
Climate Change in Nunavut

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What we examined (see Focus of the audit)

Environment and Climate Change Canada's climate data indicates that between 1948 and 2016, average temperatures increased by up to 2.7 degrees Celsius in Nunavut and by 1.7 degrees Celsius in Canada as a whole. In Nunavut, these rises in temperature have caused changes to ice conditions, permafrost, and precipitation. The Government of Nunavut's Department of Environment has reported that this warming trend will likely continue.

This audit focused on whether selected Government of Nunavut organizations took measures to prepare for and adapt to the impacts of climate change on Nunavut and took measures to reduce greenhouse gas emissions in Nunavut.

Why we did this audit

This audit is important because climate change is affecting the daily life, traditional activities, and infrastructure in Nunavut. The government needs to know what it has to do to help the people of Nunavut adapt and make the territory resilient to the impacts of climate change. Increasing energy efficiency and using more renewable energy help reduce greenhouse gas emissions and the territory's dependence on fossil fuels.

What we concluded

We concluded that the Government of Nunavut had a strategy for adapting to climate change, which considered potential changes and impacts on current and future generations. The government also had an energy strategy, which included policy actions aimed at reducing greenhouse gas emissions. However, both strategies lacked plans that outlined how the strategies would be implemented and who would be responsible for what. The government had also not fully assessed the risks of climate change to Nunavut.

We also concluded that selected Government of Nunavut organizations had measures to safeguard government buildings from the impacts of climate change on permafrost, but these measures were not fully implemented. Selected government organizations took steps to make government assets more energy efficient. However, there were a number of barriers to implementing alternatives to fossil fuels, which would help reduce greenhouse gas emissions and the territory's reliance on fossil fuels.

What we found

Planning and preparing

Overall, we found that the Government of Nunavut was not adequately prepared to respond to climate change. Although it had strategies for adapting to climate change and managing the territory's energy use and greenhouse gas emissions, it did not have implementation plans that outlined how and when the objectives of the strategies would be met and who would be responsible for what. It also did not publicly report on its implementation of either strategy. We also found that the Government of Nunavut did not fully assess the risks of climate change to Nunavut.

These findings matter because implementation plans provide direction to departments so that they can respond in a coordinated manner to the risks and impacts of climate change. Public reporting informs Nunavummiut about the Government of Nunavut's progress in addressing climate change and keeps it accountable. Assessing the risks of climate change ensures that the government has the information it needs to direct its actions and resources to the most important areas.

- **The Government of Nunavut had strategies for adapting to climate change and managing its energy use but lacked plans to implement them**

Recommendation. The Department of Environment, in collaboration with other key departments, should develop an implementation plan for the Government of Nunavut’s climate change strategies that

- identifies priorities along with concrete actions, timelines, and costs;
- includes reduction targets for greenhouse gas emissions;
- clearly identifies roles and responsibilities, including who is responsible for overseeing the implementation of the plan and accountabilities for implementing actions; and
- requires monitoring and reporting on the plan’s progress.

The plan should consider actions taken to date and be informed by an assessment of climate change risks.

- **The Government of Nunavut did not fully assess the risks of climate change**

Recommendation. The Department of Environment’s Climate Change Secretariat, in collaboration with other Government of Nunavut organizations, should analyze and rank the risks of climate change to Nunavut on the basis of their potential impacts and how likely they are to occur. Results of this analysis should be used to inform future climate change priorities and actions

Taking action

Overall, we found that the Department of Community and Government Services and the Nunavut Housing Corporation had measures to help protect buildings from the impacts of climate change on permafrost, but these measures were not fully implemented. These organizations and the Qulliq Energy Corporation did take steps to improve the energy efficiency of government assets, including government buildings in Iqaluit, public housing units, and power plants. However, the use of renewable energy, such as solar and wind, was limited due in part to high capital costs.

These findings matter because infrastructure can be protected from the impacts of climate change. Designing buildings with the potential impacts of climate change on permafrost in mind and assessing existing buildings and other infrastructure for potential problems from changing permafrost can reduce the risk of damage and the need for costly repairs. A government that owns energy-efficient assets and uses renewable energy sources can help reduce the demand for and dependence on fossil fuels, and the emissions of greenhouse gases. This can also support the government’s vision of self-reliant Nunavummiut and of Qanuqtuurniq—the Inuit societal value of being innovative and resourceful.

- **The Department of Community and Government Services and the Nunavut Housing Corporation had measures to safeguard government buildings from the impacts of climate change on permafrost, but these measures were not fully implemented**

Recommendation. The Department of Community and Government Services and the Nunavut Housing Corporation should ensure that climate change projections are incorporated into geotechnical site investigations where required.

Recommendation. The Department of Community and Government Services should standardize its building assessment procedures and complete its building assessments according to its required schedule.

Recommendation. The Nunavut Housing Corporation should ensure that it completes its condition rating assessments according to its schedule.

Recommendation. The Department of Community and Government Services and the Nunavut Housing Corporation should develop best practices for managing snow and water to prevent permafrost degradation for their owned buildings and incorporate these practices into their operations

and maintenance procedures. Where applicable, the two organizations should involve municipal governments in the discussions on snow and water management.

- **Selected Government of Nunavut organizations took steps to improve the energy efficiency of some of their assets but faced barriers to reducing greenhouse gas emissions and Nunavut's dependence on fossil fuels**

Recommendation. The Qulliq Energy Corporation should establish priorities and targets for renewable energy (such as what share of its energy production it wants to come from renewable energy). Targets should have a baseline and timelines against which the Corporation can measure performance. Future reporting by the Corporation should include its progress on its priorities and performance against targets.

Recommendation. The Nunavut Housing Corporation should set targets for fuel and electricity savings. Future reporting should include how fuel and electricity use has changed over time and discuss how the Corporation performed against its targets.

Recommendation. The Nunavut Housing Corporation should take appropriate steps to ensure that heat recovery ventilators (HRVs) are maintained as required under its maintenance program.

Recommendation. The Department of Community and Government Services should ensure that its public reporting on the Nunavut Energy Management Program is up to date.

Entity Responses to Recommendations

The audited entities agree with our recommendations, and have responded (see List of Recommendations).

Related Information

Report of the	Auditor General of Canada
Type of product	Performance audit
Audited entities	<ul style="list-style-type: none">• Department of Environment's Climate Change Secretariat• Department of Community and Government Services• Nunavut Housing Corporation• Qulliq Energy Corporation
Completion date	22 January 2018
Tabling date	13 March 2018
Related audits	<ul style="list-style-type: none">• Reports to Nunavut Legislative Assembly

For more information

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