

## CANADA

### Input on Area of Focus 3: Climate change

#### **A Warming Arctic**

While the bulk of greenhouse gases (GHGs) are emitted in the South, the Arctic Region is where the impacts of climate change are felt the most. In Canada, temperature increases are outpacing the global average and temperatures are rising even faster in the Arctic region and northern areas, leading to significant reductions in the extent of sea ice, loss of glaciers, accelerated permafrost thaw, and other ecosystem impacts. Furthermore, warming in the Arctic is amplified as highly reflective snow and ice surfaces are replaced by non-snow covered land and open water, which enhances absorption of solar radiation, and thawing permafrost may expose frozen reservoirs of organic matter potentially resulting in increased natural methane and carbon dioxide emissions, two deleterious greenhouse gases.

Warming in the Arctic is also increasingly believed to influence the global climate and has been linked to sea-level rise, Southeast Asian monsoons<sup>1</sup>. Melting Arctic ice is also a prime suspect for the weakening of the Gulf Stream that is being observed.

Increased marine access and a longer season for resource development, shipping, and tourism as a result of reduced ice cover and break-up may present an economic opportunity for the North; however, they also bring with them new risks of accidents, vessel hazards and spills under harsher conditions including floating ice, changing ice cover, and extreme weather. These factors put people and ecosystems at risk and place additional stress on limited search and rescue and disaster response capabilities, including passenger safety and oil spill clean-up.

Irreversible changes resulting from climate change are likely to also have significant social, cultural, economic, and mental health impacts on northern communities and Indigenous Peoples who have strong ties to land and place in Arctic and northern regions. The rapid loss of sea ice is having a profound impact on communities that rely on ice to access hunting grounds and traditional sites, as well as seasonal ice roads that provide access to food and supplies from the Canada's southern regions.

#### ***Taking action to Reduce Emissions of GHGs and Short-Lived Climate Pollutants***

In the Paris Agreement, the international community committed to take action to hold the increase in global temperatures to well below 2°C above pre-industrial levels and pursue efforts to limit this increase to 1.5 °C. Although clearly desirable, achieving this objective will not bring back the Arctic Region to its previously existing state. The Arctic ecosystems will continue to warm at a faster rate than the global average, though it is still possible to slow down the pace and magnitude of these changes by taking strong action now.

The Pan-Canadian Framework on Clean Growth and Climate Change is Canada's plan to reduce emissions across all sectors of the economy, stimulate clean economic growth, and build resilience to the impacts of climate change. It is built around four pillars: pricing carbon pollution; complementary actions to reduce emissions; adaptation and climate resilience; and clean technology innovations and

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<sup>1</sup> AMAP, 2017, *Snow, Water, Ice and Permafrost in the Arctic (SWIPA) 2017*

jobs. Several actions are targeted at reducing emissions in Canada's North. For example, the Government of Canada announced the creation of an Arctic Energy Fund of \$400 million over ten years (beginning in 2018-19) to address energy security in the Arctic that will include support for replacing old diesel generators with renewable and cleaner sources of energies. Further funds are also available to off-grid Indigenous and northern communities that rely on diesel and fossil fuels to implement renewable energy projects. Transitioning to cleaner energy sources will reduce black carbon emissions and achieve both health and climate benefits for communities.

Canada is also taking action to reduce the emissions of short-lived climate pollutants (SLCPs), including black carbon, which has a particularly strong effect in the Arctic due to its additional warming effect when deposited on snow or ice. Recent studies indicate that global action on CO<sub>2</sub> and SLCPs together is needed to achieve the goals set in the Paris Agreement. In 2017 Canada released its SLCP Strategy, which outlines a holistic approach to addressing SLCPs through five pillars of enhanced action, including domestic mitigation, science, international engagement, Government of Canada coordination, and collaboration with provinces and territories. In addition, in 2017, Canada committed, along with other Arctic Council states, the first aspirational, collective goal to cut black carbon emissions by 25 to 33 percent by 2025. Because SLCPs are potent greenhouse gases (GHGs) and air pollutants, reducing emissions not only supports climate change mitigation, but also supports positive outcomes for clean air and health, effectively contributing to SDG 3 (Good Health and Well-being) as well as SDG 13 (Climate Action) simultaneously.

Concrete actions under the SLCP Strategy and under the Pan-Canadian Framework on Clean Growth and Climate Change include regulations to reduce methane emissions in the oil and gas sector, and regulations to phase-down the use of hydrofluorocarbons.

### ***Building Resilience to Climate Change***

As Canada's northern and Arctic regions are disproportionately vulnerable to the impacts of climate change, ensuring the continued safety and well-being of Arctic and northern communities and Indigenous Peoples will require considerable effort and resources. Recognizing that enhancing resilience to climate change is a long-term challenge, adaptation and climate resilience is one of the four pillars of the Pan-Canadian Framework. Initiatives under this pillar include the launch of an Indigenous Community-Based Climate Monitoring program to support Indigenous Peoples in developing climate impact monitoring projects and initiatives, and the development of a Northern Adaptation Strategy which will identify priorities for action on climate change in the North and set the stage for a new collaborative approach to addressing adaptation throughout the North. Additional federal actions include programs that support climate change adaptation initiatives, such as the community-led Climate Change Preparedness in the North program, and Climate Change and Health Adaptation for Northern First Nations and Inuit Communities program, and the Northern Transportation Adaptation Initiative.

As part of the Government of Canada's efforts to build climate resilience in the North, a Canadian Centre for Climate Services (CCCS) is being established to provide access to reliable, useful and timely climate data, information and tools to support adaptation decision-making. Additionally, training, support, and user engagement will be provided to help ensure the uptake and consideration of climate data and

information in decision-making. The CCCS will foster a collaborative approach to climate services via partnerships with Canadian regional climate organizations to shape and deliver services across the country.

### **Finding common solutions to adapt to climate change**

Ministers could explore the possibility of sharing, compiling and making publicly available climate data, information and tools regarding climate change impacts in northern and Arctic regions, which could include supporting approaches like the CCCS. It is worth noting the Arctic Regional Climate Centre (ArcRCC) Network initiative of the World Meteorological Organization, through which Canada and the seven other Arctic Council Nations are establishing a pan-arctic view of the Arctic Climate by sharing climate information in a circumpolar approach and producing joint consensus statements on the coming summer and winter seasons, has started a demonstration phase. Access to shared information on the impacts of climate change in northern and Arctic regions, as well as providing tools and sharing adaptation experiences, could build the capacity of Arctic states to mitigate greenhouse gas emissions and adapt to climate change and could also contribute towards achieving SDG-13 (Climate Action) related targets (e.g. *Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning*).