Convention on the Protection on the Marine Environment in the Northeast Atlantic (OSPAR).
- The Northern Dimension cooperation between the EU, Iceland, Norway and Russia covers the northern part of Europe and mainly deals with practical, low level, people-to-people cooperation. It has environmental, health, transport and cultural partnerships.
- The EU's Council's Conclusions on Arctic issues, December 2009, were supportive of the work of the Arctic Council and of other institutions' work on Arctic-related policies, such as that of IMO and the regional fisheries commissions. It noted EU plans to reduce the EU share of persistent chemicals in the Arctic.

There are a number of *agreements* relevant for a range of activities in the Arctic region; for example:

- Continental shelf/fisheries zone delineation agreements have been made between Denmark (Greenland), Iceland, Norway and Russia covering areas in the Arctic Ocean, Denmark Straits, North Atlantic and Barents Sea. The US-Russian Bering Straits agreement remains unratified; the US and Canada have a disagreement about the Beaufort Sea and Canada and Denmark are in dispute over Hans island.
- A Binding Search & Rescue agreement was signed in May 2011 by the AC states.

- The International Maritime Organization, based in London, is working on a binding “Polar Code” for shipping in polar waters which is intended to be in force for 2015–06.
- US, Russia & Norway are chairing negotiations for agreement on Arctic oil spill prevention.

4. OTHER COOPERATION BETWEEN STATES

There is an established network of bilateral or multilateral agreements between two or three (or more) of the Arctic states that covers the management of resources, offshore activities and environmental issues in the region. Some examples are:

- Norwegian–Russian cooperation on ecosystem-based fishery management with a view to managing cod stocks in the Barents Sea. The mixed Norwegian-Russian fisheries commission has dealt with fisheries in the Barents Sea since 1976, with the stocks of cod there now being at an all-time high.
- Since 1990 Russia and Norway have had an Incidents at Sea agreement covering their military vessels and aircraft operating in waters around their coasts. In 2011 and 2012 Norway and Russia ran joint naval exercises off their northern coasts.
- In 2010 Norway and Russia signed a declaration strengthening trans-border cooperation across their land frontier in the High North.
- A joint agreement between Finland, Norway, Sweden and Russia to strengthen search and rescue led to the Barents Rescue exercise and further cooperation.
- A Norwegian-Russian joint agreement, 2007, aimed at harmonising health, safety and environmental standards for petroleum activity in the Barents Sea. This is led by Det Norske Veritas and Gazprom, and has proposed a risk-based approach and 130 international standards.
- Under the Global Nuclear Threat Reduction Program, the UK and Norway have helped to dismantle a Russian November-class nuclear submarine.
- The number of International Nuclear Event Scale incidents in Russia nuclear power stations on the Kola peninsula has dropped from 41 in 1993 to 2 in 2009 after a Norwegian-financed security initiative.

5. SUMMARY

The Arctic has sometimes been displayed as a region of potential conflict. This paper contends that the incidence of conflict is likely to be low. All the Arctic coastal states have committed themselves to the peaceful settlement of disputes. There is an extended network of international and transnational institutions, organizations and agreements that is growing in the Arctic region and which encourages peaceful and cooperative activity.

However, there is also little doubt (from evidence published elsewhere) that the Arctic is experience a rapid change in its environment. This in itself could encourage a more rapid pace of development of the region which may not be sustainable in environmental terms. This paper shows that there is a good deal of activity that could monitor and map that increased activity. However, much of the responsibility for the environmental consequences of activities in or near the Arctic will remain with the Arctic states or, in the case of vessels transiting the Arctic, flag states. This presents problems for ecosystems crossing geographical boundaries. As any adverse effects of climate change in the Arctic will impinge on the UK, it is in the interests of the United Kingdom to encourage and contribute to the monitoring of the Arctic environment, and, through its diplomacy and through the good practice of UK firms, to encourage the protection of the Arctic environment by the Arctic states, and to support agreements that protect cross-boundary ecosystems.

6. RECOMMENDATIONS

The UK should continue its investment in Polar science as this not only provides information about key aspects of climate change but is also an “entry ticket” to observer status in the Arctic Council where much of the cooperative work on the Arctic is undertaken.

To this end, the UK should make full use of cooperation with like-minded states such as Canada, Norway and key EU countries. An example is the 2011 Polar Research agreement with Norway.

In its diplomacy, the UK should encourage Arctic states and those that use the Arctic to sign up to and to strengthen international agreements that help protect the Arctic environment. In particular it should encourage cross-boundary activities that help protect ecosystems, such as the work of NEAFC and the IMO Polar Code.

HMG should consider a more joined-up approach towards Arctic issues, especially those associated with the environment and Arctic science, and this could be launched within the framework of the Prime Minister’s Northern Futures Forum initiative.

Written evidence submitted by the International Polar Foundation UK

The International Polar Foundation UK is the British arm of the International Polar Foundation, a Brussels-based Belgian NGO, which seeks to bridge the divide between science and society. It promotes the advancement of education, particularly with regard to scientific research in the Polar Regions and its contribution to the greater understanding of climate change, the Arctic indigenous peoples and the conservation and protection of the polar habitat and environment.

The International Polar Foundation organised an Arctic Futures Symposium in Brussels in October 2011, which was attended by policy makers, scientists and indigenous people concerned with Arctic issues. Our statements are drawn from evidence from these discussions:

- The Arctic Council continues to be considered the pre-eminent international forum for addressing Arctic issues. The Swedes, who are currently chairing the body, see a shift in the Arctic Council from being a decision-shaping body to being a decision-making body.
- Cooperation is high amongst Arctic states; the search and rescue agreement signed at the Nuuk Ministerial is evidence of this. Cooperation is the only way forward in addressing issues that face all Arctic stakeholders.
- The Arctic States want to work within existing legal frameworks (UNCLoS) and with regional and bilateral partners in areas where it makes sense; no additional treaties or legal frameworks are necessarily needed for Arctic governance.
- Development of Arctic resources is inevitable; however it should take place under the strictest environmental standards and respect indigenous peoples' rights and concerns.
- As it is their traditional homeland and where they make their livelihood, indigenous peoples of the Arctic wish to be a part of the dialogue when it comes to developing resources on their lands and waters (where this is not already the case).
- Armed conflict over natural resources in the Arctic is highly unlikely; legal mechanisms exist for resolving conflicts peacefully.
- Arctic shipping is unlikely to increase dramatically in the coming years, although legal frameworks and regulations should be in place to anticipate an increase in marine traffic.
- Although an agreement has been signed on search and rescue, means to conduct search and rescue operations are not adequate. Current maritime transport infrastructure cannot meet the needs of current or future Arctic shipping traffic and need to be improved.
- Existing bridges between politicians, indigenous peoples, scientists, industry and civil society should be developed and enhanced.
- Research in the Arctic should be supported across a wide range of disciplines, to provide policymakers with a sound basis from which to make decisions. In particular, the funding of long-term observation campaigns, which allow clear trends to be identified.
- Support for scientific observations via satellite and from in-situ ice stations and buoys is essential to improve the understanding of the Arctic and its changing climate. It can also assist maritime transport, search and rescue operations, sea ice and pollution monitoring.
- Information on the environment (air quality, water quality, etc) should be made free and easily accessible to all.

10 February 2012

Written evidence submitted by the Joint Nature Conservation Committee

- (a) A significant proportion of Arctic biodiversity is migratory and is shared with other parts of the world, especially with the UK; we, and other relevant countries, each have reciprocal responsibilities for the conservation of this shared biodiversity ;
- (b) the rapid changes currently occurring in the Arctic thus have direct consequences for those shared species and populations that winter in the UK;
- (c) monitoring and surveillance of migratory Arctic wildlife undertaken in the UK can provide highly cost-effective indicators of change in different parts of the Arctic but we need to make better use of such datasets and improve mechanisms for sharing this information with other relevant countries;
- (d) there are a range of Multi-lateral Environmental Agreements, including the working groups of the Arctic Council, which enable UK data on trends in migratory species to be used to inform the sustainable development of the Arctic and to identify changes occurring there.

INTRODUCTION

1. The Joint Nature Conservation Committee (JNCC) is the statutory adviser to Government on UK and international nature conservation, on behalf of the Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage. Its work contributes to

maintaining and enriching biological diversity, conserving geological features and sustaining natural systems. Our advice is set in the context of the desirability of contributing to sustainable development.

2. We welcome the opportunity to submit evidence to this inquiry. Our comments here focus on highlighting those components of biodiversity that the United Kingdom (UK) shares with the Arctic and for which a better understanding of trends may provide indicators of environmental change in the Arctic. Such indicators might then inform future policy interventions by the UK and other governments and so contribute to measures to achieve the environmental component of sustainable development.

3. Accordingly, our focus is on the final bullet point of the topics identified by the Committee for consideration by the inquiry, namely “*other opportunities for the UK to influence sustainable development of the region*” and on the overall aim of the inquiry “*to ensure that any development of the region is sustainable and takes full account of its impacts on climate change and the environment*”.

INTERNATIONAL AGREEMENTS

4. A number of international agreements relevant to the Arctic provide opportunities for the UK to have some influence on, and provide evidence in support of, multi-lateral approaches to conserving Arctic biodiversity. We outline recent developments relating to biodiversity below.

5. The UK government is an observer to the Arctic Council (AC). JNCC has links into one of the Arctic Council working groups—namely CAFF³ (Conservation of Arctic Flora & Fauna) and especially to their seabird working group (CBIRD) in which JNCC is a regular participant. JNCC hosted the annual CBIRD meeting in 2005, and in 2003 organised a joint workshop between CAFF and the UK conservation agencies to explore better ways of collaborative working.

6. A full Arctic Biodiversity Assessment is due to be published by CAFF in 2013. A first step towards that had been a CAFF-produced Arctic Biodiversity Trends Report 2010,⁴ some of whose indicators clearly depend on data gathered outside the Arctic (eg red knot). This work is supported by the ongoing Circumpolar Biodiversity Monitoring Programme⁵ (CBMP).

7. Issues relating to Arctic biodiversity have recently been the subject of attention at a number of Multi-lateral Environmental Agreements (MEAs).

8. Arctic biodiversity was recently considered at the 15th meeting of the Convention on Biological Diversity (CBD) Subsidiary Body on Scientific Technical & Technological Advice (SBSTTA 15; November 2011).⁶ At this meeting, the UK and other EC Member States *inter alia* sought more specific actions on sharing data on migratory Arctic species, supported greater collaboration between CAFF & CBD and encouraged greater work on ecologically and biologically significant areas (EBSAs) in the Arctic, especially in collaboration with OSPAR⁷ Convention.

9. The UK & EC (and many Arctic states) are already engaged in a number of MEAs that enable international cooperation for shared biodiversity—eg through Convention on Migratory Species (CMS), the Agreement on the conservation of African-Eurasian migratory waterbirds (AEWA) and also through some single species international action plans (eg for Greenland white-fronted geese, involving the UK, Ireland, Iceland and Greenland, as well as other waterbirds). AEWA has always seen engagement with Arctic countries as central to the delivery of integrated approaches to the conservation of waterbirds across their whole migratory ranges.

10. The recent CMS Conference of the Parties also called upon their Secretariat (Resolution 10.10),⁸ to increase its cooperation with the Arctic Council in order to improve understanding of the impacts of changes on migratory species and to ensure designation of critically important areas. This CMS meeting also referred specifically to the Arctic in two other Resolutions (Resolution 10.15 global programme of work on cetaceans; 10.19 migratory species conservation in the light of climate change).

11. The Ramsar Convention on wetlands has sought to promote integrated “flyway”-scale approaches to the conservation of migratory waterbirds, linking conservation needs in the Arctic with those elsewhere on migratory flyways (e.g through Resolution X.22 Promoting international cooperation for the conservation of waterbird flyways); the UK has been supportive of such initiatives and their follow-up actions.

12. The OSPAR Convention for the protection of the marine environment of the north-east Atlantic aims *inter alia* to establish an ecologically coherent network of marine protected areas (MPAs) in each of its five identified regions. Region I comprises Arctic waters, and to date, three large MPAs have been designated there, with a further seven nominated. Work is in progress within OSPAR to identify a suite of Ecological Quality Objectives (EcoQOs), including one such indicator for seabird populations. A seabird population EcoQO for Region I awaits development but would necessarily be a collaborative exercise with the UK and others.

³ <http://www.caff.is/>

⁴ <http://www.arcticbiodiversity.is/index.php/en/home>

⁵ http://caff.is/index.php?option=com_content&view=category&layout=blog&id=10&Itemid=107

⁶ <http://www.cbd.int/doc/meetings/sbstta/sbstta-15/in-session/sbstta-15-rec-en.pdf>; see page 33.

⁷ <http://www.ospar.org/>

⁸ http://www.cms.int/bodies/COP/cop10/resolutions_adopted/resolutions.htm

SHARED BIODIVERSITY

13. The UK shares its biodiversity with the Arctic in two ways.

14. First, we are within the range of many species that have a circumpolar Arctic distribution but which also have outlying native populations within the UK. These include species such as Arctic char and some relict Arctic-alpine plants typical especially of the Scottish uplands. Stresses on such populations here, such as from climate change, are unlikely to indicate changes happening in the Arctic but might provide an indication of how populations respond to environmental changes.

15. Second, and more significantly, many Arctic species, such as birds and marine mammals, are migratory and spend much of the year in non-Arctic countries who thus share with their Arctic counterparts reciprocal responsibility for their conservation. The UK is especially important in this respect as, every winter, we host very significant numbers of birds from seven of the eight Arctic countries (the only exception being from Alaska, USA).⁹ Several million individuals of 85 species of Arctic bird winter in, or migrate through, the UK (eg Figure 1). For some swan, goose and wader species, the UK (with Ireland) support large proportions or even whole populations in winter (eg Figure 2).

16. Of 25 breeding seabird species that breed in the UK only 6 do not breed in the Arctic, and of 25 species breeding in the Atlantic sector of the Arctic only 6 do not breed in UK. Many individuals of several species of seabird migrate to and through the UK after breeding in the Arctic and some species breeding in the UK also range widely to the north in the non-breeding season; some individuals and species, for example the fulmar, even exploit Arctic waters while breeding in the UK. The UK is the southernmost part of the range of other Arctic birds, such as the Faroese/S Icelandic race of the common eider, and the proper biogeographical population context for UK statutory purposes, including obligations under the EU Birds Directive, includes for several species the Arctic.

17. Other wide-ranging marine mammal species also have ranges that include UK and Arctic waters—perhaps at least a dozen species—and probably many more species of fish. The marine ecosystem of the North Atlantic, including UK and Arctic seas, is differentiated less on an ecological scale than on a political one.

18. Thus changes in the Arctic with impacts on biodiversity there also directly affect some of “our” wildlife here too. Under the EU Directive on the conservation of wild birds (2009/147/EC) the UK has fulfilled its obligations to classify many Special Protection Areas for such migratory species, including, for example, most major estuaries and other wetlands. Yet the ability to maintain the favourable conservation status of the birds that use these areas (such as those listed in Figure 1) will depend not only on the “local” management of these wintering sites, but also on influences on their Arctic breeding grounds.

UK CONSERVATION AND SURVEILLANCE OF ARCTIC SPECIES

19. Significant conservation resources in the UK are devoted to management and conservation of wintering/passage Arctic birds. These include the protection of internationally (or nationally) important sites as Special Protection Areas (including those at sea), as wetlands of international importance under the Ramsar Convention, and as Sites (or Areas) of Special Scientific Interest.

20. Resources are also committed to managing agricultural conflict where these arise (especially with wintering geese populations) and to the monitoring and surveillance of populations wintering here. The UK is notable for its long-term monitoring datasets (including abundance, trends and, in some cases, productivity) on wintering wildfowl and waders dating back to 1947, and on seabirds back to 1989. These data are reliant on significant input from volunteer surveyors/counters and are co-ordinated by partnerships involving JNCC on behalf of government and a number of conservation NGOs. It is very important to sustain these monitoring schemes given the importance of the science now flowing from 60 years of surveillance.

21. Many Arctic birds wintering in the UK are typically concentrated in a relatively few discrete sites with high site fidelity for some populations (for example, the entire Svalbard population of barnacle geese winters on the inner Solway Firth) making monitoring of population size and productivity relatively simple and cost-effective (supported by the use of large numbers of volunteers). By contrast, Arctic birds in the breeding season are dispersed at low densities over enormous areas of difficult terrain making monitoring difficult and expensive.

22. UK data (and those of other relevant EC Member States) are thus highly relevant to monitoring of Arctic biodiversity—some trends already observed here include “short-stopping”¹⁰ and changed migration phenology, both linked to climate change.

23. These data are available, indirectly, to CAFF to contribute to circumpolar assessments but the processes for doing so have scope for development and this is currently being explored. Whilst JNCC already collaborates and shares some data with CAFF (especially with its seabird Working Group), we need to ensure that CAFF

⁹ although in the Pacific, the UK’s Overseas Territory of Pitcairn Islands supports over-wintering long distance migrant waders such as Bristle-thighed Curlew which breed in Alaska.

¹⁰ Where species or populations which may formerly have wintered in the UK now winter elsewhere in sites closer to their breeding grounds (where winters are now sufficiently mild).

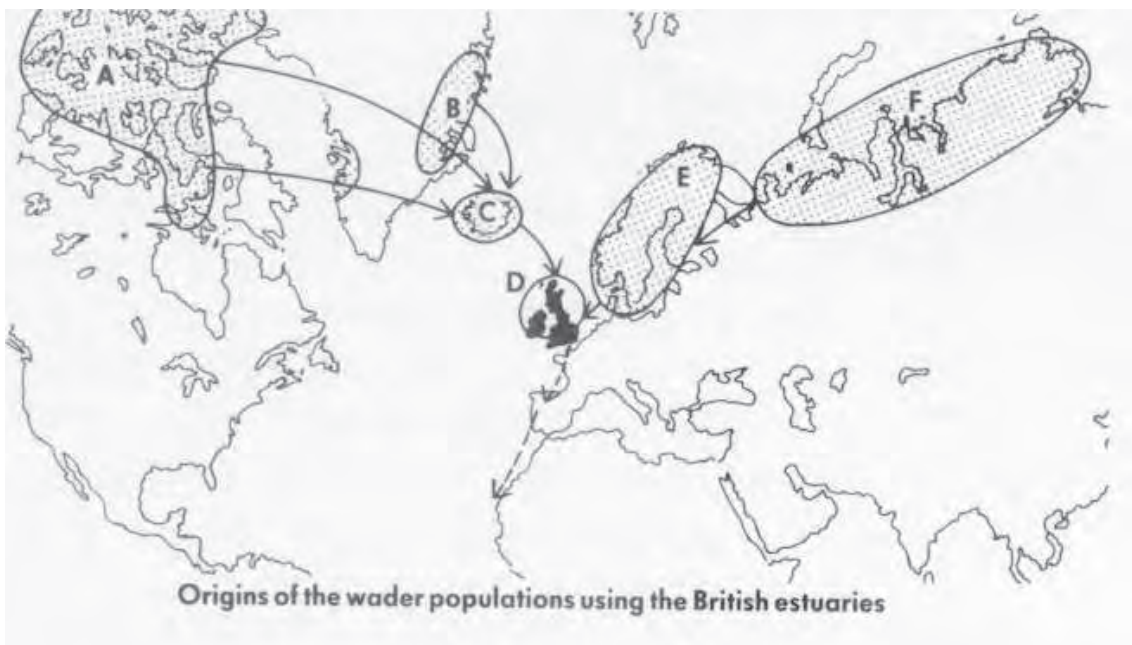
is aware of all our datasets and that these are readily available to them to contribute to pan-Arctic trend analyses and other assessments.

24. There is also scope, perhaps, to use these UK-collected data on Arctic species to contribute to “smarter” indices of change in the Arctic (and/or to CBMP indices) with the emphasis on making better use of existing datasets rather than seeking to compile new ones.

25. The UK already undertakes significant Arctic research through the Natural Environment Research Council and others. Arctic biodiversity research has been considered by the former (Defra-chaired) Global Biodiversity Sub-Committee (GBSC) at a workshop in October 2009¹¹. The group suggested research priorities should be considered at three different scales: a) where there is a direct UK link to the Arctic (such as through shared migratory populations); b) where there is a UK impact/footprint on the Arctic (such as through fisheries, energy exploration, shipping); and c) wider world—such as the UK being a contributor to global climate change. JNCC expertise is most likely to be focused on category a) above. The workshop also identified key risks to Arctic biodiversity as a result of the rapid environmental and land-use changes taking place there.

Figure 1

THE UK’S STRATEGIC POSITION AT THE JUNCTION OF SEVERAL MIGRATORY FLYWAYS EXTENDING FROM THE ARCTIC TO TEMPERATE EUROPE AND AFRICA AS ILLUSTRATED BY AN EXAMPLE SHOWING THE BREEDING GROUNDS AND MIGRATION ROUTES OF THE WADERS THAT VISIT UK ESTUARIES (CLOSED CIRCLES BELOW INDICATE SPECIES OR POPULATIONS THAT WINTER IN THE UK AND OPEN CIRCLES THOSE THAT PASS THROUGH THE UK).



Species	A NE Canada	B Greenland	C Iceland	D Britain & Ireland	E Northern Europe	F Northern Russia
Red Knot	●	●				
Sanderling						●
Grey Plover					●	●
Turnstone	●	●			●	
Bar-tailed Godwit					●	●
Ringed Plover				●	●	
Whimbrel						
Dunlin					●	●
Redshank		●	●	●		
Black-tailed Godwit			●			
Oystercatcher			●	●	●	
Curlew				●	●	

¹¹ [http://www.arctic.ac.uk/docs/gecc_gbsc_\(10\)_07_arctic_workshop_oct_09.pdf](http://www.arctic.ac.uk/docs/gecc_gbsc_(10)_07_arctic_workshop_oct_09.pdf)

Figure 2

THE WORLD RANGE OF THE GREENLAND WHITE-FRONTED GOOSE: AN EXAMPLE OF AN ARCTIC BREEDING BIRD, RESPONSIBILITY FOR WHOSE CONSERVATION IS SHARED BETWEEN FOUR RANGE STATES. THE UK SUPPORTS ABOUT HALF THE WORLD POPULATION IN THE NON-BREEDING SEASON



Table 1
**NUMBERS OF SPECIES OF ARCTIC BIRDS WHICH REGULARLY OCCUR
 IN THE UK IN SIGNIFICANT NUMBERS**

<i>Group</i>	<i>Number of species of Arctic birds occurring in the UK</i>	<i>Example species</i>
Divers & grebes	3	Great Northern Diver
Fulmars, petrels & cormorants	7	
Swans	2	Bewick's Swans Greenland White-fronted Geese
Geese	6	Barnacle Geese Long-tailed Duck
Ducks	14	Common Scoter
Raptors	1	Merlin Red Knot Sanderling
Waders	27	Ringed Plover Glaucous Gull
Skuas, gulls & terns	13	Arctic Skua Razorbill
Auks	3	Guillemot Snow Bunting
Passerines	9	Wheatear

10 February 2012

Written evidence submitted by Professor Klaus Dodds, University of London

SUMMARY

The Arctic region, an inhabited space with some 4 million people living north of the Arctic Circle, is undergoing a fundamental state change. Physically, Arctic sea ice is melting as is permafrost and although these changes are varied, there is undeniably a warming trend. This has led many to speculate that the Arctic Ocean in particular will become increasingly accessible to global shipping and resource exploitation, especially fishing and hydrocarbon extraction.

Politically, the Arctic 5 (Canada, Denmark/Greenland, Norway, Russia and the United States) are increasingly boisterous about their sovereign rights in the Arctic Ocean and mindful of other parties attempting to shape the prevailing geopolitics of the region. The Arctic Council, a soft law intergovernmental organization, is seeking to improve co-operation between Arctic states, indigenous peoples and observers including the EU and China.

This does not mean that the Arctic region is locked into an inevitable geopolitical competition regarding resource access, shipping potential, military advantage and strategic posturing. The most cited 2007 planting of the Russian flag on the bottom of the central Arctic Ocean was not indicative of a new "Great Game". The Cold War has not returned to the Arctic and UNCLOS-related establishment of sovereign rights in Arctic Ocean is orderly and peaceful.

The UK needs to develop an Arctic strategy. The UK and the Arctic: The Strategic Gap (RUSI Journal, June 2011) makes the case for a UK Arctic strategy.

SPECIFIC POINTS

1. The UK has a 400 year history of engagement with the Arctic—involving geographical exploration of the Canadian North to undertaking cutting edge scientific research on climate change.

2. The UK, as a sub-Arctic nation, needs to develop a formal cross- departmental Arctic strategy, which outlines key challenges, interests and opportunities in the region and beyond. It also needs to establish and consolidate stake-holders within and beyond Whitehall. Main government departments with Arctic interests are FCO, MOD, DBIS and DECC. FCO established an informal "Arctic network" to share information with other government departments.

3. UK Arctic interests are broadly characterized as four fold—security, politics, economics, environment, science and popular culture.

4. In security terms, UK is concerned that the Arctic region is not militarized and that Britain has capability to defend "Northern Flank". Collaboration with Norway and other NATO Nordic partners considered essential. UK forces participate in Exercise Cold Response in Northern Scandinavia and monitoring Russian Arctic forces considered vital.

5. In political terms, UK holds observer status in the Arctic Council and Barents Euro-Arctic Council. UK's observer status is important in enabling high level access to Arctic states (the A5 plus Iceland, Sweden and Finland) and provides opportunities to input into recent conversations about shipping, oil spill response, search and rescue, scientific investigation, energy and fisheries.

6. In economic terms, UK deeply involved in the Arctic region via shipping, insurance, engineering, hydrocarbon exploitation, fishing and tourism. Companies such as Cairn Energy as well as large multinationals such as BP and Shell have been at the forefront of oil and gas exploration and exploitation. London is a centre for Arctic based activities.

7. In environmental terms, UK weather strongly influenced by Arctic weather systems and migratory flows of animals/birds also connects UK to Arctic.

8. In scientific terms, UK is a major player in Arctic science. UK maintains a scientific station in Svalbard. National Environment Research Council (NERC) and British Antarctic Survey (BAS) announced a major focus on Arctic research as part of a broader Planet Earth focus linking polar regions. UK scientists were major contributors to path- breaking Arctic Climate Impact Assessment.

9. In terms of popular culture, UK retains a strong cultural interest in the Arctic (as recent BBC programme Frozen Planet suggested in terms of popularity and commentary)albeit with strong bi-polar focus.

10. A UK Arctic strategy would help articulate the range and scope of Arctic-based interests and highlight areas where continued commitment is necessary—securing energy supplies from Norway, scientific research into the impact of climate change and pollution, assessing and monitoring Russian Arctic strategies and practices, and understanding commercial and political opportunities to influence developments in the region.

11. UK could commit itself to particular projects—for example in areas of environmental governance and stewardship. One example might be to press for further regulation of offshore oil and gas activities in the Arctic another might be to use the expertise of the UK Coastguard to develop higher standards regarding search and rescue, safety at sea, fisheries research and marine pollution.

12. UK's strong bilateral relations with Canada and Norway need to be used not only to promote UK interests but also help to mediate between Arctic states and other interested parties especially EU and China. UK as honest broker is one role that might be pursued in and around the Arctic Council.

13. UK needs to commit itself to further scientific and social scientific research dedicated to better understanding the physical and geopolitical changes affecting the Arctic—and ensuring that UK policy makers better understand how the UK is perceived within fora such as the Arctic Council.

14. UK needs to understand that there are 3 political logics affecting the Arctic region at present—security, sovereignty and stewardship.

It needs to ensure that stewardship is the one that is most high profile in its approach to Arctic parties.

7 February 2012

Written evidence submitted by the International Fund for Animal Welfare

1. The International Fund for Animal Welfare (IFAW) run projects in more than 40 countries around the world and has over 400,000 supporters in the UK.

2. Our submission refers to the threats that global warming and subsequent ice retreat represents to animal species in the Arctic and the present commercial exploitation of these animal populations for commercial gain.

3. We focus on the polar bear, whales (chiefly the minke whale) and the harp seal, and the exploitation of these animals by Arctic nations, particularly Canada and Norway.

4. It is our submission that current levels of exploitation must reduce given the threat faced to populations from the reduction of their habitat, and the significant animal welfare implications.

5. The UK already presents a strong stance internationally against the commercial exploitation of these animals.

6. Any increased commercial opportunities that may result from the opening up of the region must be resisted by the UK in the strongest possible terms.

NORWEGIAN WHALING

7. Despite a moratorium on commercial whaling which came into effect in 1986, Norway continues to kill minke whales in the North East Atlantic with 533 animals taken in 2011. In addition, the catches are much higher than would be calculated under the International Whaling Commission's agreed mechanism for calculating catch limits. These whales are part of a population which also occurs around the UK and which forms the basis for a whale watching industry in Scotland.

8. Whales and dolphins belong to the group of marine mammals known as cetaceans. They have a special status in international law both as highly migratory species and also as cetaceans in particular. It is thus the responsibility of all countries of the world to work together through the appropriate international regulatory bodies which in this case is the International Whaling Commission (IWC).

9. Although Norway is a member of the IWC, it does not abide by IWC decisions. In 1982 it filed a formal objection against the commercial whaling moratorium and is thus not bound by that decision. After a brief period of “scientific whaling”, Norway resumed overtly commercial whaling in 1993 with a commercial catch of 157 minke whales. Since then the catch has increased to a maximum of 639 whales in 2005 and remains now at about 500 animals each year which is around half the catch limit set by the Norwegian government.

10. The Scientific Committee of the IWC has unanimously (including delegates from Norway) agreed a mechanism for calculating catches known as the Revised Management Procedure (RMP) which would be applied should commercial whaling be resumed. Between 1996 and 2000 Norway set catch limits using the approved version of the RMP. However since 2000 it has “adjusted” the RMP to maintain or increase catches each time the catch as calculated by the RMP would have decreased.

11. In addition to setting much higher total catch limits that would be allowed by the RMP, Norway has also allowed catches to be concentrated within certain areas that are most convenient for whaling. This raises concerns over localised depletion. For example, the reported catch in 2010 from the areas west of Svalbard was 270 compared to an RMP catch limit of 58 calculated by the Scientific Committee. If Norway continues to allow whaling off Svalbard in the next few years it is likely that it will move even further away from the agreed scientific basis for setting sustainable catch limits.

12. International trade in whale products has been prohibited by the Convention on International trade in Endangered Species of Wild fauna and Flora (CITES). All the great whales are listed on Appendix I of CITES which bans such trade. However, Norway filed reservations to the listing of a number of species and populations of whales and has thus exempted itself from the CITES trade ban decision. Norway unsuccessfully put forward proposals at several CITES meetings to permit international trade in minke whales. Norway maintains a low level of international trade in whale products, thus undermining the effectiveness of CITES: Japanese Import Statistics show that 100kg of whale meat was imported into Japan in 2011.

13. Norway also promotes the spurious argument that whales compete with commercial fishermen for fish, when overfishing is the real problem. The IWC Scientific Committee agreed in 2003 that, “there is currently no system for which we have suitable data or modelling approaches to be able to provide reliable quantitative management advice on the impact of cetaceans on fisheries or fisheries on cetaceans”.

HARP SEALS

14. Harp seals have evolved to rely on stable winter sea ice as a place to give birth and nurse their young until the pups can swim and hunt on their own. Recent research, co-authored by scientists from Duke University and IFAW, demonstrates that warming in the North Atlantic over the last 32 years has significantly reduced the winter sea ice needed by harp seals for giving birth and nursing, resulting in higher death rates among seal pups in recent years.

15. Sea ice cover in all harp seal breeding regions has declined by as much as 6% per decade over the study period. The IUCN Red list of threatened species also notes this concern, stating that “climate change impacts are almost certainly going to be negative for Harp Seals in the future”.

16. According to the Canadian Department of Fisheries and Oceans (DFO), 80% of the pups born in 2011 were thought to have died due to the lack of ice. 2010 witnessed the lowest ice cover ever recorded; with coverage at about 80% below the expected levels and 70% of the pups were thought to have died. Again, in March 2007, extremely poor ice conditions in the Gulf of St Lawrence in Canada led DFO scientists to predict that pup mortality in the Southern Gulf could be extremely high, “possibly approaching 100%”.

17. High ice-related mortality, combined with commercial seal hunts in Canada and Greenland, and bycatch from other fisheries, means that entire year classes of harp seals are likely to be missing from future population surveys. For example, only 600,000 pups were thought to have been born in 2011. If only 20% of these pups survived due to poor ice, 120,000 pups would remain, of which one-third were killed by Canadian hunters. This would leave some 80,000 pups alive to attempt the northward spring migration, where they are subject to bycatch in other fisheries (another estimated 8,500 seal pups killed) and then hunted in Greenland (an estimated 83,000 seals killed).

18. Clearly these are only estimates, but as the number of seals estimated killed in 2011 exceeds the number that are thought to have been born, clearly this is a species under severe threat. Entire year classes of pups are being wiped out by a combination of bad ice and commercial exploitation. This fact will not be apparent, however, until at least five to six years later, when these pups would have reached breeding age, and their absence will be noticed in the population surveys.

19. A recent media report on French-Canadian radio station “Le Son de la Mer” suggests that there are approximately 400,000 unwanted Harp seal pelts in stockpiles in Canada, and the recent announcement that

Russia (which makes up 90% of the export market) has now banned the import of harp seal skins demonstrates that there is no economic reason to continue commercial seal hunting.

20. Given the continuing cruelty observed during the Canadian seal hunt, <http://www.ifaw.org/us/node/2755> the current conservation concerns for the harp seal population, the predictions for yet another poor ice year in 2012, and the likelihood that poor ice years will continue for some time, it seems clear that now is the time to end the commercial seal hunt for good.

POLAR BEARS

21. Polar bears exist entirely in the circumpolar Arctic sea ice environment within five range States: Canada, Denmark (Greenland), Norway, Russian Federation and the United States. Polar bears are completely dependent on sea ice, their habitat, which they use for hunting prey, reproduction and movement. The threats facing polar bears today range from climate change to oil drilling to over-hunting. The most detrimental threat to their long-term survival is climate change.

22. In 2006, the IUCN listed the polar bear as Vulnerable. In 2008 the United States Department of the Interior listed the polar bear as a threatened species under the Endangered Species Act. It also concluded that “there are no known regulatory mechanisms in place at the national or international level that directly and effectively address the primary threat to polar bears—the range wide loss of sea ice habitat”. The best available scientific and commercial information indicates that polar bears are threatened with extinction. There are presently between 20,000 and 25,000 polar bears and the number is decreasing.

23. With lowered and vulnerable polar bear populations throughout the Arctic region, it is concerning that polar bear exports have increased over the last five years. According to Environment Canada, the number of export permits issued for polar bear hides rose from 219 in 2005 to 320 in 2010. According to a series of reports published in April 2011 from CBC News, the hunting of polar bears has become increasingly unsustainable. In winter 2010–11 alone, Quebec hunters killed 12 times the normal number of polar bears; going from a quota of approximately four polar bears to more than 60 within the same timeframe. It is likely that the increased price of polar bear hides is to blame.

24. Between 2001 and 2010, 31,916 polar bear specimens were traded internationally according to the UNEP-WCMC CITES Trade Database, an increase of 25% from the previous decade (and data may still be added for the most recent decade). These specimens included hundreds of carvings, claws, skins, skin pieces, skulls, teeth and trophies. There is an increasing trend in the trade of polar bears and their parts.

25. The threat of over-utilisation for commercial trade as well as trophy hunting is acutely troubling because the impacts of global warming will only serve to intensify the effects of unsustainable hunting. The last years have exhibited the lowest average sea ice extents in the summer month of September since measurements began in 1979. The best scientific estimates show polar bear populations outside of the Canadian Arctic Archipelago going extinct within 40 years and a greater than 40% probability of extinction in the Archipelago within 95 years. As climate change effects increase, existing unsustainable polar bear hunts will become increasingly unsustainable, and current sustainable hunts will become unsustainable.

26. Unfortunately, many of the populations managed wholly or jointly by Canada are already in decline. The IUCN/SSC Polar Bear Specialist Group has found that half of the 14 subpopulations of polar bears that fall fully or partially in Canada are declining, with only one (M’Clintock Channel) showing an increasing population. While much of this decline is likely driven by climate change, overhunting is a significant issue in Canada—the only country that allows the killing of polar bears for international commercial trade. There is strong evidence that numerous polar bear populations that fall at least partially within Canada are overhunted or experience substantial annual hunting in the absence of scientifically derived population estimates (for example the Chukchi Sea, Baffin Bay, Kane Basin, Western Hudson Bay, Davis Strait subpopulations). Most recently, in October 2011, the government of Nunavut tripled the hunting quota for the Western Hudson Bay population despite opposition from the IUCN/SSC PBSG, which stated that “even the present TAH [total allowable harvest] is not sustainable so an increase only makes the resulting overharvest even less sustainable”.

27. In summary, the effect of climate change on polar bears will be devastating. Coupled with overhunting, increased pollution and heightened activity in the Arctic from intensified access and development, the species’ future is even more bleak.

Written evidence submitted by the Arctic Advisory Group

SUMMARY

- In geopolitical terms the emergence of economic natural resources, potential international trade routes opening across the Arctic, and the resultant linkage of Eastern and Western markets, alters the *strategic and geopolitical value* of the Circumpolar North in the 21st Century.
- Britain is well-placed to maintain its position in the Arctic through its contribution to science, its environmental record, and (in due course) exploitation of UK commercial institutions' expertise (Lloyds, IMO, OSPAR, and the City and industry).
- Strategically, this paper argues, through inter-state burden sharing (which since 2011 is increasingly *de rigueur* for all parties involved in the Circumpolar North), the UK may be able to reinforce its position in the Arctic, by teaming up for instance, with Arctic Council (AC) nations/business to design and build infrastructure in the Circumpolar North, upon which environmental protection (EP) and sustainable development (SD) measures can be actually implemented.
- There is increasing realisation by all parties (governments, NGOs, militaries, business and indigenous peoples) that without such infrastructure in place, SD and EP implementation is simply not possible in the Arctic. This is a profoundly important conclusion that requires deep deliberation and analysis, as it has implications for the future shape of the Arctic in the 21st Century.
- Since 2011 it is increasingly clear that the bar to entry has been raised in the Arctic by the AC states. Strategic burden sharing, a common political vision, and economic commitment are the minimum requirements for new entrants, AC states—and existing AC Observer status countries. This partly reflects this necessary and emerging strategic commitment outlined above.

1. THE REQUIREMENT

Consequently the UK's Arctic policy may need to be reviewed in terms of its diplomatic and strategic objectives in order to reflect this emerging geopolitical reality and its specific impact on UK energy security of supply, fisheries policy, and the structure and governance of a strategic global trade route(s) emerging across the Arctic. Stated UK (and AC) guiding principles of SD and EP of the Arctic are both critical to the governance and management of any incipient globalization of the Circumpolar North, but they now need to be converted from statements of intent to implementation. Commerce and various UK institutions' capabilities should also be incorporated into any new/revised UK Arctic policy to exploit the commercial opportunities appearing. This includes the building of Arctic infrastructure to support SD and EP measures for which industry will ultimately be responsible.

Tim Reilly is also a researcher at the Scott Polar Research Institute (SPRI), University of Cambridge. The views expressed here are only those of the Arctic Advisory Group, and not SPRI.

Four areas of interest may be considered for immediate consideration:

- Review of UK Arctic Policy—in line with all AC states.
- Appointment of an ambassadorial figure to represent specific UK Arctic interests in AC countries. (precedent set in early 2000s by appointment of businessman to Caspian region)
- Review SDSR implications of Britain's diminished ability to offer a Burden sharing capability in the Arctic (military assistance with Search & Rescue capability, airborne and under-sea surveillance, oil-spill clean-up, and fisheries enforcement, for example).
- Consider the lack of infrastructure build-out implications on ability to implement EP & SD policy.

2. RELEVANCE AND JUSTIFICATION

The cacophony of sound from British academia, commerce, think tanks—and encouragingly from certain Arctic states (especially Canada and Norway)—and Brussels as well, for the UK to maintain its commitment and capability in the Arctic is now reaching the public ear, and must therefore be addressed by government. It is not a surprise that the recent TV series, "Frozen Planet" caused so many column inches in the broadsheets or that The Times' atlas debacle over the degree of ice melt in Greenland, was given so much media time (including on the BBC's Radio 4 Today programme). With the Scott Centenary being celebrated this year as well, the public interest in the Arctic is destined to intensify and continue.

3. AN EMERGING ARCTIC

Significant events in the Arctic during the course of 2011 have elevated the importance of the Circumpolar North in many Arctic Council members' and governments' policies. In isolation the Russian-Norway boundary settlement, the BP/Exxon-Rosneft oil deal, increasing Asian presence in the Arctic, some progress in sustainable development measures, (the introduction of the Polar Code; the agreement between Arctic countries to coordinate and equip Search and Rescue activities), and Chinese acquisition of territory in Iceland are important but tactical measures.

Collectively however they represent a political and strategic turning point in how the Arctic is viewed and valued. This reassessment has been reflected in the number and frequency of visits by Heads of State (including most significantly the President of the USA) to the region in the latter part of 2011, and the numerous announcements of revised Arctic policies and white papers by governments, both within and without the Circumpolar North. No such policy review has taken place in the UK.

4. TRENDS AND THREATS

As a result of these recent events in 2011, some crucial trends are emerging, even at this early stage.

The scale of challenges to develop the region is beyond the means (and choice) of any one Arctic nation; this means that the entry ticket for players into the region is one of demonstrable burden-sharing—and *de facto* political and economic commitment. It also suggests that commerce must be part of any UK policy, as it will pay for, construct and kick-start the steady globalization of the Arctic and crucially, be operationally and legally responsible for EP and SD in the Circumpolar North.

The position adopted by the AC membership to maintain and control Arctic governance on the basis of state sovereignty and UNCLOS, (with which the UK fully agrees), will come under international pressure as the Arctic's climate effects increasingly impact external states and their own domestic interests. The UK could play an important role in working with the EU in shaping an EU Arctic position (this has been mooted by the author and was very well received in Brussels by key DGs in the Commission), as well as discussing options with Asian states who seek Observer status in the AC.

It is increasingly obvious that without strategic infrastructure in place there can be no realistic SD in the Arctic, and thus EP measures—the partner of SD—are meaningless too. These three trends are of profound significance in terms of the UK's stated Arctic Principles, and the broader internationally supported requirement for a safe, stable, and enduring development of the Circumpolar North.

5. OPPORTUNITY

Paradoxically the only sector (in collaboration with states) that is capable of investing in large scale Arctic infrastructure development is the energy industry. Whilst there are justifiable reasons to question hydrocarbon exploitation in the Arctic on the grounds of SD and EP, it should be understood that the geopolitical value of the energy sector is that it is the necessary precursor and agent of Arctic globalization, via its ability to develop and invest in regional infrastructure build-out.

The Northern Sea Route (NSR) for instance, is the logical route for hydrocarbon evacuation to Asia/China (Exxon-Rosneft's target market is China). Once structurally and economically operational for use by the international energy industry, the NSR will in turn facilitate the wider (non-energy) globalization of the region (shipping, communications, technology applications, logistics, tourism, etc.) as a global trade route, and profoundly alter the geopolitics and economics of the Arctic in the C21.

6. STRATEGIC SIGNIFICANCE

Thus it is no surprise that two of the most recent significant developments in Arctic SD and EP measures are a Polar Code (the biggest ship owners in the world are oil companies) and a Search and Rescue (SAR) development plan; both are intimately concerned with Arctic oil operations but they are also essential building blocks for the operational commissioning of a global, trans Arctic shipping route—the NSR, in due course, which will link Eastern and Western markets/centres of production.

The infrastructure created in the Arctic can then provide the platform for substantial SD and EP implementation—required for the wider globalization of the Circumpolar North. The recent SDSR cuts to military capability in the Arctic has made Britain's burden sharing contribution to the implementation of the Polar Code and SAR—with regard to the Arctic oil industry (including our own) and its concomitant effect on SD and EP—somewhat depleted. This has been noted with surprise by at least one Arctic state (Norway).

7. "WATCHING BRIEF" OPTION

The combination of a C2O UK Arctic policy, a lack of a UK voice and leadership actually in the region, a slowness to coordinate with UK institutions/agencies that could directly contribute to all UK Arctic objectives (BAS, SPRI, IMO, Lloyds, the City, and the Oil industry/NGOs), and the detrimental effect of the UK's Strategic Defence and Security Review (SDSR), on burden sharing Arctic operations, are all limiting the UK's capacity to continue to support an Arctic presence. As a consequence the requirement to demonstrably contribute to burden sharing in the Arctic, (in order to be a part of the shaping of the region) and enforce our principal objectives of SD and EP will become difficult to implement. At that stage the Arctic Council may consider British views on, and input into policy and economic matters, increasingly irrelevant.

8. THE RECOMMENDATION

It is therefore logical and politically sensible for the UK at the very least to review its position in order to identify any policy gaps caused by recent developments in the Arctic, analyse the implications of such policy

gaps, via expert advice, and thus quantify in political and economic terms the benefits and challenges of any increased engagement (or not) in the Circumpolar North in the C21. What would be foolhardy to do is to assume that the present “watching brief” will continue to protect, promote, and expand UK interests in the Arctic in the C21.

Standing still is a questionable policy, but when other countries are actively reviewing their Arctic policies and moving forward, the UK’s position in the first XI of non-Arctic Observer countries engaged in the Circumpolar North is in effect going backwards. Furthermore its interests may become side-lined and its policy input into Arctic globalization (principally via the AC) increasingly ignored. This will all be compounded when (not if), countries such as China, Japan, S. Korea (and the EU) eventually gain Observer Membership status of the AC; the UK’s influence in the AC will inevitably be diluted by such a development.

AIM: TO REVIEW AND ENHANCE PRESENT UK ARCTIC POLICY

9. INTERNAL ACTIONS REQUIRED

A. *Raising Awareness*

- Commission study on state of Arctic play from Polar experts: with input from academia, business, NGOs and government.
- Structurally incorporate (invite) external expertise onto HMG Polar committees, advisory boards and policy brain-storming sessions in order to inform (*but not create*) UK policy formulation.
- Offer structured briefings to key departments (MoD, DECC, FCO, DEFRA, DFID, BIS, UKTI etc.) in order to raise awareness and garner support for review of UK Arctic policy.
- Raise issue in Cabinet, looking for Ministerial “sponsorship”—following departmental briefings and feedback.
- Conduct series of one-to-one briefings with key PPSs in targeted ministries/departments.

B. *Discussion with Officials—SDSR and Effects on Arctic Policy and UK Role*

C. *Discussion with Commercial Organizations/Institutions on Arctic Policy*

D. *Consider Creating a Geopolitical/Strategic Oriented Polar Centre of Expertise in UK. (Non- Exist Ant at Present)*

E. *Culmination: Debate in House of Commons on Arctic Policy for C21*

10. EXTERNAL ACTIONS REQUIRED

A. *Appoint Arctic Ambassadorial Figure/Coordinator for Arctic/Poles*

- To coordinate Arctic efforts in UK between departments and government offices.
- Represent UK Arctic interests abroad and explain revised UK Arctic policy to AC.
- Maintain/increase physical presence in region, (conferences, workshops, speeches, publications/interviews, bi-lateral talks).
- Interface with British/Arctic industry (eg oil/infrastructure/shipping) in situ, to understand commercial issues and political needs.
- Interface at home with academia, Think Tanks, commercial institutions (IMO/Lloyds, OSPAR) and academia.
- To be tasked by HMG when/where appropriate.
- Make regular and detailed strategic and tactical recommendations to HMG.
- Individual would be expected to spend at least 50–75% of his/her time abroad.

B. *Discuss Arctic Strategy/Concept with Norway*

C. *Open Dialogue with Non-Arctic States that have Genuine Arctic Interests*

D. *Engage Bi-Laterally with Russia (Energy/Infrastructure/Shipping And Security). Emphasis on Burden Sharing (SAR/Surveillance/IT/Finance/Lloyds, The City etc)*

E. *Establish Working Arctic Group with EU (include Norway) in Order to “Shape” EU Arctic Policy in C21*

22 February 2012

Written evidence submitted by The Geological Society of London

1. The Geological Society is the national learned and professional body for geoscience, with over 10,000 Fellows (members) worldwide. The Fellowship encompasses those working in industry, academia and government, with a wide range of perspectives and views on policy-relevant geoscience, and the Society is a leading communicator of this science to government bodies and other non-technical audiences.

2. To address directly many of the specific questions which the committee has set out in its call for evidence is outside the competence of the Geological Society. This submission focuses on those geoscientific considerations which should inform consideration of the potential impact of present and future Arctic hydrocarbon resources on global energy supplies, on UK energy security, and on the environment. There are undoubtedly significant hydrocarbon resources in the Arctic region—the Geological Society would be pleased to provide further advice regarding what is known about these resources, the distribution of both oil and gas, their exploration and production, and prospects for mitigation of environmental impacts. It is for others to determine whether they should be exploited, and what the regulatory framework should be for both exploration and production.

3. The main points addressed below are:

- The likely extent of known and unknown hydrocarbon resources.
- The distinction between resources and economic reserves.
- Geological evidence of past rapid climate change associated with major releases of CO₂.
- The potential role of carbon capture and storage in abatement of CO₂ emissions.
- The prospect of new technologies to mitigate other environmental impacts.

4. The estimation and characterisation of hydrocarbon resources under the Arctic Ocean and the surrounding onshore areas is the subject of extensive research. A major recent Geological Society publication on Arctic Petroleum Geology (Spencer et al, 2011) brings together 50 papers authored by scientists from across the circum-Arctic nations, working in industry, academia and national geological surveys. It constitutes a state-of-the-art assessment of Arctic geology; known hydrocarbon resources; prospectivity and potential for development of as yet unknown resources; and techniques for surveying, exploration and resource assessment in high latitudes. The publication builds on symposia held at the most recent International Geological Congress (IGC33), held in Oslo in 2008, which focused particularly on Arctic geoscience—not just in relation to oil and gas, but also, for instance, to data from the Integrated Ocean Drilling Programme which provided new insights into the past role of the Arctic Ocean in the Earth's climate system. Arctic hydrocarbon resources have also been the subject of a number of US Geological Survey (USGS) reports over the last few years.

5. Spencer et al (2011) states known hydrocarbon resources in the Arctic as 61Bbbl (billion barrels) of liquids (ie oil plus natural gas liquids) and 269 Bbbloe (billion barrels of oil equivalent) of gas, in nine main areas. It gives the USGS best estimate of yet-to-find resources as 90 Bbbl of liquids and 279 Bbbloe of gas, and identifies four main regions in which such resources are expected predominantly to be found. Overall, the USGS estimates the Arctic to contain between 44 and 157 Bbbl of recoverable oil. This is sufficient for the Arctic to constitute a major hydrocarbon province, which probably includes the greatest as yet unknown resource remaining in the world—but is unlikely to shift the world oil balance away from the Middle East. However, it is the estimated vast gas resources particularly offshore Arctic Russia that dominate. The USGS estimate of 2000 trillion cubic feet of natural gas, if correct, would represent over one fifth of the world's undiscovered gas resources. (Gautier et al, 2009). USGS Fact Sheet 2008–3049 gives a good introduction to its methodology for resource appraisal, including its estimation of unknown resources.

6. A key concept in economic geology is the distinction between resources (the total amount in the ground) and reserves (the amount of a resource which can economically be extracted with current technology and under current regulatory regimes). Reserves estimates are therefore dynamic, and depend on several factors, including price which, alongside cost of extraction, determines whether this can be done economically. There are particular constraints and challenges to economic exploration and production of oil and gas in the Arctic. There is a great quantity of ice, but its distribution varies from year to year, as well as seasonally. It is also mobile, rotating clockwise around the pole at perhaps 3 m/h (metres per hour), and producing hazardous icebergs which represent a significant technological challenge to placing of permanent installations. Nonetheless, a sufficiently high barrel price is likely to make these challenges economically surmountable.

7. The geological record contains abundant evidence of the ways in which Earth's climate has changed in the past. There is evidence of a sudden major injection of carbon to the atmosphere 55 million years ago, which was accompanied by rapid warming of about 6°C globally, and 10–20°C at the poles. The oceans became warmer, less well oxygenated and more acidic, and many species became extinct. Similar rapid warming events associated with sudden carbon releases are known from the more distant past, for example at around 120 and 183 million years ago. Increased CO₂ levels are likely to have been the trigger for these events, though not the sole agent for change (various feedback loops operate). Human emissions of CO₂ in the industrial era are at a comparable rate to the release 55 million years ago, and to date these amount to perhaps a third of the total released at that time. A position statement published by the Geological Society in November 2010 provides a non-technical introduction to this geological evidence, which stands independent of that derived from present

day atmospheric and oceanic sampling and climate modelling. This statement concludes that emitting further large amounts of CO₂ into the atmosphere is likely to be unwise (Geological Society, 2010).

8. In the short term, we will continue to be highly dependent on fossil fuels both nationally and globally, whether or not Arctic resources are developed. The rapid deployment of carbon capture and storage (CCS) at commercial scale is a critical requirement if further extensive CO₂ emissions are to be abated. The UK is well positioned to be a world leader in the development and deployment of CCS, thanks to the outstanding fusion of our academic and industrial petroleum geoscience, not least through the meetings and publications of the Geological Society. The skills, capacity and infrastructure inherent in the North Sea oil and gas industry are extraordinarily valuable assets in this regard. The Earth science community is confident in its abilities to meet the challenges of the injection and long-term storage of CO₂, and with the right regulatory framework to develop a UK CCS industry on the scale of the North Sea hydrocarbons extraction industry of the past four decades.

9. If there is to be extensive exploration and production of hydrocarbons in the Arctic Ocean beneath both permanent and seasonal ice, new technologies will have to be developed and implemented. Research is also underway to develop more efficient exploration practices, improved reservoir geology and engineering, and novel downhole processing technologies. These technologies include methods for subsurface separation and conversion of oil and gas within wells, producing clean energy sources such as hydrogen and syn-gas at the surface, which are already working at the laboratory level. Their deployment at commercial scale would not only greatly reduce carbon emissions, but would also minimise the risk of other environmental impacts on the Arctic such as those arising from oil spills.

10. We would be pleased to discuss further any of the points raised in this submission, to provide more detailed information, or to suggest oral witnesses and other specialist contacts.

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23 February 2012

Written evidence submitted by the Chair of the Sustainable Development Working Group of the Arctic Council

I would like to start by thanking you in showing such a great interest to the Arctic Council in general and in the Sustainable Development Working Group (SDWG) in particular. Below, I’ve tried to reply to your questions from my perspective and I hope that will satisfy your queries. I would also like to highlight that a lot of information, in particular on different reports and publications done by the SDWG, is available on the web, see <http://portal.sdwg.org/>, see also attachments to this email.

1. *There are six indigenous peoples groups that have “permanent participant status” at the Arctic Council. What weight is assigned to their views, compared to weight assigned to the eight Arctic states?*

Formally the governance of the Arctic Council—Sustainable Development Working Group is by consensus of the eight (8) Arctic States in consultation with the six (6) Permanent Participants. There is no weighting of votes. The participation of the six Indigenous Peoples groups is what differ the Arctic Council from other international bodies/organisations.

The voice of the six Indigenous Peoples groups often adds information from a local and inhabitant perspective, which often provides value added information to the general discussion.

2. *How does the Arctic Council engage with Indigenous Peoples, other than through the Sustainable Development Working Group?*

The Indigenous Peoples are involved in all aspects of Arctic Council’s activities. The Indigenous Peoples participate in the work of all six working groups of the Arctic Council. They are as well part of the Senior Arctic Officials meetings, Deputy Ministerial Meetings and Ministerial Meetings. The six Permanent Participants are an integral part of the Arctic Council.

3. *What role does the Sustainable Development Working Group have? What areas has it examined, what key recommendations has it made, and what changes if any has it secured as a result? What is its current work programme?*

The role of the SDWG can be stated in the following:

- To promote cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common arctic issues, in particular issues of sustainable development and environmental protection in the Arctic.
- The goal of the sustainable development program is to propose and adopt steps to be taken by the Arctic States to advance sustainable development in the Arctic, including opportunities to protect and enhance the environment, and the economies, cultures and health of indigenous communities and of other inhabitants of the Arctic, as well as to improve the environmental, economic and social conditions of Arctic communities as a whole.
- There is a strong commitment within the Council to stimulate, approve and support projects of common interest which will deliver meaningful and tangible benefits to Arctic residents.

What areas has it examined:

- Health issues and the well-being of people living in the Arctic. Prevention and control of disease and injuries, as well as the long-term monitoring of the impact of pollution and climate change.
- Sustainable economic activities and increasing community prosperity. To be sustainable, Arctic communities must have an appropriate economic base to ensure their survival.
- Education and cultural heritage. These are a fundamental prerequisite for sustainable development and capacity building.
- Children and youth. Their well-being and potential are essential to the future of Arctic communities and must be protected and nurtured.
- Management of natural, including living, resources. This must be based on sound science and traditional knowledge to maintain and develop local settlements in the Arctic.
- Infrastructure development. This enhances economic growth and the quality of life for Arctic people.

“What key recommendations has it made, and what changes if any has it secured as a result” are hardly questions that could be answered without entering specifically each and every initiative undertaken by the SDWG over the years.

THE CURRENT WORK PROGRAMME OF THE SDWG

Please see our website for the SDWG’s Work plan 2011–13: <http://portal.sdwg.org/media.php?mid=1342>

4. *In what areas are Arctic Indigenous People broadly in agreement throughout the region?*

I would guess in areas that affect them, but I would like you to ask Indigenous Peoples themselves.

5. *Broadly speaking, in what areas do the views of some Indigenous Peoples diverge from those of national governments?*

If you look on the issues/areas that are mandated to the SDWG and that are dealt with in its meetings (and with the limited resources), I would guess there are more or less no major divergence between the Indigenous Peoples and National government positions. If there is a major divergence, the issue could not be accepted as an agenda item for a meeting. Outside the SDWG and its meetings there are probably issues where Indigenous Peoples and National government positions differ, but to what extent and depth, I would say that is rather a topic for researchers to identify.

6. *In considering any Indigenous Peoples perspectives on oil and gas exploration, to what extent has the Arctic Council or Sustainable Development Working Group sought to influence oil and gas exploration in the Arctic to minimise its impact on Indigenous Peoples’ way of life?*

The SDWG is not an opinion evolving group with its own agenda, but it works strictly within its mandate and on the basis of project proposals streaming from one of the member States or Indigenous Peoples organisations. There is no hidden agenda in trying to influence the development in the Arctic in any particular direction. The SDWG put a lot of efforts in understanding the effects of changes, for the peoples living in the Arctic. If we notice change of climate, how does it change the possibilities for the Indigenous Peoples to live in a traditional way? Are concentrations of contaminants more frequent in the traditional food (and water) for peoples living in the Arctic. If new industries are set up in an area, what are the effects for the local peoples living there? These are examples of questions the SDWG is concerned with.

7 June 2012