

# FOSTERING RESILIENCE AND ADAPTING TO CLIMATE CHANGE IN THE CANADIAN NORTH — IMPLICATIONS FOR INFRASTRUCTURE IN THE PROPOSED CANADIAN NORTHERN CORRIDOR

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## KEY MESSAGES

The key findings and recommendations of this review are:

- **Resilience of northern infrastructure is dependent on adaptation being done in an equitable way.** This means balancing environmental risk reduction through infrastructure measures and vulnerability reduction through socioeconomic stressor support.
- **Northern Canada is warming at double the global rate, which is already causing significant challenges for northern infrastructure.** The feasibility of expanding northern infrastructure is drastically reduced without capitalizing on the ability of adaptation and resilience planning to mitigate increased risks due to climate change.
- **Northern Canadian communities are considerably vulnerable to climate change.** Physical vulnerability due to remoteness, amplified warming and ecological fragility is compounded by systemic socioeconomic stressors, economic vulnerability and overwhelming adaptation and maintenance costs.
- **Climate change adaptation is projected to be exceedingly costly and increasingly necessary.** There is an urgent need to prepare communities for the worst, without putting them at an economic disadvantage or hindering their ability to function and thrive.
- **Misconceptions about the opportunities climate change will bring to northern Canada hinder effective adaptation.** Underestimating the severity and complexity of climate change and its effects can have unintended consequences, and therefore, the potential to drastically reduce the feasibility of expanding northern infrastructure.

- **Hard infrastructure adaptation measures are capital intensive, costly to maintain and carry a high risk of failure.** The costs and effectiveness of adaptation measures have limits in the face of unrestricted climate change and are constrained by sociopolitical factors that define a community's capacity to adapt.
- **Effective adaptation is integral to the sustainability of any proposed northern expansion.** Smart adaptation measures focused on reducing vulnerability through a place-based approach can be identified through public consultation and fostered through the respectful integration of non-Western knowledge systems. Intergovernmental co-operation is critical to facilitate implementation of low-risk, high-benefit policy.