Following a hearing with the Minister for the Polar Regions and the Minister for the Environment, you have asked for the below questions to be addressed. We are responding as the responsible Ministers.

1. **What research has the UK conducted on the impact of climate change on Arctic indigenous peoples?**

   The Arts and Humanities Research Council (AHRC) has invested about £1m on research directly related to the Arctic region since 2013. The “Building resilience amongst the Yup’ik of Western Alaska in the face of changing climate and environments” project, led by the University of Aberdeen, has worked with indigenous communities in Western Alaska to explore questions of cultural resilience and how communities might cope when their dependency and social connection to their lands is threatened. The project recovered some of the largest archaeological remains ever recovered from Alaska and as a direct consequence, the US Administration for Native Americans (ANA) has dedicated a $1m grant program for tribes in Alaska to address threats to archaeological sites that occur because of climate change.

   The Economic and Social Research Council (ESRC) funding is limited in this area, but research has examined the topic of the changing Arctic, specifically through the Centre for Climate Change Economics and Policy which has looked at ice levels at the poles and how these affect people and the environment with particular consideration on sea level implications. Specific Arctic-focused grants include looking at impacts of climate change on the vulnerability of Inuit Arctic food systems.

   Whilst the UK does not have a separate strategic research programme on the impact of climate change on Arctic indigenous people, there are already important connections between research that has a natural environment focus and the wider social and economic connections across many existing programmes and projects. Understanding the changes to the natural environment in the Arctic is intrinsically connected to understanding the impact of those changes on the indigenous and local people who live there. In addition, the UK-Canada Arctic Bursaries Programme 2017 and 2018, funded by BEIS and administered by the Natural Environment Research Council (NERC) Arctic Office, has supported a wide range of research projects by UK-based scientists to work with their Canadian counterparts on such connections. This research has included looking at the changes to the local environment caused by climate change, such as permafrost slopes, vegetation, river cliffs, soil erosion, commercial fisheries, wildfires and seal health. All of these areas have a range of direct and indirect connections with indigenous and local communities.

2. **Are there any plans to expand the Arctic Office to become a broader, more interdisciplinary UKRI Arctic Office?**

   As the Arctic Office is funded by NERC, its main focus is on supporting UK-based natural environment researchers. However, we recognise that solutions to the
complex research problems of the Arctic will come through linking different disciplines. The Arctic Office is already increasingly developing connections with social sciences, engineering, arts and humanities and beyond. These efforts are further supported by the formation of UK Research and Innovation (UKRI), which brings together the seven Research Councils, Innovate UK and Research England. NERC’s Arctic Office is also an ex-officio member of the UK Arctic and Antarctic Partnership, which is a body of around 30 senior polar researchers that aims to maximise connections and impact across both poles. This group is already addressing the issue of ensuring better connections between disciplines and how to make even more productive links.

3. Why does the UK fund more research infrastructure in Antarctica than the Arctic?

Our sovereign interests in Antarctica and the Arctic are fundamentally different. The UK maintains a territorial claim in Antarctica, we protect our sovereign interest through active participation in the Antarctic Treaty System that covers all Antarctic issues, from environmental protection to tourism and fisheries management, to scientific access and cooperation. Whereas the UK does not have territory in the Arctic.

NERC has a separately allocated ‘Antarctic Logistics and Infrastructure’ (ALI) Partition and the 18/19 resource budget for this is £33.775m per year. This is a discrete funding line for Antarctic infrastructure and logistics from within the ring-fenced science budget to ensure a visible UK commitment to maintaining Antarctic science and presence. NERC has no equivalent funding line for Arctic infrastructure. NERC is not free to move the ALI budget to Arctic purposes.

That said while there is a large difference in funding support for infrastructure and logistics between Arctic and Antarctic, NERC research and training funding between the two areas is actually quite evenly split:

**Competitively awarded grants with Arctic and/or Antarctic relevance**

<table>
<thead>
<tr>
<th></th>
<th>Expenditure £M / Financial Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arctic Total</td>
<td>8.3</td>
</tr>
<tr>
<td>Antarctic Total</td>
<td>6.9</td>
</tr>
<tr>
<td>Programmes happening in both</td>
<td>3.4</td>
</tr>
</tbody>
</table>

(Totals inc. Discovery science, Strategic Programmes, Fellowships, Doctoral training grants and Innovation)

There is no set ‘quota’ for the amount of grant/non-NC money that NERC invests in Arctic research or any other geographic region. NERC’s strategy identifies priority topics where research is most needed: benefitting from natural resources, building resilience to environmental hazards, and managing environmental change.
The process for deciding grant funding for Arctic is the same for all other areas of NERC funded science, based on Peer Review and Panels and awards are made based on scientific merit.

In 2016/17 and 2017/18, expenditure on grants in the Arctic and Antarctic awarded by other UKRI Research Councils was roughly equal and of the level of a few £100k. The key difference is in the Councils funding research in each area, with Arctic funding coming from AHRC, the Biotechnology and Biological Science Research Council (BBSRC) and the Science and Technology Facilities Council (STFC), and Antarctic funding from EPSRC, Innovate UK and STFC.

4. **NERC told us that it is working with BEIS to consider “almost any scenario” for Arctic research funding after leaving the EU. What are the contingency plans to protect the UK’s funding to ensure we remain a world leader in Arctic research?**

‘Beyond the Ice’ reaffirms our intention to remain a significant participant in Arctic affairs, despite the UK’s decision to leave the EU. Our relationship with most of the Arctic States is strong and multidimensional and our participation in the most significant multilateral organisations, treaties and conventions that govern the majority of the Arctic is not set to change. In some areas, the UK Government is already seeking to set out its future policies. The 25-year Environmental Plan, published in January 2018, articulated the UK Government’s commitment to the environment both at home and abroad.

Up to the point the UK leaves the EU, we will continue to play an active role in shaping its policy towards the Arctic. Recently, we negotiated the final version of the integrated EU policy towards the Arctic in which we successfully ensured the EU effort in the Arctic remained focused on areas where it can both add value and has strengths, such as research (through its large science and regional funding programmes), climate change and the environment. We welcome the focus on the European Arctic and look forward to the next stage in the development of the EU’s position on the Arctic.

It is too soon to comment on the implications of leaving the EU for the UK’s scientific research in the Arctic as much depends upon the negotiated terms of our future relationship with the EU. However, as outlined in the White Paper on the future relationship between the UK and the EU (published in July), we are committed to establishing a far-reaching science and innovation accord with the EU. As part of this accord, we are aiming for a more strategic approach towards continued collaboration to build on existing activity and develop new forms of cooperation.

As a responsible Government we are preparing for every eventuality, including the unlikely scenario of leaving the EU with “no deal”. We have therefore committed to underwrite Horizon 2020 funding, via the Underwrite Guarantee and the Post EU Exit Guarantee Extension, for all successful UK bids submitted before UK exit from the EU, even if they are notified of their success after exit. However, the UK Government intends on successfully concluding the Withdrawal Agreement, in which case the underwrite guarantee will not be needed.
5. **We heard that FCO, DEFRA and BEIS have highlighted 3 Sustainable Development Goals as key to the Arctic (on climate change, on ocean protection and on biodiversity). What work has the UK done to monitor the progress of the 3 SDG in the Arctic?**

The UK fully supports the 2030 Agenda for Sustainable Development and its historic global agreement to eradicate extreme poverty, protect the planet and ensure that all people enjoy peace and prosperity. We support the Arctic States efforts to ensure a sustainable future for the Arctic and to ensure that the people who live, trade and visit the Arctic can do so for generations to come.

NERC is leading on the ‘Towards a Sustainable Earth’ (TaSE) programme with ESRC, AHRC and institutions in Japan, India, China and Sweden. This is an initiative on the UN SDGs and its key aim is to develop a collective global agenda for scientific research and innovation in order to support integrated systematic implementation and fulfilment of the global goals. The first call under the TaSE initiative was launched in June 2018, with awards due to be made by the end of the calendar year and funding to start in early 2019.

More widely, UK-based researchers are heavily involved in discussions on sustainability and the Arctic – most recently at the Arctic Circle Assembly in Reykjavik in 2017, with UK speakers at a range of sessions addressing the SDGs and wider concepts of sustainability. In particular a UK-organised session was held in relation to low-carbon futures and clean energy and sustainability.

It is important to note the contribution that natural environment science makes to sustainability – the kinds of research that the UK invests in are the kinds of areas that we need to better understand if policy and decision-makers in the Arctic regions and beyond are going to make wise choices. Researchers are closely involved in the sustainability chain even if they aren’t actually social scientists.

6. **How is the UK’s endorsement of oil exploration in the Arctic compatible with the Paris Agreement?**

Under the Paris Agreement any emissions resulting from the extraction and use of hydrocarbons from the Arctic, as from anywhere else, will be included in the Nationally Determined Contributions of the countries concerned. The UK will continue to encourage all countries to set ambitious targets to reduce carbon emissions.

7. **How is the UK lending its expertise in renewable energy to the development of renewable energy capacity in Arctic communities?**

The Governments Science and Innovation Network (SIN) Nordics organised a breakout session at the Arctic Circle Assembly 2017 on ‘Sustainable Arctic Development in the Era of Low Carbon Transition’. The aim of this event was to foster a dialogue between Arctic and non-Arctic stakeholders to identify pathways to reduce the carbon footprint and wider environmental, economic, and health impacts of Arctic development, by exploiting low-
carbon innovation to produce clean energy and industrial decarbonisation, as well as adopting strategies around corporate environmental and social responsibility.

We hope this is helpful.

*September 2018*