



**Government Response to the House of Lords
Select Committee Report HL 118 of Session
2014-15: Responding to a changing Arctic**

Presented to Parliament
by the Secretary of State for Foreign and Commonwealth Affairs
by Command of Her Majesty

July 2015



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Government Response to the House of Lords Select Committee Report HL 118 of Session 2014-15: Responding to a changing Arctic

1. Introduction

1. There is no doubt that the Arctic is on the frontier of global climate change impacts, with average temperatures rising twice as fast in the Arctic as the global average. In turn the region is seeing more commercial activity, with reserves of oil, gas, metals and rare earths becoming more accessible with reductions in ice-cover and improvements in technology. Responding to these changes, while supporting rigorous protection of the environment, is one of the biggest challenges facing the region.
2. The Government believes the policy approach that it outlined in its Arctic Policy Framework *Adapting To Change: the UK's approach to the Arctic* was, and remains, the right one. It is based on respect; cooperation; and leadership where appropriate. It is an approach that reflects that we are not an Arctic State and that we respect the rights of those States in the stewardship of the region.
3. However, given the rate and extent of the changes being seen in the Arctic, the Government is clear that its policy towards the Arctic will be kept under review to ensure it remains current. And while the Government believes the approach it has adopted so far is the right one, it also agrees with the Committee that more can be done to ensure the UK continues to take a leading role in Arctic issues that affect it. The Government is grateful to the Committee for its constructive suggestions on this.
4. This response outlines a number of positive and concrete steps the Government will take to better promote UK interests and influence, including: a UK hosted international policy forum on the Arctic at Wilton Park; a greater role for the Head of the UK's Arctic Office championing UK science and building coordination across all scientific disciplines; the development of an agreed, cross-Government strategy for engaging with the Arctic Council; and a greater role for the Government's Science and Innovation Network in facilitating partnerships between UK scientists and their counterparts in Arctic and other non-Arctic states.
5. Together, the steps outlined in this response represent a substantial evolution in the UK's approach to the Arctic and will ensure that the UK remains one of the most active and influential non-Arctic States.

2. Climate change in the Arctic

6. The Government firmly believes that the rapid change being seen in the Arctic has the potential to impact the UK and the rest of the world. Understanding what drives this unprecedented change and its possible future consequences is a scientific challenge of the utmost urgency with important societal implications (paragraph 4¹). The Natural

¹ Paragraph numbers referred to in brackets refer to the paragraph numbers in the "Summary of Recommendations and Conclusions" of the House of Lords Select Committee on the Arctic, report of session 2014-2105, "Responding to a changing Arctic".

Environment Research Council's (NERC) current 5-year, £15m Arctic Research Programme is specifically aimed to better understand and improve our predictions of Arctic change at seasonal to decadal time scales and to establish what the regional and global impacts of such change may be.

7. The Government agrees that we do not yet fully understand the potential for significant amounts of carbon dioxide and methane to be released from the Arctic permafrost and seabed with rising temperatures (paragraph 2). That is why the UK is already funding and participating in a number of projects that will improve our knowledge of this issue and its implications, not least through the current NERC Arctic Research Programme; the JPI Climate initiative (a collaboration between 14 European countries to coordinate jointly their climate research); and NERC's Discovery Science grant programme. For example, projects already funded by NERC aim to:
 - improve our knowledge of Arctic methane and other gases released from various sources to determine their size and distribution and dependence on temperature;
 - improve predictions of both the rates and consequences of permafrost thaw during the 21st century, including feedbacks to climate;
 - quantify and understand the controls on carbon fluxes in permafrost environments, and on the implications for global radiative-forcing;
 - quantify the melt-driven biogas production and nutrient export from Eurasian Arctic lowland permafrost;
 - improve global scale climate models by helping to reduce uncertainties in the permafrost–climate feedback;
 - determine the impact of climate on the carbon emissions and exports from Siberian inland waters;
 - study terrestrial carbon transported to the Arctic shelf regions by rivers and coastal erosion and the effect of climate warming on this material;
 - to assess the impact of Arctic warming on seabed sediment stability and the potential threat posed to the UK through natural hazards.
8. Together, these projects represent a substantial UK contribution to understanding the potential for carbon dioxide and methane release from Arctic permafrost. However, the Government agrees with the Committee that further research will still be required, not only on this specific issue, but also to build a broader understanding of the effects and implications of Arctic climate change (paragraph 4).
9. UK research priorities are set involving the research community. NERC plans its strategic research programmes using ideas that come directly from the UK's scientific community. All ideas received are carefully considered and anyone, including both researchers and those who use the information provided by research, may submit ideas for future research programmes through this process. In addition, researchers may submit proposals for research projects in any area of NERC's remit through its Discovery

Science grant programme. NERC will give due consideration to any future proposals it receives that look to address these issues (paragraph 2).

3. Globalisation and governance

10. Governance of the Arctic rests primarily with the Arctic States supplemented and complemented by international agreements and treaties, in particular the United Nations Convention on the Law of the Sea (UNCLOS). The Government fully agrees with the Committee that the UK's interests, as well as wider global interests, are best served by the highest possible degree of rules-based negotiation in the Arctic (paragraph 19). **The UK's top policy priority for the Arctic will continue to be for the region to be peaceful, stable and well-governed, in line with international law.**
11. The Government continues to believe that the current governance arrangements in the Arctic are working and provide a solid foundation for responsible management of the region. They have so far withstood the test of greater tensions in other parts of the world, with for example, the Arctic Council continuing to sign off a substantial programme of work under the Canadian Chairmanship; and the continued orderly process of delimitating extended continental shelves in the Arctic through the formal UNCLOS process (paragraph 6).
12. The Government strongly supports an Arctic insulated from wider geopolitical tensions and was further encouraged by the commitments made in the Iqaluit Declaration, signed at the Arctic Council's meeting of Ministers in April 2015, that reaffirmed the Arctic States' "*commitment to maintain peace, stability and constructive cooperation in the Arctic*" (paragraph 10).

Arctic Council

13. The Government is pleased that the Committee acknowledges the significant achievements of the Arctic Council in this regard (paragraph 9). The Government confirms its high level political commitment to the Arctic Council, and continues to view it as the pre-eminent forum for discussing many Arctic issues, particularly around environmental protection and sustainable development. **The Government will send representation to all future political level meetings of the Arctic Council.**
14. The Government notes the Committee's views on the constructive and valuable role that observers can play in advancing the work of the Arctic Council. The Government is very keen to work constructively with the United States' Chairmanship of the Arctic Council, and will be an active participant in any future discussions that the United States proposes on the role of observers during its Chairmanship (paragraph 13). **The Government will write to the United States' Chair of the Arctic Council, giving our support to a further dialogue between the Arctic Council and its observers. The Government will also take that opportunity to encourage the United States to ratify UNCLOS and to reinforce the importance of continuity through Arctic Council Chairmanships** (paragraphs 7, 8).
15. The Government agrees that the European Union has a role to play on Arctic issues and at the Arctic Council (paragraphs 11, 12). The decision on how to progress the EU's observer status rests with the Arctic Council Members States but the UK considers that

EU observer status of the Arctic Council would contribute to the UK's Arctic policy objectives by further strengthening the legitimacy of the Arctic Council and by encouraging a wide dialogue between all organisations and countries with a legitimate interest in the Arctic. The Government will actively contribute to the development of the EU's Arctic policy, with proposals for the further development of an integrated and coherent EU Arctic Policy expected by December 2015. The policy should be clear on the extent of the EU's work on the Arctic and the areas in which it can add value to Member State contributions. This includes cross-border research programmes, such as Horizon 2020 and the new EU-PolarNet programme, and engagement of the EU's Arctic indigenous peoples.

Other fora

16. **The Government will send representation to Arctic fora other than the Arctic Council that give the UK an opportunity to showcase and promote its interests**, such as the Arctic Circle Assembly and Arctic Frontiers (paragraph 17). The Government will actively negotiate in international organisations with Arctic components, such as the International Maritime Organization, OSPAR and the Convention on Biological Diversity.

4. The impact of Arctic changes: internal pressures and opportunities within the Arctic

17. The Government agrees with the Committee's finding that knowledge of Arctic ecosystems, particularly marine ecosystems, is limited and that this knowledge gap hampers our ability to fully understand the effects of climate change, and of human activity, on marine species in the region (paragraph 20). This is an issue acknowledged by the scientific community.
18. **The Natural Environment Research Council is currently considering a potential new strategic research programme on 'The Changing Arctic Ocean: implications for marine biology and biogeochemistry'**. Any such programme could potentially address questions such as: what happens to biology and biogeochemistry under a reduced ice regime; how changing land-based influences might affect the future biological functioning of the ocean basin; how changes in the ice regime might impact on the light environment and seasonal stratification of waters; and what connections will develop between the changing polar environment and the high-latitude north Atlantic ocean. A decision on whether or not to fund this research programme is expected shortly.
19. The Government agrees that the challenges and changes facing the Arctic are international in nature and that there is a strong case for greater international cooperation (paragraph 22). The UK science community has a strong reputation for collaboration and leadership and many research organisations in the UK have a particularly strong reputation for science programme management. There are many examples of British scientists leading major international Arctic science programmes, including EU-funded ones such as ICE-ARC; nationally funded ones, such as EISCAT (the European Incoherent Scatter Scientific Association); and through active international collaborations.

20. UK scientists have a strong track record of collaborating internationally including with all the Arctic States and most countries with major polar programmes. For example, within the Arctic Research Programme, British scientists are collaborating with their Canadian counterparts in Canada's Northwest Territories and in Alaska with the US Geological Survey and the Woods Hole Oceanographic Institute. The JPI Climate initiative is funding three projects involving collaborations with Russia. Discussions are currently underway with the Canadian Polar Commission on identifying joint UK-Canada research interests and the use of the EU Arctic-Atlantic funding under the Galway Cooperation Agreement between Europe, USA and Canada.
21. Additionally, the UK is an active player in many international scientific organisations. The UK is a member of the International Arctic Science Committee and the Forum for Arctic Research Operators. It is also a member of the European Polar Board, where the Director of the British Antarctic Survey represents NERC. The European Polar Board includes all European Polar research institutions and polar operators in both the Arctic and Antarctic. The UK's Arctic Station manager on Svalbard is also Chair of the Ny-Ålesund Station Managers committee.
22. More broadly, the Government's Science and Innovation Network, based jointly in the Department for Business, Innovation and Skills and the Foreign and Commonwealth Office, works across the entire UK science and innovation landscape supporting UK stakeholders to make international connections, set up strategic collaborations and leverage research and innovation funding. The Science and Innovation Network works with UK government departments and closely with UK Research Councils, UKTI, Innovate UK, researchers from universities and a range of other bodies including Royal Societies and other academies. It already operates across the eight Arctic States in support of UK scientists; with the Arctic one of the top four priorities for the Nordic branch.
23. Despite the already extensive collaboration, the Government agrees with the Committee that there is a strong case for greater international cooperation on Arctic research. In furtherance of this, **the British Antarctic Survey will play a leading role in a new European initiative, EU-PolarNet, specifically designed to enhance the integration of Europe's scientific and operational capabilities in the Polar Regions.** The €2 million five-year programme will bring together 22 of Europe's internationally-respected multidisciplinary research institutions to develop and deliver an integrated European polar research programme with access to the EU Horizon 2020 programme fund.
24. High-level agreements, such as that existing between the UK and Canada, and between NERC and the US National Science Foundation, provide a good framework for collaborative research. **The Government will explore options for agreeing other such agreements with Arctic States and non-Arctic States** to generate more such collaborative opportunities for British scientists.
25. **The Science and Innovation Network will build on its existing activity in the Arctic** within current resources. Its priorities will be driven by the evolving UK approach, focussing on areas where science and innovation issues are of key importance. It will do so by:

- providing international science and innovation policy insight, guided by requests from the UK, to inform the cross-Government strategy for engaging with the Arctic Council;
 - supporting international input to a joined up UK approach to engaging with the United States' Chairmanship of the Arctic Council ending May 2017;
 - supporting UK representation at Arctic Circle Assembly in Iceland October 2015, in which the Foreign and Commonwealth Office's Chief Science Adviser will play a leading role;
 - representing UK interests at priority Arctic Council working group meetings, where resources permit;
 - standing ready to support the NERC Arctic research office and the new UK Arctic and Antarctic Partnership on opportunities where the Science and Innovation Network can enhance their work;
 - developing UK understanding of relationships with non-Arctic observer states, such as Japan, providing updates on host country priorities and supporting UK efforts to develop further Memoranda of Understanding, working across sections at posts as appropriate.
26. For example, the Science and Innovation Network based in Canada will: look to build on the UK's agreement with Canada on polar research cooperation, including by developing a specific annex detailing collaboration between the British Antarctic Survey and the Canadian High Arctic Research Institute; conclude complementary agreements between the UK and Canadian Territorial Governments of Yukon, Northwest Territories & Nunavut, thereby giving UK researchers access to territorial research facilities on the same terms as Canadians; and develop enduring relationships with First Nations and acting as relationship managers for UK scientists requiring permits for scientific activity in the Canadian North.

Science cooperation with Russia

27. Despite Russian actions in Crimea and eastern Ukraine, the Government remains committed to cooperating with Russia on Arctic issues. Russia is much the largest Arctic nation in terms of both land area and the extent of their shelf seas. Understanding the changes that are taking place in the Russian Arctic is critical to understanding the changes in the Arctic as a whole.
28. Many British scientists have good links with counterparts in Russian scientific institutions and there are a number of projects involving collaboration between Russian and British scientists. Three scientists from Leeds University were part of the 2014 joint Swedish-Russian-US SWERUS-C3 project, which investigated methane emissions in the East Siberian Arctic Ocean. In addition, the JPI Climate initiative is funding three multilateral projects involving collaboration between British and Russian institutions looking specifically at the impacts of melting permafrost in the Russian Arctic; the transfer of carbon through river systems; and the potential feedback to the broader climate system.
29. To further improve the links between British and Russian scientists, the Government's Science and Innovation Network in Moscow organised an Arctic and Antarctic

Roundtable in St Petersburg in December 2014. The UK was represented by scientists from the British Antarctic Survey, NERC and the Universities of Cambridge and York. The Arctic and Antarctic Research Institute (AARI) was the main Russian participant. The programme focused on climate and environmental research in the Polar Regions. In April 2015 the Science and Innovation Network team in Russia helped organise a follow-up visit to the UK by Russian scientists from AARI. The Science and Innovation Network will look for further opportunities to build links between British and Russian researchers in the Arctic, building on the success of the roundtable. These opportunities for collaboration could include exploring the potential for:

- a Memorandum of Understanding between the British Antarctic Survey and AARI;
- participation of British universities in Russian expeditions to the Arctic;
- inclusion of British scientists in an Arctic floating university expedition;
- sharing of information and joint work between UK and Russian field stations in Svalbard;
- joint work on Arctic sea ice, using Russian research ships and British equipment; and
- joint research grants with a focus on climate and the environment.

The impact upon Arctic residents

30. The Government agrees with the Committee on the important role that indigenous groups have played in the Arctic Council (paragraph 25). The Government also welcomes the statement of support from the Committee that the Permanent Participants, representing indigenous peoples of the Arctic, should enjoy full and effective involvement in the Arctic Council and in other bodies that affect their lives and interests (paragraph 24). The Government will respect the views, interests, culture and traditions of Arctic indigenous peoples and promote the participation of indigenous peoples in decision-making. The Government will also support the right of Permanent Participants to be heard at the decision-making level of the Arctic Council.
31. The Government acknowledges that the expansion of the workload of the Arctic Council poses challenges to the full participation by indigenous representatives (paragraph 26). The Government believes that the Arctic States have the ultimate responsibility to ensure that Permanent Participants, as citizens of those countries, have sufficient capacity for full and effective engagement.
32. The Government agrees with the Committee that the UK, as an active observer to the Arctic Council, with a large scientific community, world class higher education sector and many businesses operating in the Arctic, can provide more general opportunities to support indigenous peoples and northern communities.
33. UK scientists actively work with indigenous communities across the Arctic. For example, within the NERC Arctic programme there are two projects in Northwest Territories, Canada and a third project studying lake sediments in Alaska that are actively engaged with indigenous groups in North America. The projects seek to both acquire traditional knowledge of the field environments from tribal Elders, and also work with students from

local colleges to transfer knowledge regarding the research, and to provide opportunities to learn research skills (paragraph 28).

34. The Government's Science and Innovation Network also hosted a roundtable in Norway in January 2015 to facilitate collaborations between UK researchers and local populations in the Arctic and to demonstrate the UK's commitment to sustainable development for the Arctic's local populations, taking advantage of local knowledge. **The Science and Innovation Network will continue to look for further opportunities to promote constructive, mutually beneficial relationships between Arctic indigenous peoples and UK scientists (paragraph 28)**, including hosting a possible session at the Arctic Circle Assembly 2015.
35. The Government will encourage UK companies operating in the Arctic to engage meaningfully, and directly, with indigenous peoples in the communities in which they operate. In particular, the Government will promote UK business engagement with the new Arctic Economic Council's work on Arctic stewardship, and the new Capacity and Support initiative set up by the Permanent Participants to the Arctic Council.
36. The Government is also actively investigating options of how best UK expertise can be used to support the sustainable development of Arctic communities, including through the use of schemes such as the new Chevening fellowships (paragraph 27).

5. The impact of Arctic changes: pressures and opportunities arising from increasing external access to the Arctic

37. The Government welcomes the Committee's recognition of the significant history of economic and commercial development in the Arctic (paragraph 29). The changes being seen in the Arctic, and the reduction in summer sea-ice coverage in particular, have led to growing commercial interest in the Arctic, both from a growing number of industries and a growing number of countries from across the world. The Government agrees with the Committee that the 'scramble for the Arctic' narrative is overly dramatic (paragraph 5).
38. Ensuring the sustainable development of the Arctic is part of the overall governance framework of the Arctic, which rests with the sovereign Arctic States, supplemented and complemented by international agreements and treaties. The regulation of commercial development in the Arctic is therefore a matter for the relevant national authorities in the Arctic States in whose jurisdiction they take place.
39. As part of this governance, the Arctic Council plays a valuable role in assessing the potential impacts of commercial development in the Arctic; helping build the science base to underpin decisions; promoting cooperation and collaboration; and in developing and disseminating good practice. **The Government will look for mutually beneficial opportunities for its experts to engage with the Arctic Council in support of this policy-making process.**
40. The Government agrees with the Committee that the UK's research and technology strengths can be used to develop new techniques and approaches for undertaking developments in the Arctic. British businesses operating in the Arctic are central to this and have a direct role to play. The Arctic Economic Council has the potential to link

business expertise and experience of operating in the Arctic with the decision-making of the Arctic Council. British businesses operating in the Arctic could help develop and share understanding of the Arctic environment; conduct genuine engagement with local Arctic communities; and develop an understanding of the risks and impacts involved with their operations. **The Government will strongly encourage British businesses operating in the Arctic to engage with the work of the Arctic Economic Council (paragraph 30, 31).**

41. The UK is home to one of the world's leading financial centres, including Europe's largest insurance sector. These industries have a crucial role to play in developing and ensuring adherence to high standards of operation in the Arctic. The Arctic Marine Best Practice Declaration is an example of the financial industry leading the way in promoting best practice for marine and energy operations in the Arctic. **The Government will encourage the UK financial industry to seek out other opportunities to influence best operating practices in the Arctic.**
42. The Government is committed to promoting responsible commercial development of the Arctic. The Government believes that demonstrating responsibility means engagement with, and respect for, the local communities; respecting the environment in which the company intends to operate, including taking responsibility for their actions and preparing for the worst; understanding the risks to the environment and local communities; and sharing the understanding of the environment that they do have.

Hydrocarbons and resource extraction

43. The Government is very aware of the potential environmental impacts of an oil spill in the Arctic and recognises the risks associated with drilling for hydrocarbons. The Government fully supports the use of the highest environmental and drilling standards in the Arctic. It is, however, for the Arctic States, in whose jurisdiction the developments are taking place, to determine what appropriate standards of regulation are (paragraphs 32, 33).
44. It is true that the UK has significant experience in UK territorial seas and immediately adjacent waters in the actions required to prevent and, where necessary, clean up oil spills. However, such experience does not extend to the very specific requirements in terms of operations and equipment which are necessary in the colder, ice-covered waters of the Arctic. This specialised experience and technical expertise is vested primarily in the Arctic States and those companies who operate in the area (paragraph 34).
45. The Government welcomes research into effective oil spill response in the Arctic environment both in terms of the operational methodology and the specific specialised resources that might be required. The Government is therefore encouraged by the steps already taken by the Arctic States through the Arctic Council on oil pollution prevention, preparedness and response. The Government particularly welcomes the recent establishment of the Arctic Offshore Regulators Forum, a forum of technical and operational offshore petroleum safety regulators from the Arctic States, under the auspices of the Arctic Council.

46. Other organisations are also considering oil spill response in the Arctic. For example, the International Petroleum Industry Environmental Conservation Association (IPIECA) is working on “Spill Response in the Arctic Offshore”. And cooperation agreements such as BONN and HELCOM (the governing body of the Convention on the Protection of the Marine Environment of the Baltic Sea Area) provide useful forums for sharing technical and operational developments in relation to oil in ice conditions, and permit the sharing of resources for responding to incidents.
47. The Government will continue to support moves that promote collaboration between expert bodies developing best practice for dealing with oil spills in the Arctic, as endorsed by Arctic States, to ensure that robust, evidence-based response arrangements are in place across the Arctic.
48. Successful mining operations that deliver the outcomes set by their stakeholders operate in a supportive climate, one that requires the right governance frameworks and best practice standards. Along with a strong policy and governance framework, clear human rights policies are an essential requirement of investors and capital markets. Underpinning this governance is the ability to manage stakeholder relations and provide effective communication of what a mine will deliver at the local, regional and national level in order that the ‘Social License to Operate’ can be maintained throughout the life of the mine and beyond (paragraph 35).
49. The Government plays a leading role in shaping much of these governance frameworks through participation in initiatives such as the Voluntary Principles on Security and Human Rights in the Extractive Industries; and the Extractives Industries Transparency Initiative, which apply to mines in the Arctic as elsewhere.
50. UK companies demonstrate this commitment to international standards through initiatives such as The Equator Principles: a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk. Several UK headquartered institutions that provide finance for global mining projects have adopted this framework.
51. UK Trade and Investment, in partnership with the UK’s mining industry, has developed UK mining capability messaging which highlights the importance of good corporate governance and the potential for mining developments to deliver long term and sustainable economic growth. This includes an emphasis on knowledge and skills transfer. This messaging provides the context in which UK Trade and Investment and client companies engage with the global industry.
52. UK Trade and Investment will deploy this messaging to support the UK’s mining “offer” to international customers in the Arctic. **UK Trade and Investment will work with UK companies and local agencies to facilitate compliance with local content requirements, encouraging the highest standards from British companies operating in the Arctic.** These standards are not just a “nice to have” but provide a key UK unique selling point and a clear demonstration of the UK’s commitment to sustainable development both in the Arctic and elsewhere. UK Trade and Investment will highlight and promote this commitment and encourage those UK companies it works with to do likewise.

Increasing maritime access

53. The Polar Code adds additional requirements to those already applicable to ships under relevant International Maritime Organization (IMO) conventions to help address the specific challenges ships face when trading in the harsh conditions of the two poles. The specific environmental provisions address operational discharges, to supplement the requirements already contained within the International Convention for the Prevention of Pollution from Ships (MARPOL). The Polar Code aims to replicate many of the provisions currently applicable in the Antarctic area, where relevant, in the Arctic area.
54. In the development of the Polar Code, the IMO concentrated its efforts on strengthening the environmental provisions as contained within MARPOL, with which shipping already has to comply worldwide, including Arctic Waters (paragraph 36). Wider environmental protection issues and any associated measures, such as those relating to Black Carbon and the use and carriage of Heavy Fuel Oil, will require further investigation, research and subsequent policy decision by the IMO before work can start on defining specific policies for Arctic waters.
55. The additional issue of ship's ballast water will be addressed through the International Convention for the Control and Management of Ships' Ballast Water and Sediments (the Ballast Water Management Convention - BWMC) which is nearing entry into force. This will control the treatment of ship's ballast water before discharge and will apply worldwide, including the Arctic, to all ships undertaking international voyages.
56. As experience of operations in Arctic waters is gained, the requirement for additional provisions can and will be assessed. Any necessary related developments can then be introduced into any relevant IMO mandatory instruments, such as SOLAS, MARPOL, the BWMC (after its entry into force) and the Polar Code itself, as appropriate. The UK will continue to play a prominent part in any future assessment and associated developments of IMO instruments.
57. The Polar Code is due to enter into force on 1 January 2017. As with all instruments of the International Maritime Organization, the UK will expect, as a Flag State, all relevant UK vessels to comply with the Code in order to gain the necessary certification to operate in Arctic Waters. Additionally, where the UK acts as a Port State, inspection of vessels intending to operate in Arctic waters will include inspection of the ship, UK or foreign flag, to ensure compliance with the Polar Code (paragraph 37).
58. It should be noted that it is not expected that the UK will have many ships falling under the remit of the Polar Code, nor foreign flagged ships visiting the UK which will then proceed to Arctic Waters, though this will be subject to continual monitoring as experience with the Polar Code is gained after its entry into force. It is considered that the onus will fall primarily to the Arctic States and the Government stands ready to assist as requested.
59. The consideration of search and rescue in the Arctic region was in the forefront of the development of the Polar Code. It is acknowledged that, although the Arctic Council States have increased resources and developed a binding search and rescue agreement, search and rescue resources in Arctic waters remain scarce. The

Government will monitor developments and assist as appropriate in the further development of plans for search and rescue in the region (paragraph 38).

60. Search and rescue is covered by the International Convention on Maritime Search and Rescue, 1979, as amended, and an agreed set of processes to be followed by all search and rescue authorities. As such, the responsibility for search and rescue in Arctic waters rests squarely with the Arctic States and the Government is clear that the Arctic States should lead the development of any comprehensive strategy towards search and rescue in the Arctic. The Government welcomes the steps that the Arctic States are already taking on search and rescue in the Arctic, including regular exercises that continue to be conducted following their 2011 search and rescue agreement.
61. The United Kingdom has already been involved in many aspects of discussions regarding these developments in several existing search and rescue fora and will continue to be so and will assist as necessary and requested by the Arctic States (paragraph 39). Interest has been shown by Iceland in a cooperative venture regarding Search and Rescue resources and services and the UK took part in discussion on this issue in May 2015.

Fishing in the Arctic

62. The Government understands that the US, Russia, Denmark, Norway and Canada have been discussing a framework to agree not to authorise their fishing vessels to operate in the high seas area of the Arctic, until one or more formal fisheries agreements are in place. This agreement would also apparently include commitments to undertake joint scientific research. **The Government will encourage those Arctic States to engage in early and open consultations with all parties with an interest on these proposals, including the EU** (paragraph 41).
63. The UK, and other EU Member States, consider that the best way to deliver universally accepted marine protected areas in areas beyond national jurisdiction would be through a new Implementing Agreement under the UN Convention on the Law of the Sea. In June 2015 the United Nations General Assembly agreed to develop a legally binding international instrument on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, which, amongst other issues, will consider an appropriate regime for marine protected areas in areas beyond national jurisdiction. A preparatory committee is to be established and will not report until 2017 and therefore the Government sees continuing merit in using other mechanisms to provide marine protection, where there is a scientific basis to do so. **The Government will therefore consider carefully, in tandem with other parties, all such proposals for the Arctic Ocean**, including an existing proposal being discussed within OSPAR.
64. The Government's overriding guiding principle towards the management of any new fisheries, including in the Arctic, will continue to be the precautionary and ecosystem approaches based on best available scientific information (paragraph 42).

6. The UK and the Arctic

Stepping up the UK's engagement

65. The Government is absolutely clear that overall leadership for Arctic stewardship rests primarily with the eight Arctic States and the people within those States. They are primarily responsible for ensuring a peaceful and sustainable future for the Arctic.
66. However, the Government entirely agrees with the Committee that the breadth of the UK's interests in the Arctic demonstrates its importance to the UK (paragraph 47) and that the UK must be fully engaged with the region (paragraph 44). The UK is the nearest neighbour to the Arctic and has been engaged in Arctic issues for hundreds of years. The UK has been a full and active Observer to the Arctic Council since its establishment in 1996.
67. The Government has been clear in articulating the UK's Arctic interests and published the *Arctic Policy Framework: Adapting To Change* to specifically communicate those interests to international and domestic audiences. The UK was one of the first non-Arctic States to produce such a comprehensive policy document towards the Arctic.
68. The Government believes the policy approach that it outlined in *Adapting To Change* was and remains the right one. It is based on respect; cooperation; and leadership where appropriate. It is an approach that reflects that we are not an Arctic State and that we respect the rights of those States in the stewardship of the region.
69. However, given the rate and extent of the changes being seen in the Arctic, the Government is clear that its policy towards the Arctic will be kept under review to ensure it remains current. And while the Government believes the approach it has adopted so far is the right one, it agrees with the Committee that more can be done to ensure the UK continues to take a leading role in Arctic issues that affect it (paragraph 46). The Government is therefore grateful to the Committee for its constructive suggestions on how to do this.

Science and technology

70. **NERC is considering a potential new Strategic Research Programme on 'The Changing Arctic Ocean** – implications for marine biology and biogeochemistry'. A decision on whether or not to go ahead with a new Strategic Research Programme on this issue is expected shortly (paragraph 50). This would follow the current five-year Arctic Research Programme and represent a substantial and long-term scientific commitment to building our understanding of the changes in the Arctic and their impacts.
71. Additionally, NERC is currently commissioning a new state-of-the-art polar research ship that will enable UK polar scientists to remain at the forefront of environmental research in both the Antarctic and the Arctic. The new vessel will be an ice-capable, multi-role polar research and logistics ship, designed to undertake leading edge multi-disciplinary science in both Polar Regions.
72. The UK's Met Office makes Arctic weather and climate forecasts on a range of timescales, including short range forecasts up to fifteen days, seasonal projections of the September minimum sea ice extent, and climate change projections out to the end of the

century. The Met Office develops observationally-based analyses of changes in sea surface temperature and sea ice extent over recent decades, to support both short term forecasting and climate change studies. The Met Office's global atmosphere - sea ice - ocean modelling system is then used to make forecasts and climate projections. The models are also used to understand the drivers of Arctic climate change such as: the recent decline in sea ice cover, and associated links to European climate; the Greenland ice sheet and the impact on sea level; and carbon release from melting permafrost. The models undergo regular updates to enhance Arctic physical processes, driven from an evaluation of the performance of the modelled Arctic climate against a range of satellite and in situ observational datasets. Much of this work is carried out as part of the Met Office Hadley Centre Climate programme, funded by the Department of Energy and Climate Change and the Department for the Environment, Food and Rural Affairs.

73. The Government Chief Scientific Adviser takes a keen interest in polar research issues, liaising with the Foreign and Commonwealth Office; the Science and Innovation Network; and the Natural Environment Research Council on polar science. He will be visiting the Arctic at the end of July 2015, to discuss climate change and Arctic research (paragraph 50). He is also due to visit the Antarctic in January 2016.
74. While the UK has great depth and breadth in its polar research, there is awareness that the quality and impact of the science could be enhanced still further if it were better coordinated strategically. To that end, some of the UK's leading polar research institutions have formed the UK Arctic and Antarctic Partnership to provide the sustained, strategic leadership in polar science. The UK Arctic and Antarctic Partnership aims to: develop a coherent science strategy in the Polar Regions; facilitate new funding opportunities; support and promote the efficient use of polar logistics; increase the visibility of UK polar science on the international stage; and improve the impact of UK polar science by developing strong partnerships with a variety of stakeholders.
75. **The Head of the UK's Arctic Office, under the guidance of the Director of the British Antarctic Survey, will champion UK science and work to assist coordination to ensure more effective cross-disciplinary involvement in the Arctic.**
76. **The UK's Arctic Office will fund UK experts' participation with Arctic Council bodies, in line with UK scientific and strategic priorities** and subject to available resources.

Diplomacy

77. The UK's lead for Arctic engagement is the FCO Minister for the Polar Regions. The Government does not believe that the appointment of a single UK Ambassador for the Arctic, as suggested by the Committee (paragraph 51), would add significant value to the existing structures and roles currently in place, including the FCO coordinated cross-Government network, and close cooperation with the British Antarctic Survey; the UK's Arctic Office; and UK Trade and Investment. The additional costs of such a role are also not justified in the tight economic climate. However, the Government accepts that the UK could adopt a more strategic approach to the Arctic, with improved coordination between Government policy officials, scientists and industry, to better promote and represent UK Arctic interests (paragraph 48).

78. To achieve this, **the Government will adopt a more strategic approach to engaging with the Arctic Council.** This would include: the development of an agreed, cross-Government strategy for engaging with the Arctic Council that matches the priorities of each Chairmanship. **The Government will update Parliament and the Arctic Council on progress, as appropriate** (paragraph 60).
79. **The Government will also review the Arctic Policy Framework: Adapting To Change** (paragraph 57) and **will continue to keep the Framework under review** (paragraph 58).
80. The Government welcomes the active involvement of Parliament in the Arctic debate. The Government wants to continue to foster links with the All Party Parliamentary Group for the Polar Regions and encourages interested Parliamentarians to regularly attend the Conference of Parliamentarians of the Arctic Region as observers (paragraph 54).
81. The Government has long been committed to showing leadership on Arctic matters that directly affect UK interests, while being respectful of the overall leadership role that the Arctic States play in Arctic stewardship. **The Government will therefore host an international policy event at Wilton Park within 12 months of this response.** The Government will work closely with the Arctic Council Member States and Permanent Participants to ensure it complements rather than supplants the work of the Arctic Council.
82. Bilateral relations continue to form an important plank of the UK's approach to the Arctic. The UK has excellent relationships with Arctic States and non-Arctic States with substantial interests in the Arctic and already has Memoranda of Understanding on polar research with Norway and Canada. **The Government will explore options for agreeing similar Memoranda of Understanding with other Arctic States and non-Arctic States with Arctic interests.**
83. A recent visit by the Singaporean Ambassador to the UK to the British Antarctic Survey included specific discussion about the potential for access by the Singaporean science community to UK polar facilities. In 2014/15 and 2015/16 access to the UK Arctic Research Station at Ny-Ålesund has been granted to Austrian science programmes, and UK scientists have in recent years, similarly, been granted access to Polish research facilities on Svalbard. The sharing of Arctic research facilities has also been significantly improved in recent years through the EU-funded programme INTERACT. **The British Antarctic Survey will consider opportunities for developing Memoranda of Understanding with partner countries for use of the UK's Arctic Station on Svalbard,** mirroring the approach taken in Antarctica.

Security

84. The UK has forces trained and equipped to operate in a cold weather environment, including the Arctic. Royal Marines, Army Commandos and other members of 3 Commando Brigade and its associated enabling units have a long-established expertise in cold weather warfare and regularly conduct training and exercises in Norway, including inside the Arctic Circle, alongside Norwegian and other NATO colleagues.

85. As part of the Lead Element of the UK's Joint Expeditionary Force, current policy requires the Navy to generate a Lead Commando Group at readiness. A company group of this Lead Commando Group maintains a specialist cold weather capability. More generally, the Lead Commando Group is mandated to be able to deploy and support operations from the sea in a cold weather environment such as the Arctic. The Royal Navy has the capability to project force, dependent on the location, season and threat. The Royal Navy has one purpose-built surface vessel capable of operating in the high north in ice conditions up to 0.5m thick. The survey vessel HMS PROTECTOR currently conducts annual deployments to the Antarctic and could in principle operate in high Arctic waters if required.
86. The Royal Air Force has the ability to conduct surveillance and project force within the Arctic, dependant on the task, location, season and threat. Whilst the use of Air to Air Refuelling for long range basing is always an option, if required within NATO planning Royal Air Force assets could forward deploy to suitable locations if permission was granted (paragraph 62).
87. Whilst the UK's Maritime Patrol Aircraft was cancelled as part of the 2010 Strategic Defence and Security Review due to significant programme delays and cost overruns, coverage is provided either through alternative assets or via our NATO allies. In the Arctic case, and depending on the scenario, Defence might be able to utilise other Royal Navy and Royal Air Force assets, such as C-130 or SENTRY aircraft, to assist with search and rescue activities. Defence continually reviews capability requirements across the full equipment spectrum. As such, **the Government will consider Maritime Patrol Aircraft as part of the 2015 Strategic Defence and Security Review research process.** (paragraph 63).

Other state-led contributions

88. The Government understands the important role that the education sector plays in educating their populations about the Arctic and its importance at local, regional and global levels (paragraph 64). In September 2014, a new National Curriculum was introduced to England requiring all schools to teach the Polar Regions to 5 to 14 year olds as part of their geography lessons. To help support this, **the Government, in conjunction with the Royal Geographical Society and the British Antarctic Survey, will upgrade the award winning www.discoveringthearctic.org.uk educational website**, including ensuring compatibility with the latest mobile technology.
89. **The Government will seek opportunities to work with partners across the education and cultural sectors, including our world class museums, to help build links and foster partnerships with their counterparts across the Arctic** (paragraph 65).
90. The Government values the prominent role that the UK Hydrographic Office (UKHO) plays in the Arctic region. The UKHO has a complete portfolio of charts and publications covering the Arctic region from Norway, including Svalbard, to the Bering Strait and USA and Canada. The UKHO's modern metric chart coverage incorporates the latest hydrographic information available and links the Barents and Kara Seas with a series of metric charts covering the north coasts of Norway and western Russia. **The**

Government will support the UKHO in building links with Arctic partners, and specifically will lobby the members of the Arctic Regional Hydrographic Commission to grant the UK observer status (paragraph 66).

- 91. The Government will write to the Chairman of the House of Lords Liaison Committee to update the House on developments outlined in this response within 18 months of its publication (paragraph 59).**

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