TELUS Communications Inc.

Brief to the Standing Committee on Transport, Infrastructure and Communities (TRAN)
in support of their study on:
Adapting Infrastructure to Face Climate Change

June 2023

Introduction

The increase in the frequency and intensity of extreme weather incidents poses serious challenges to our telecommunications infrastructure. These weather events, including atmospheric rivers, floods, wildfires, and ice storms, have the potential to damage telecom equipment like cell towers, data centers, and fiber optic cables. This damage can be compounded by simultaneous disruptions to power supplies and transportation networks needed to service damaged infrastructure.

During the pandemic when the movement of people was restricted by public health measures, our reliance on telecommunication networks was laid bare. Overnight, visits to the doctor, the delivery of groceries, and even the continued functioning of Parliament relied on the resilience of our telecommunications networks.

First responders increasingly rely on high-bandwidth telecom networks to do their job. The ability to coordinate complex search and rescue efforts depends on sophisticated information technology that allows them to coordinate their personnel in the field and precisely identify and locate individuals who require rescue.

Building multiple diverse networks across Canada can mitigate some of the risks resulting from climate change. Below, we lay out some considerations for making Canada's telecom infrastructure more climate resilient.

Recommendation 1 – Incentivize the construction and operation of multiple, redundant, and diverse networks to avoid single points failure

Telecommunications infrastructure is both uniquely exposed to the impacts of extreme weather events and is simultaneously critical for public safety and emergency response.

One of the most important components to ensuring that our phones continue to work during an emergency situation is eliminating single points of failure, where a failure in one part of the system stops the entire system from working.

Telecommunications networks prevent single points of failure *within* our systems by building redundancy. For example, during power outages, we have secondary power sources like batteries or generators at our wireless towers to ensure the towers remain functional and people stay connected.

However, no network is wholly immune to outages. Powerful wind and ice storms can bend towers; flooding and fire can destroy cables. The best way to ensure connectivity during severe weather events is to have multiple networks present.

This season's wildfires in Alberta are the perfect example of how multiple networks support Canadians during these crisis situations. TELUS' wireless sites in the Brazeau Dam Area of Alberta were damaged by the fire, and current conditions do not permit technicians to get in to conduct the necessary repairs. As there are also competitor wireless sites in the area that were not damaged by the fire, critical 911 services for all residents and first responders in the area remain online. If TELUS was the only network in the area, connectivity would have been cut off.

As we see more frequent severe weather events, Canadians need multiple networks, using multiple technologies, present across the country. We recommend that the government support network builders so that they can prevent single points of failure.

In particular, this means supporting policies that encourage investing in new or improved network technology, like the UBF fund, and avoiding policies that disincentivize investment, like mandating the wholesale of fiber networks.

TELUS strongly recommends that this committee encourage the government to pursue policies that prevent single points of failure in telecommunications networks.

Recommendation 2 – Adopt a digital climate policy framework

As TELUS works to ensure the resilience and reliability of Canadian infrastructure in the face of increasing climate-change related weather events, we have a shared responsibility to achieve our 2030 and 2050 emissions targets.

To that end, the Government of Canada should leverage a climate lens on digital policies to ensure that the connectivity and uptake of emissions reducing technologies is maximized.

Multiple studies[1] have found that the impact of these kinds of policies could be a reduction in domestic GHG emissions by approximately 20%.

Key measures should include: maximizing spectrum deployment and network building especially in rural communities; supporting investments in key technologies by businesses of all sizes; digitizing government services; supporting open-source tools and solutions that reduce emissions; and convening a Federal, Provincial and Territorial meeting to build alignment towards a cohesive digital climate policy framework.

Who we are

TELUS is a dynamic, world-leading communications technology company with 17 million customer connections spanning wireless, data, IP, voice, television, entertainment, video, and security. Our social purpose is to leverage our global-leading technology and compassion to drive social change and enable remarkable human outcomes, and we are doing that through our innovative businesses TELUS Health, TELUS Agriculture and Consumer Goods, and TELUS International.

[1] The Dais @ TMU (2023). Clean Connection: How Digitization Can Support Canada's Path to Net-Zero https://dais.ca/reports/clean-connection-how-digitization-can-support-canadas-path-to-net-zero/

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