Nunavut

Climate Change in Nunavut

There is broad scientific consensus on the reality of climate change. It is happening, and it has serious implications–for our health, our economy, and our future.

Human activities, including the heavy use of fossil fuels for heating, transportation and electricity, release greenhouse gases that are accumulating and causing global warming. Average global temperatures are rising–the 20th century was the warmest the world has seen in 1,000 years, and the 1980s and 1990s were the warmest decades on record. As a northern country, Canada will feel the impacts of climate change more than most countries.

Scientists predict that by the end of the 21st century, temperatures in the Arctic will be at least 5 degree Celsius warmer than they are today. Across Nunavut, we are already seeing changes in seasonal conditions, including warmer year-round temperatures, unpredictable weather, a shift in prevailing wind direction, less snow and rain, and changing snow and ice conditions. These changes are making it more dangerous and difficult to travel and to access resources.

In western Hudson Bay, ice break up is occurring two weeks earlier, on average, than it did 20 years ago. This shortens the time available for polar bears to fatten up on their main food source, ringed seals, before going on shore where they fast. As a result, adult bears have been getting lighter and females, who fast until weaning their cubs the next spring, have been having fewer cubs.

Projections for the future include rising sea levels, a reduction in the extent and thickness of sea ice, and more extreme weather events, all of which may increase erosion and flooding of coastal communities.

Life on the land

Melting of permafrost may cause the rupture and buckling of pipelines and storage tanks used for water and sewage. Roads, airstrips and buildings will also suffer from less stable ground, particularly in areas where the soil contains a lot of ice.

Computer models project that warmer temperatures could increase the number and types of plants available for plant-eating animals. However, the number of insects and parasites may also increase. This may lead to a decline in the number and health of large mammals like caribou and muskox.

Life at sea

With warmer temperatures, the Northwest Passage may be ice-free for up to 100 days each year, allowing ships to use it as an international trade route. While this may bring opportunities to the territory, there are also environmental and social issues to consider. For example, whale populations

may be affected by the increased noise, pollution and ship traffic, or vessels unsuitable for Arctic conditions may spill oil or other materials into the environment.

Most climate change computer models predict significant reductions of glaciers and sea ice. In fact, some models suggest that all summer ice cover in the north will disappear by 2100. This, with overall warmer conditions, may affect the range and number of several marine mammals. The changes may open up more areas of suitable habitat in the eastern Arctic, but reduce habitat in southern regions. Walruses and bearded, ringed, harp and hooded seals may lose the sea ice platforms they use for breeding, nursing pups, resting and molting.

Changing lives

Changes to the range, number and health of animals, fish and plant species will ultimately affect the lives of Nunavummiut who depend on them, leading to a change in hunting and harvesting practices, and a loss of traditional food. Adaptation has always been the way of life in the north, however, the rate at which changes are predicted to occur makes adaptation more challenging in the future.

Taking Action

Given the potentially serious and long-term nature of the risks associated with these impacts, the only prudent course is to take actions now to reduce the emissions that contribute to climate change. Analysis shows that the impact on Canadian jobs and economic growth associated with reducing greenhouse gas reductions can be kept modest and manageable relative to the strong growth expected over the next decade.

To give a sense of the possible order of magnitude of the impacts on industry, the estimated economic impact of implementing steps one and two in the Climate Change Plan for Canada to meet Canada's Kyoto commitments ranges from -0.4 percent to -1.6 percent of Canada's gross domestic product, dependent on various assumptions. This is a modest impact relative to the strong economic growth expected over this period. Analysis shows job growth of 1.08 to almost 1.26 million jobs by 2010, compared to just over 1.32 million in a business as usual scenario. That means a delay in job creation of about 62,000 jobs across Canada in the year 2010. By comparison, the Canadian economy is currently creating new jobs at a rate of about 46,000 per month.

Estimates indicate that with the implementation of actions to reduce greenhouse gas emissions, the provincial gross domestic product for Canada's northern territories in the year 2010 would grow to a level that would be about 0.04 percent less than in a business as usual scenario (combined average for the Northwest Territories, Yukon and Nunavut). Growth in new jobs would slow by approximately 0.1 percent. To put this into context, the economy in Canada's northern territories created approximately 240 jobs over the past year.

These economic forecasts do not reflect the significant environmental and health benefits to be gained by addressing climate change. Taking action will provide broader benefits including cleaner air, reduced health costs and other environmental and social benefits for Canadians.

The impact on personal disposable income by 2010 would be approximately 0.19 percent less than business as usual. Relative to what they would otherwise be, electricity prices could increase by about 0.17 cents/KWh. Gasoline prices are expected to remain at their business-as-usual level in 2010.

An illustrative example of production increases for major industrial emitters in the province as a result of measures to reduce greenhouse gases (national averages) is as follows:

- **electricity oil** would rise by 0.12 cents per KWH or 1.57 percent

Canada's approach to reducing greenhouse gas emissions is designed to minimize costs and maximize opportunities for Canadian technology. It envisions an economy that is based on cleaner sources of energy, using leading edge technologies. The Plan proposes strategic investments in innovative climate change proposals and the creation of a Partnership Fund that will cost-share well as municipalities, Aboriginal communities and the private sector.

By drawing on Canadian innovation, and by ensuring that different sectors of the economy, regions and consumers play a role in taking action on climate change, the impact is more manageable for all. Working together, Canada can position itself as a strong competitor as the world moves to a new, less carbon-intensive economy.

Northern Canadian companies are already showing leadership in meeting the challenges of climate change[1]:

- By taking an innovative approach to increasing energy efficiency and promoting community involvement, the Northwest Territories Power Corporation has reduced annual greenhouse gas emissions by 47 percent below its 1990 baseline.
- The Yukon Development Corporation, a government agency comprised of the Yukon Energy Corporation and the Energy Solutions Centre, is aggressively reducing diesel generation in the Territory, which currently represents 40 percent of electricity generation. The Corporation currently emits 65 percent fewer emissions than in 1990, due in part to reduced electrical load and in part to their comprehensive action plan with cost-effective alternative energy options.

[1] Examples are taken from the public record.

To find out more about what the Government of Canada is doing and what you can do,
please call 1 800 O-Canada (1 800 622-6232), TTY 1 800 465-7735
or visit www.climatechange.gc.ca
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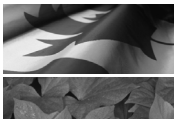

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