

Steering Committee Readings

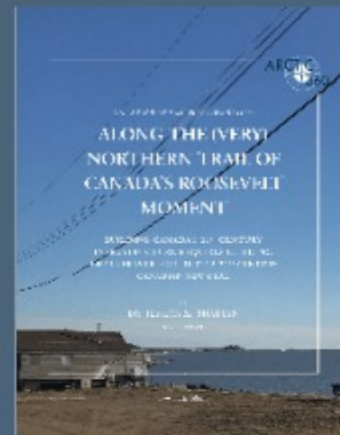
Arctic360 Resources

Listen to Arctic360's podcast series!

"There are many competing voices and interests in the Arctic landscape. All have been impacted differently by the fallout of COVID-19, and all face an uncertain future. One thing remains consistent: the infrastructure deficit in Canada's North has long created serious challenges to the health, prosperity, security, and sustainability of communities."



<https://www.arctic360.org/uncharted>



Task Force for Real Jobs, Real Recovery



realrecovery.ca

Securing Canada's Economic Future

Media contacts and resources on the Task Force for Real Jobs, Real Recovery.



Download the summary or full report

<https://realrecovery.ca/media#50a2b0a9-10f7-4945-a80c-e6673e728b52>

From Our Steering Committee Members



<https://www.globalinfrastructureinitiative.com/articles/00-sabia-future-investment-canada-infrastructure>



<https://arcticyearbook.com/arctic-yearbook/2015-2015-announcements/43-the-alaska-arctic-policy-commission-legislative-arctic-committees-and-governor-walker-s-arctic-policy-effort>

Comments & Discussion





Building Canada's Arctic Infrastructure for a Thriving Canada 2040

*A Roadmap for Northern Infrastructure Starts
With a Collective Vision of Canada's North in 2040*



Agenda & Objective

To seek Committee alignment on project framework, discuss project next steps, and discussion of Arctic360

10 min	Arrival & Introductions
10 min	Setting the Stage
10 min	The Interactive Map Concept
15 min	Discussion: Project Aims and Map
45 min	Discussion: Project Moving Forward
10 min	Discussion: List of participants
5 min	Media Engagement
5 min	Close & Next Steps



Session Participants

MEMBERS OF STEERING COMMITTEE

- **Derron Bain**, Managing Director, Concert Infrastructure
- **Jim Bassillie**, Co-Founder, Arctic Focus
- **Dale Coffin**, Corporate Director, Communications and Public Affairs, Agnico Eagle
- **Clint Davis**, CEO, Nunasi Corporation
- **John English**, Co-Chair of Board, Arctic360
- **Peter Garapick**, Director, Industry Relations, Quark Expeditions
- **Paul Gruner**, CEO, Det'on Cho Corporation, NWT
- **Tom Henheffer**, Vice President, Arctic Research Foundation
- **Bob McLeod**, former Premier NWT
- **Tom Paddon**, Chair Baffinland Iron Mines
- **Peter Prawak**, Corporate Director, Procurement, Agnico Eagle

SESSION HOSTS

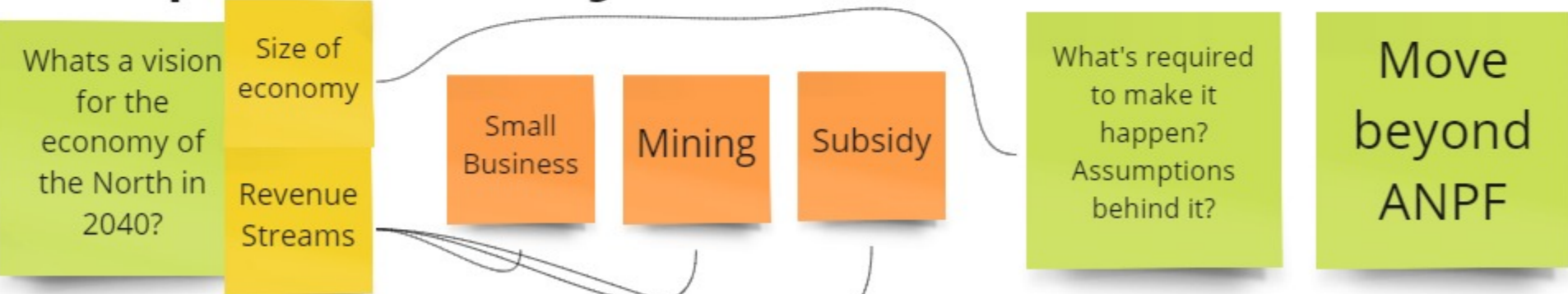
- **Jessica Shadian**, President and CEO, Arctic360
- **Madeleine Redfern**, Executive Director, Northern Branch, Arctic360

SESSION MODERATOR

- **Dan Pujdak**

Session 2: Envisioning Canada's Northern Economy in 2040:

Convene Northern Industry Leaders and map out potential state of the Northern economy and the economic contributions each sector can potentially deliver for the North and the whole of Canada.



Session 3: Mapping Out Northern Transportation

Enabling Infrastructure for 2040: Use information from previous section to convene Transportation, IT infrastructure, engineering and related Tech companies. Begin to map out the requisite transportation infrastructure for North, Northern economy and that links Canadian North to national and global trade and supply chains.

Session 4: Public-Private partnership mechanisms to finance Northern

infrastructure: Use information from previous sessions participants focus on what requirements capital investors need satisfied to be able to make long-term greenfield investments in critical transportation infrastructure for the Canadian North; answering what steps are required and what can be done now to help facilitate that process.

How do we talk about / capture constraints?



Steering Committee Discussion

What key outcomes should the map achieve?

What would make this project successful?

What would make this project impactful?

How could this project help you enable outcomes?

Who are we missing?

Comments & Discussion

Community First Engagement - reflecting what communities want	Long-term utility of outcomes	Ability to access funds & changing the mindset for how funding structures contribute/align to northern outcomes	Understanding the direction of federal policy/funding	Focused vision and plan for the Arctic	Positioning Canada's North as a central global link in aviation and marine transport	Icebreakers, ports, airports, science centres, immigration, infrastructure	To what degree does the economic contribution to a region matter? What about own-source revenue?	Need more northerners involved	Difficult for people to process the economic choices, revenue mixes, wealth generation questions
To what extent do we think it's important to have an economy that is controlled by the North but that comes with costs. What's the balance? What's the consensus?	Infrastructure needs	What infrastructure do we need for transport? Tourism? What does the community want?	What's in service to the north?	Requisite variety of perspectives across communities, industries, etc...	Wholistic approach	Accounting for value propositions across activities; e.g., socio-economic, job creation, sustainability of communities, etc...	Need to look at geopolitics of arctic	Special economic zones?	Global trends, climate change
Coast guard in Arctic	More people come to the north to see conditions, climate change realities, etc.	Rotational civil service	Increase Canada's presence in the Arctic	University	Airports	New energies			





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Steering Committee Discussion

- What do we need to achieve success?
- How can we all enable this project to move forward?
- Where can we find funding?
- How do we communicate the value of this project?
- When and how do we launch?

Based on our propositions....



Comments & Discussion

Who do we need based on the visions that we're pursuing	What are constraints?	How will we handle constraints?	The headaches felt by investors... are we speaking to it?	Canada is confusing - very heterogenous - how are we helping to ease friction?	What's the financial ask?	Nothing less than 50k to kick off	There's a range of scope depending on resourcing	Ideal 100k for kick off	Who is not part of this conversation that should be?
Who is not part of this project based on scope, audience, intent, etc...?	Sectoral divisions	Tromso as the Paris of the North - educational institutes help	Opportunity now: feds looking at \$B of infrastructure investment	Green questions are fundamentally the future	Reasonable cost for this project	Would be helpful to have first-in private funding to leverage government funds	How to make it easy for a Minister to grab on to it as an opportunity	Need something more than a map - it needs to be about an opportunity and a vision	What is the opportunity that we're selling?
People are interested in supporting	People on this call are open to helping on pitch materials	Is scope big projects? Small projects? Community local/region wide?							

Who are we missing?



Session 1 Participants

Economic Sector

- Project Steering Committee
- Curtis Shaw, CEO, Northwest Tel
- David Willis, Environmental & Community Coordinator, De Beers Canada Inc.
- Clarke Bruno, CEO, Anbaric
- Spencer Fraser, Inoceca Group of Companies
- Duane Smith, Chair, Inuvialuit Regional Corporation (IRC)
- Jackie Jacobson, MLA, Tuktoyuktuk, Science Economy (International Researchers)
- ATII (Let's go) Tourism
- Tom Hoefler, Executive Director, NWT and Nunavut Chamber of Mines
- Madeleine Redfern, AjungiTel/Nuvujaq/ArcticIXP
- Robin Goad, Fortune Minerals
- Qikiqtaaluk Corporation
- Kitikmeot Corporation
- Makivik Corporation
- Nunatsiavut Group of Companies, Chris Webb, President and CEO
- Dana Tizya-Tramm, Chief, Vuntut Gwich'in First Nation
- Yukon First Nations Chamber of commerce

Session 2 Participants

Infrastructure Projects & Firms

Steering Committee

Port/Rail Churchill: Joe Coccimiglio, Fairfax Financial (Churchill)

Kivalliq Project: Hussein Allidina, Director, Commodities within the Capital Markets, Ontario

Teachers' Pension Plan

Grays Bay Port and Road

Slave Geological Province

A2A Rail

Nuna Logistics, Joe Lambert, Chief Executive Officer OR Miles Safranovich, President & Chief Operating Officer

Barnard Construction

Amp

Miovision

AECON

Don Ellis

Jacobs Engineering

Honeywell

TRON

Gruben's Transport Ltd., Merven Gruben, Vice President & Co-Owner E.

ClimateAI

CISCO

What about What
about Northern
Design Architects
and
Engineers? Design
Architects and
Engineers?

Session 3 Participants

Financial Institutions

David Sharpe, CEO, Bridging Finance/Jake Dockstator, VP Business Development

Ken Grewall, Forthelane Capital

Graham Capital Partners: Adam Burk, Vice President Concessions & Infrastructure Finance

EllisDon Capital Services: Chris Moran, Director

Kiewit Development Corporation: Sam Chai, President/Terry Burgis, Senior Vice President

Plenary Group: Paul Martin, Senior Vice President

Northleaf: George Zakem, Managing Director, Infrastructure

DIF Infrastructure: Jeff Rogers, Senior Director

Great-West Life: Sébastien Munsch, Managing Director, Private Placements

Sun Life: John Vincent, Senior Managing Director, Head of Project Finance

Manulife: Bruce Anderson, Managing Director, Private Placements /Isha Aggarwal, Managing Director, Public Fixed Income and Private Placements

Rick Doman, Chairman and CEO, Abell Corporation; Member of Board, Arctic Gateway, Executive Chairman, AMIRA Medical Technologies

Michael Sabia, Munk and CIB

Goldy Hyder, President and CEO, Business Council of Canada

Canadian Venture Capital & Private Equity Association (CVCA)

Banks

John Stackhouse, RBC

Graham Begg, Managing Director and Head of North American Private Debt at TD Securities

TD Asset Management: Bruce MacKinnon, Managing Director, Head of Private Placements / Craig Buckley, Director

Indigenous Dev Corps

Qikiqtaaluk Corporation

Kitikmeot Corporation

Makivik Corporation

Nunatsiavut Group of Companies, Chris Webb, President and CEO

Doug Bartlett / Shariq Alvi, Global Infrastructure Financing Group, CIBC

Paul Gruner, CEO Det'en Cho Corporation, NWT

Darrell Beaulieu, President and CEO, Denendeh Investments Incorporated

Clint Davis, CEO, Nunasi Corporation

Duane Smith, Chair of BOD, Inuvialuit Regional Corporation,

Dana Tizya-Tramm, Chief, Vuntut Gwich'in First Nation

Pension Funds

Quebec Pension Fund

OP Trust

OMERS

Canada Pension Plan Investment Board

Where To From Here?

I KNOW YOU KNOW!



GEOGRAPHICAL CONCEPTIONS/ ASSUMPTIONS OF ORIENTATION

MATTER



CANADA



CONCEPTIONS OF GEOGRAPHICAL ORIENTATION MATTER

90 percent of Canadians live within 100 miles of the US border



Global Orientation



1942 Mercator Projection World Map



The Winkel Tripel Projection World Map

Waterman Butterfly Projection



CIRCUMPOLAR ARCTIC – POLITICAL REGION

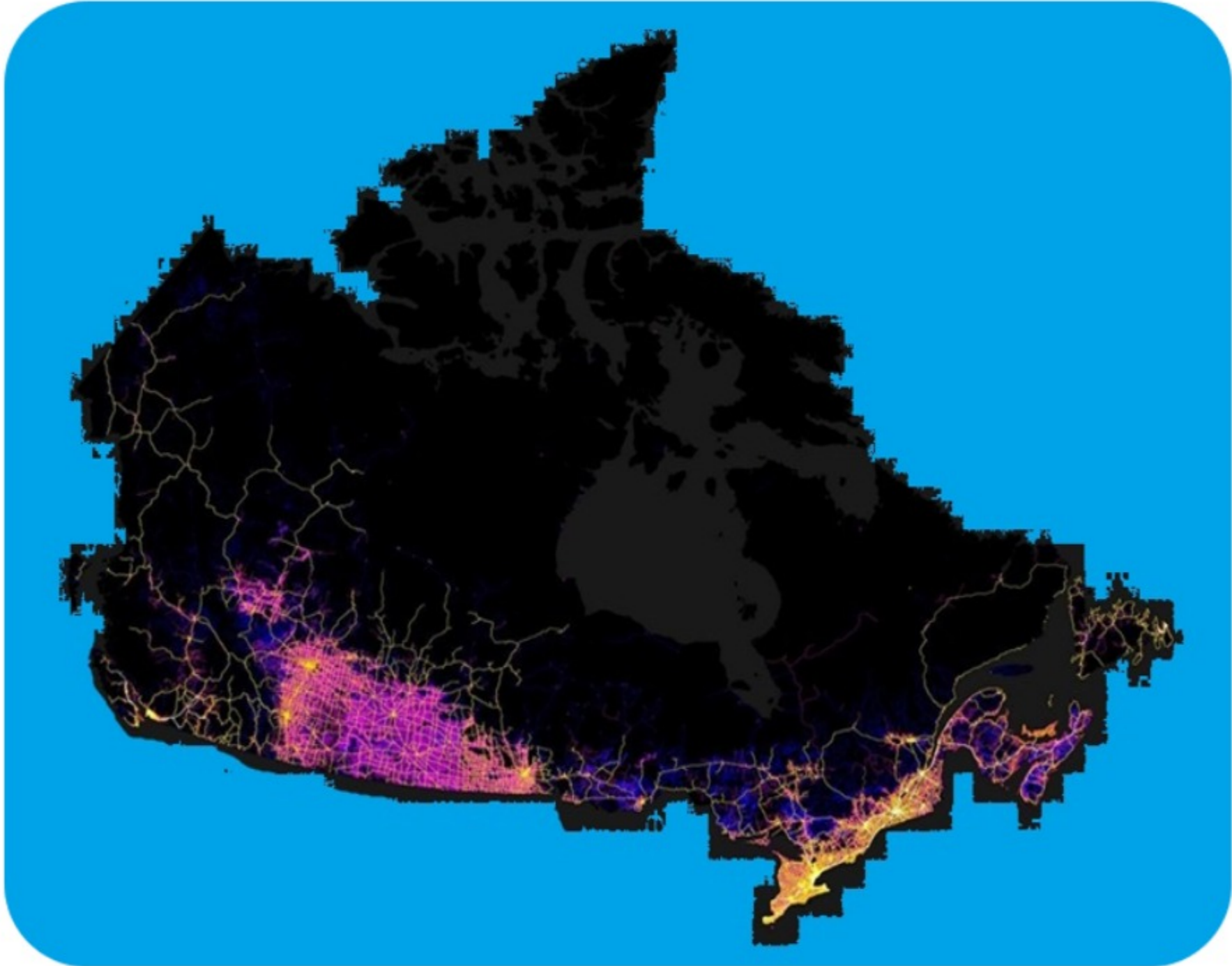


**A SENSE OF WHAT IS POSSIBLE IS DRIVEN BY WHAT WE
SEE AND AN ACCEPTANCE OF WHAT IS CONSIDERED
NORMAL**

IT IS ALSO DRIVEN BY WHAT WE DON'T SEE



OUR MENTAL MAP OF OUR NORTH



CANADA'S ELECTRICITY AT NIGHT



THE NARRATIVE OF THE NORTH WE KNOW



Canada's Territories Yearn for Better Internet

In Canada's north, internet is slower and more expensive than anywhere else in the country. Despite recent improvements, northern users say more action is needed.

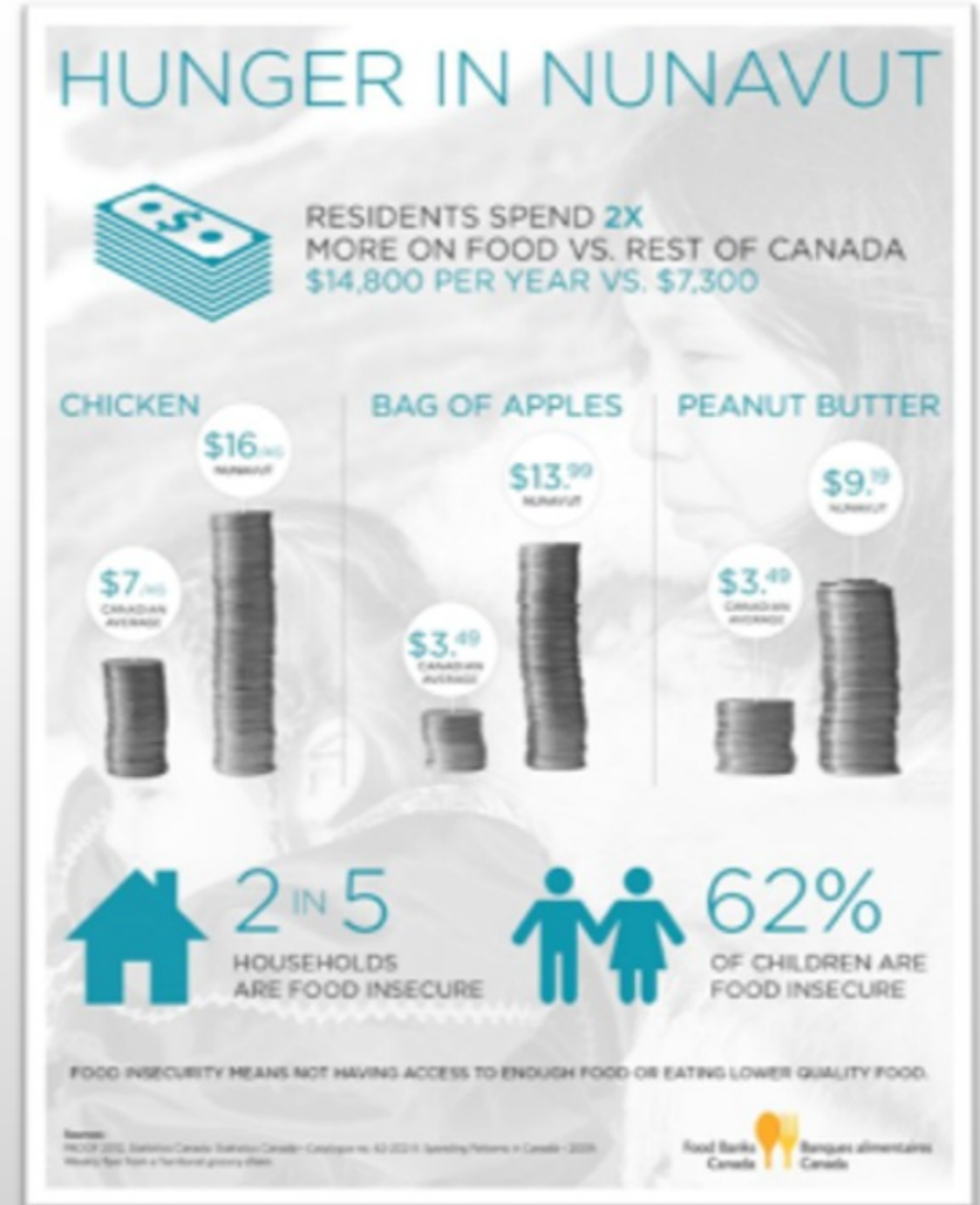
Sorry NO INTERNET Today

CBC News @CBCNews

\$28 grapes? Low dollar, drought cause Nunavut food prices to soar [it.3/1rm8eCe](#)

4:25 PM · 26 Jan 2016

130 47



A REGION OF SOCIAL WELFARE



WHO OWNS THE ARCTIC?



OUR ASSUMPTIONS ABOUT THE NORTH ARE CONSCIOUS DECISIONS WE MAKE

THEY ARE NOT THAT WAY BECAUSE IT IS THE NORTH AND INEVITABLE



THIS IS ALSO THE ARCTIC



Akureyri, Iceland



Tromsø, Norway



Rovaniemi, Finland

Murmansk, Russia



VISIONS OF THE NORTH OF OUR ARCTIC NEIGHBOURS

The North As The Key To 21st Century Innovation and Knowledge



BUILDING NEW HOUSES IN LONGYEARBYEN:

USING SENSOR TECHNOLOGY TO TRACK IMPACTS OF MELTING PERMAFROST ON STEEL



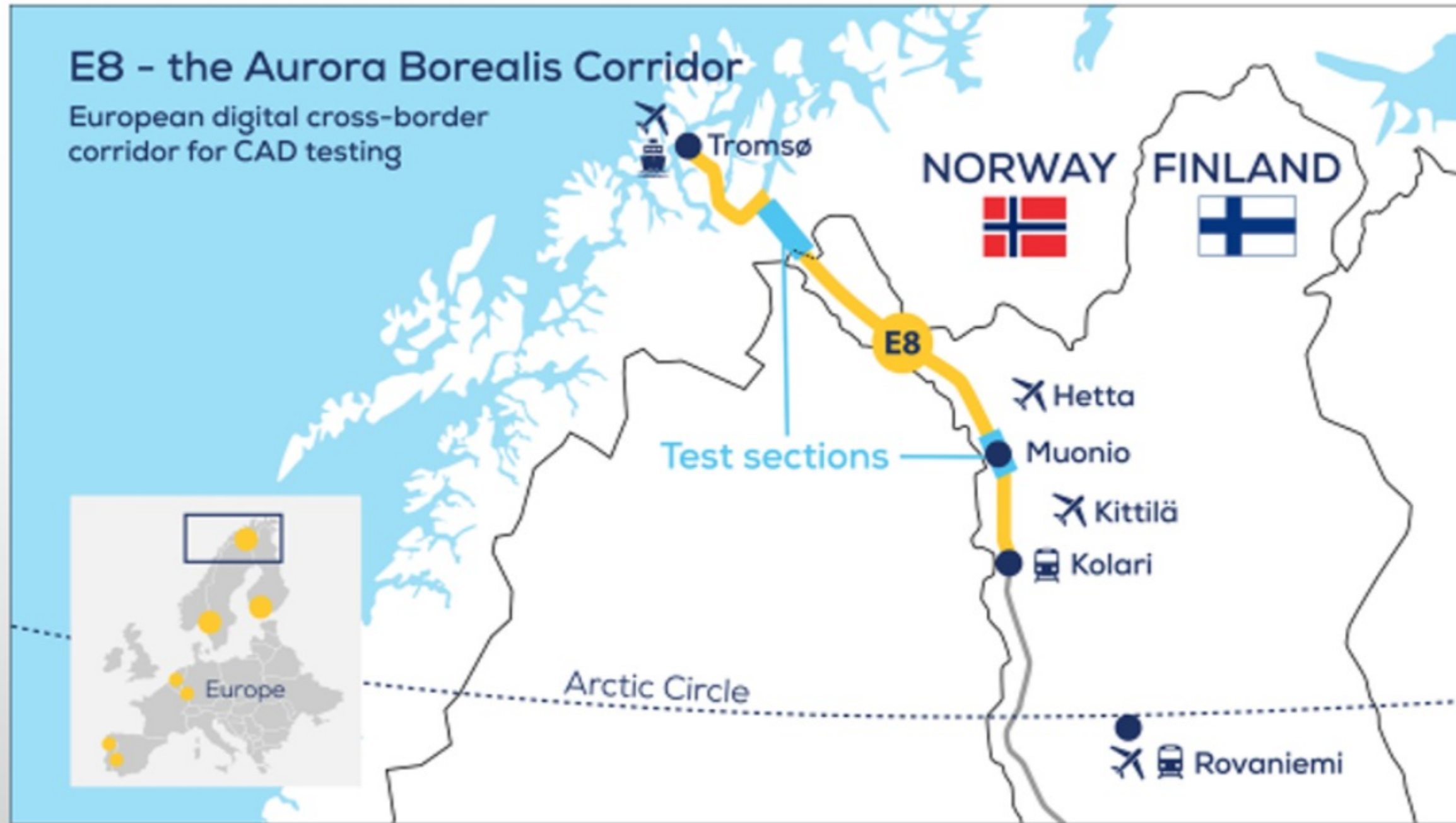
The permafrost melts under Longyearbyen, a settlement of about 2,200 people on Svalbard. Photo: Thomas Nilsen

Thawing permafrost makes big trouble for world's northernmost town

<https://thebarentsobserver.com/en/arctic/201/10/thawing-permafrost-troubles-longyearbyen>



E8 – AURORA: ARCTIC INTELLIGENT TRANSPORT TEST ECOSYSTEM



<https://vayla.fi/web/en/e8-aurora#.XHg6llhKJIU>



KIRKENES – RUSSIAN BORDER

Network of High-Power Electric Vehicle Charging Stations



<http://www.jasonaroundtheworld.com/tag/kkn/>



Tesla Model S can today drive without re-charging the batteries from Kirkenes across the border to Russia into Murmansk. In the future, also cars with shorter battery range can drive longer distances in Finnmark. Photo: Thomas Nilsen



Electric cars get network of fast-chargers in Northern Norway

Will make it possible for the rapid-growing fleet of private electric cars to drive the long and remote distances, including all major cross-border roads to Russia, Finland and Sweden.

CANADIAN ASSUMPTIONS ABOUT APPROPRIATE TECH HUBS

The screenshot shows a news article from 'Options' magazine. The main headline is 'Mining gives Canada a competitive advantage in electric vehicle market'. The article text states: 'Canada is already on the leading edge of research into zero-emission vehicles. Our natural resources, used in ZEV batteries, give us another leg up.' The background image is an electric bus with 'ElectricBUS' and 'ttc.ca/green' written on its side. The magazine's logo 'OPTIONS POLITIQUES' and '40 YEARS of shaping the debate' are visible at the top. A navigation menu includes 'U.S. ELECTION', 'FEATURE SERIES', 'SECTIONS', 'PODCASTS', 'EVENTS', and 'ABOUT'. A 'SECTIONS' sidebar on the right lists 'ECONOMY' and 'EDUCATION'.

Mining gives Canada a competitive advantage in electric vehicle market

Canada is already on the leading edge of research into zero-emission vehicles. Our natural resources, used in ZEV batteries, give us another leg up.

SECTIONS

- ECONOMY
- EDUCATION



- 150,000 square-foot technical centre in **Markham** – to develop autonomous vehicle technology
- the **Ottawa** Autonomous Vehicle Cluster, which includes a 16-kilometre test facility.
- **Canadian university students** to partner with Canadian industry in developing a 100 percent made-in-Canada concept car of the future

Tromsø – An up-and-coming hub for biotech & health tech north of the Arctic Circle

ELLEN R. DELISIO - MAY 12, 2019

Long known for its natural beauty and abundant natural resources, the City of Tromsø in Norway's far north now is making a name for itself in medical and life sciences' research.



SNOWFLAKE INTERNATIONAL ARCTIC STATION



The year-round Snowflake International Arctic Station powered by renewables and hydrogen, diesel-free.
This is a unique vehicle for international cooperation between engineers, researchers and scientists.

About project

Snowflake IAS is a fully autonomous year-round diesel-free facility powered by renewable energy sources and hydrogen fuel.





Ilisimatusarfik – Shaping the Arctic

Ilisimatusarfik is an Arctic university that creates knowledge and innovation in a region developing rapidly. Broadly, deeply and across. Through research, education and cooperation | Ilisimatusarfik is Shaping the Arctic.

[READ MORE](#) →

International

Info to guest students - and about our cooperation & agreements.

Research

Are you looking for our research projects?

Find researcher

Are you looking for one of our researchers?

Cooperation

Are you looking for ways to cooperate with us?



No matter where you live in Greenland, you can now get a 4G signal

All Greenland's populated places now have access to fast mobile internet connections.

By **Kevin McGwin** - November 13, 2018

3347

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THE KEY TO SOFT DIPLOMACY AND ECONOMIC STRENGTH



OUR LACK OF VISION TRANSCENDS INTO CANADA'S ARCTIC FOREIGN AFFAIRS



COOPERATION

- / COOPERATION & AGREEMENTS (+)
- / GREENLAND PERSPECTIVE
- / COOPERATE WITH STUDENTS
- / ILISIMATUSARFIK'S VOLUNTEER PROGRAM
- / CONFERENCE FACILITIES
- / **AMERICAN CORNER**
- / VISIT US

AMERICAN CORNER

American Corner at Ilisimatusarfik is an American place where students, staff etc. can find books, magazines, films and much more in relation to American culture, history and society.

American Corner is located in Panopticon at Ilisimatusarfik campus Ilimmarfik.

American Corner is kindly sponsored by the [Embassy of the United States of America in Copenhagen, Denmark](#).



SOFT DIPLOMACY IS CONNECTED TO REAL DIPLOMACY/INVESTMENT/ECONOMIC GROWTH



U.S. Embassy & Consulate
in the Kingdom of Denmark

Visas U.S. Citizen Services Our Relationship Business Education & Culture Embassy

Consul U.S. Consulate, Nuuk, Greenland

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Sung W. Choi
Consul
U.S. Consulate, Nuuk, Greenland

<https://dk.usembassy.gov/embassy-consulate/nuuk/consul/>

<https://www.wilsoncenter.org/event/perspectives-the-future-greenland>



ANNAL ARCTIC FRONTIERS: TROMSØ, NORWAY



BBC's Stephen Sakur moderating a panel discussion



ARCTIC CIRCLE ANNUAL ASSEMBLY: REYKJIAVIK, ICELAND





ARCTIC CIRCLE ASSEMBLY OCTOBER 2018



WE CAN DO BIG THINGS WHEN WE HAVE THE WILL



The high-tech hunt for Canada's history in the Arctic

Canada Foundation for Innovation funded technology leading the search for the remains of the Franklin expedition

September 4, 2012



MIT UNVEILS 3D PRINTED HOUSES FOR OTHER PLANETS

If MIT Can Build Houses on Other Planets, We Should Be Able To Build Affordable Houses in our Own North on Planet Earth



Lofgren, Kristine. 27 April 2017. 'MIT unveils new solar 3D printer that can build houses on other planets', InHabitat: <https://inhabitat.com/mit-unveils-newsolar-3d-printer-that-can-build-houses-on-other-planets/>

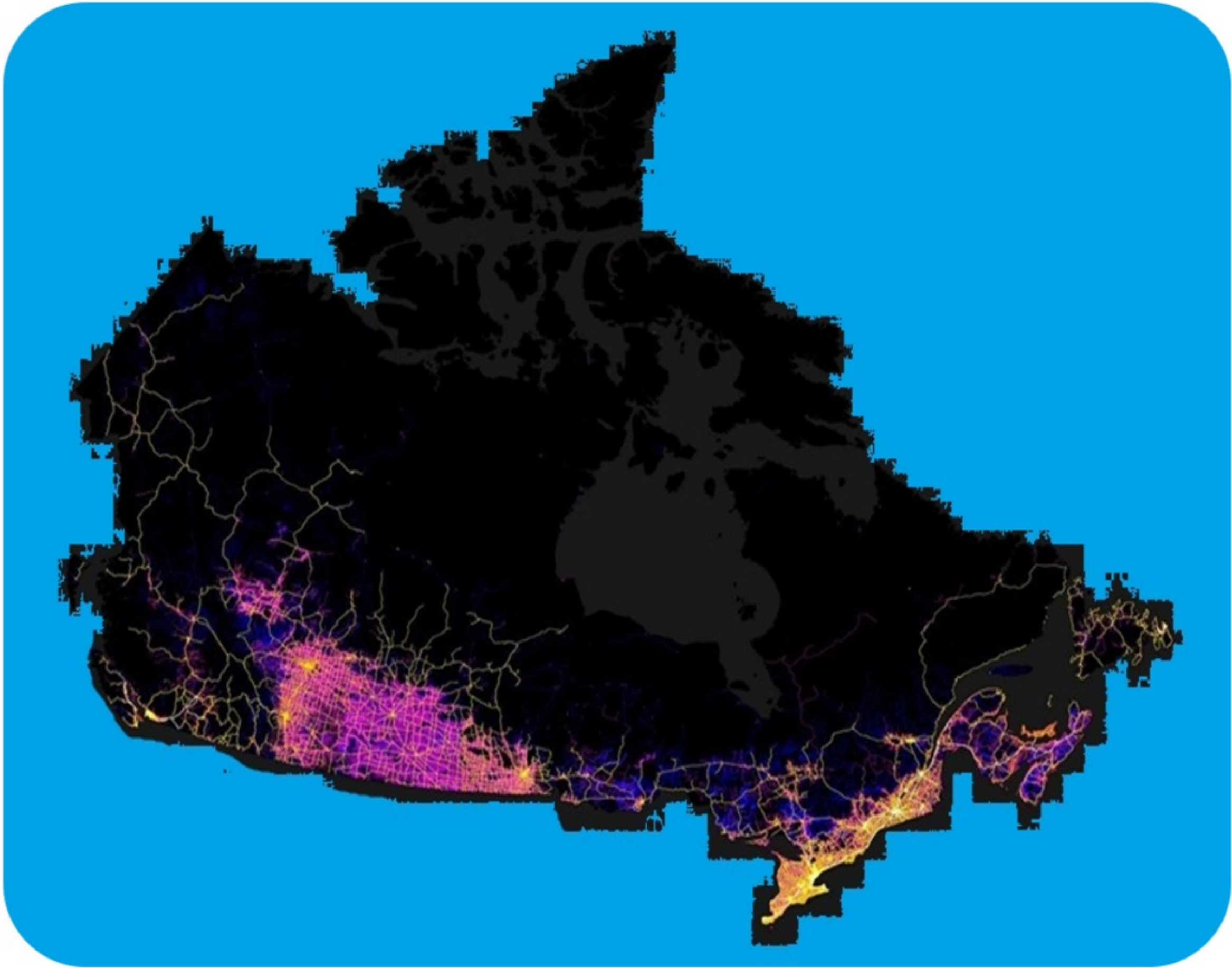


FROM GAZING ON THE SIDELINES TO ACTIVELY INVESTING IN CANADA'S FUTURE

Arctic
thoughts
from Bay
Street



BUILDING A PROSPEROUS CANADIAN NORTH THAT ATTRACTS INVESTMENT AND GLOBAL RECOGNITION



STARTS WITH A VISION:



WHY THIS PROJECT? WHY ARE WE MAKING A MAP?

“You Can’t Be What You Can’t See”

- Marian Wright Edelman, founder of the children’s defense fund,
on the rights of black children

**“Dream with ambition, lead with conviction, and see yourselves
in a way that others may not see you, simply because they've
never seen it before”**

- Kamala Harris, 2020 Acceptance Speech



CANADIAN GOVERNMENT MAPS PROVIDE ONLY MOST BASIC INFORMATION

From : [Indigenous Services Canada](#)

This map shows ongoing and completed infrastructure projects in First Nations communities across Canada, as of March 31, 2020. It includes feasibility studies, new construction and renovation, and capacity development projects.

These projects are supported by targeted funds from Budgets 2016 and onward, as well as carry-over from Budget 2013 and 2014 commitments, for a total of about \$8 billion through Indigenous Services Canada, until 2026-2027. Since the Budget 2016 announcement, \$4.7 billion has been invested to support 4,950 infrastructure projects, 3,192 of which are now complete.

The map does not include permanent annual funding or statutory expenses related to the federal Gas Tax Fund. The number of projects may not add up to the number of markers on the map or entries in the table below the map since some projects involve more than one First Nations community.

Scope and details of individual entries may be subject to change as projects and infrastructure portfolio evolve.

Legend

- First Nation
- Tribal Council
- Other Organization

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rojects

Qaggiq Project

manem: Project details ur

on the: or

I entries: Province/Territory: First Nation/Organization: Cambridge Bay, Nunavut

Description: A construction apprentice program for young adults to build tiny homes around a communal gathering space to address overcrowding and homelessness.

Departmental Investment: N/A

Project Status:

STARTED ONGOING COMPLETED

Latitude: 69.109104

Longitude: -105.120669

[Download map](#)

[Close](#)

[Community project list](#)

Total number of projects : 4950

Filter projects by infrastructure category:

- Water and wastewater
- Health
- Housing
- Culture and recreation
- School facilities
- Fundamental infrastr

619 2176 200 208 224 497 12 953 61

Check/Uncheck All

Infrastructure Canada

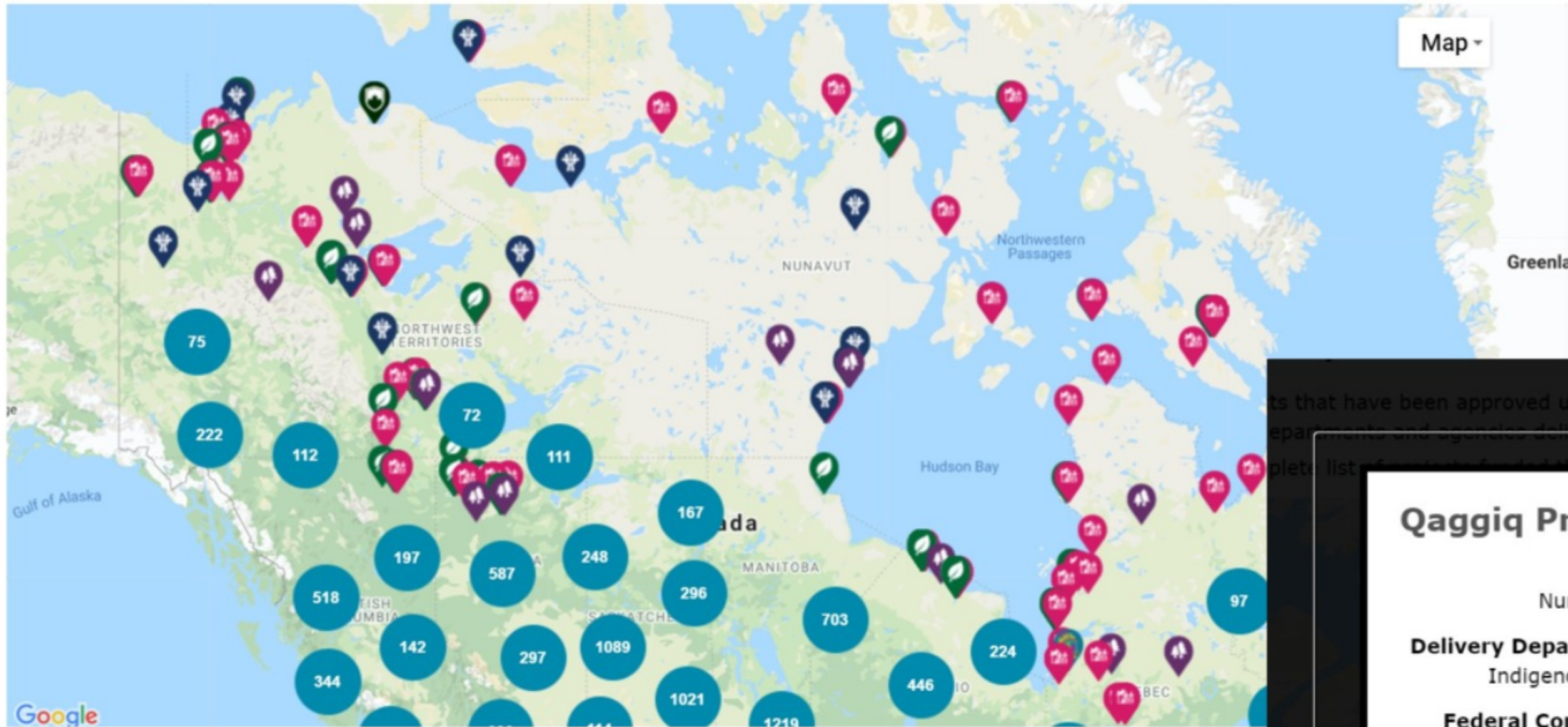


- Investing in Canada plan
- Rural Economic Development
- Major Bridges
- Smart Cities Challenge
- Research and Data

Home > Investing in Canada Plan Project Map

Investing in Canada Plan Project Map

The map below presents a broad cross-section of projects that have been approved under the \$180+ billion *Investing in Canada* plan. It is updated monthly to reflect newly approved projects under the funding programs of the 21 federal departments and agencies delivering the Plan. We continue to gather project details and will add them to the map as available. Visit often. Since not all projects can be mapped, a complete list of projects funded through these investments is available [here](#). More information below. [1](#) [2](#) [3](#) [4](#) [5](#) [6](#)



Qaggiq Project



Nunavut

Delivery Department/Agency:
Indigenous Services Canada

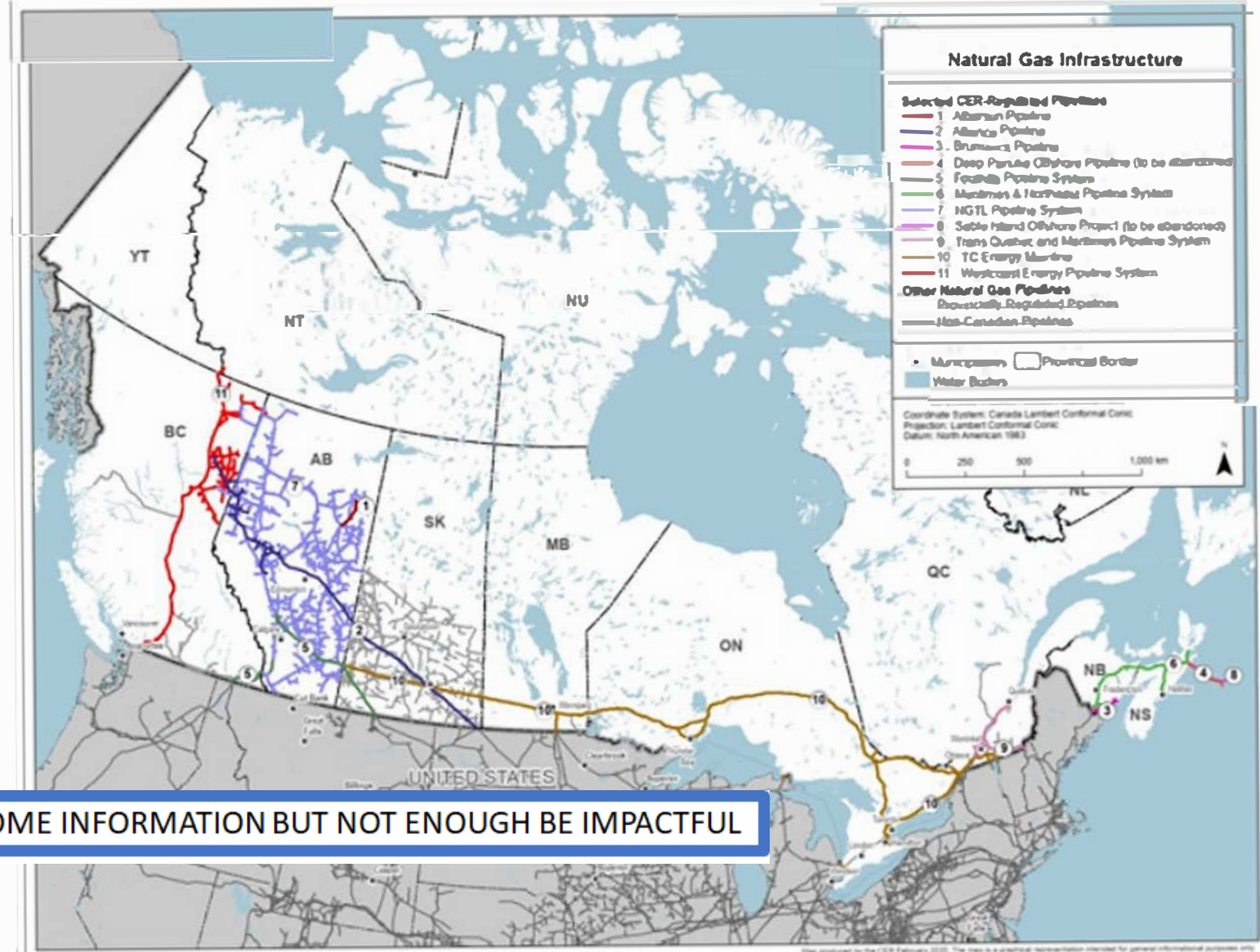
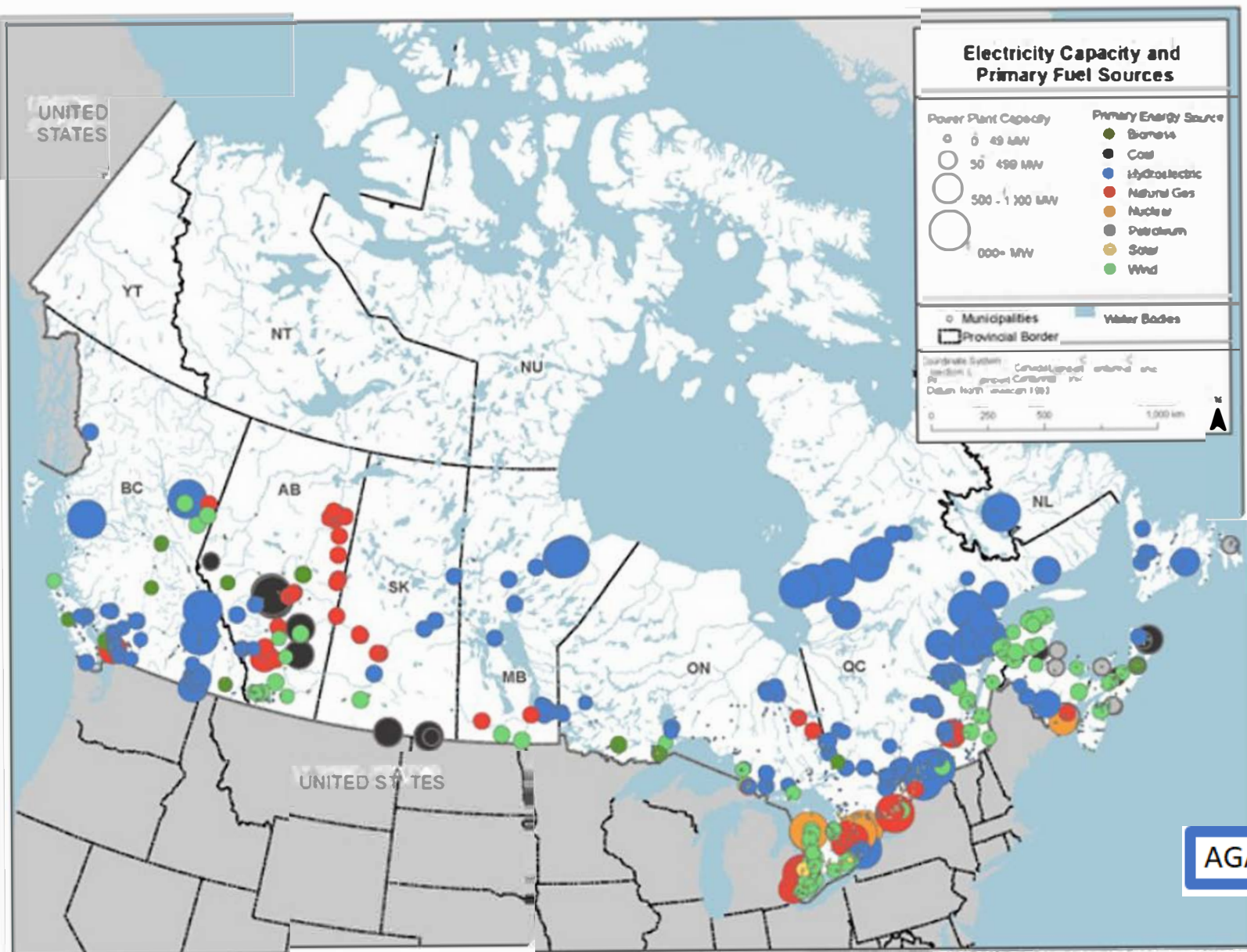
Federal Contribution: not available

Estimated Total Cost: not available

Estimated Start Date: not available

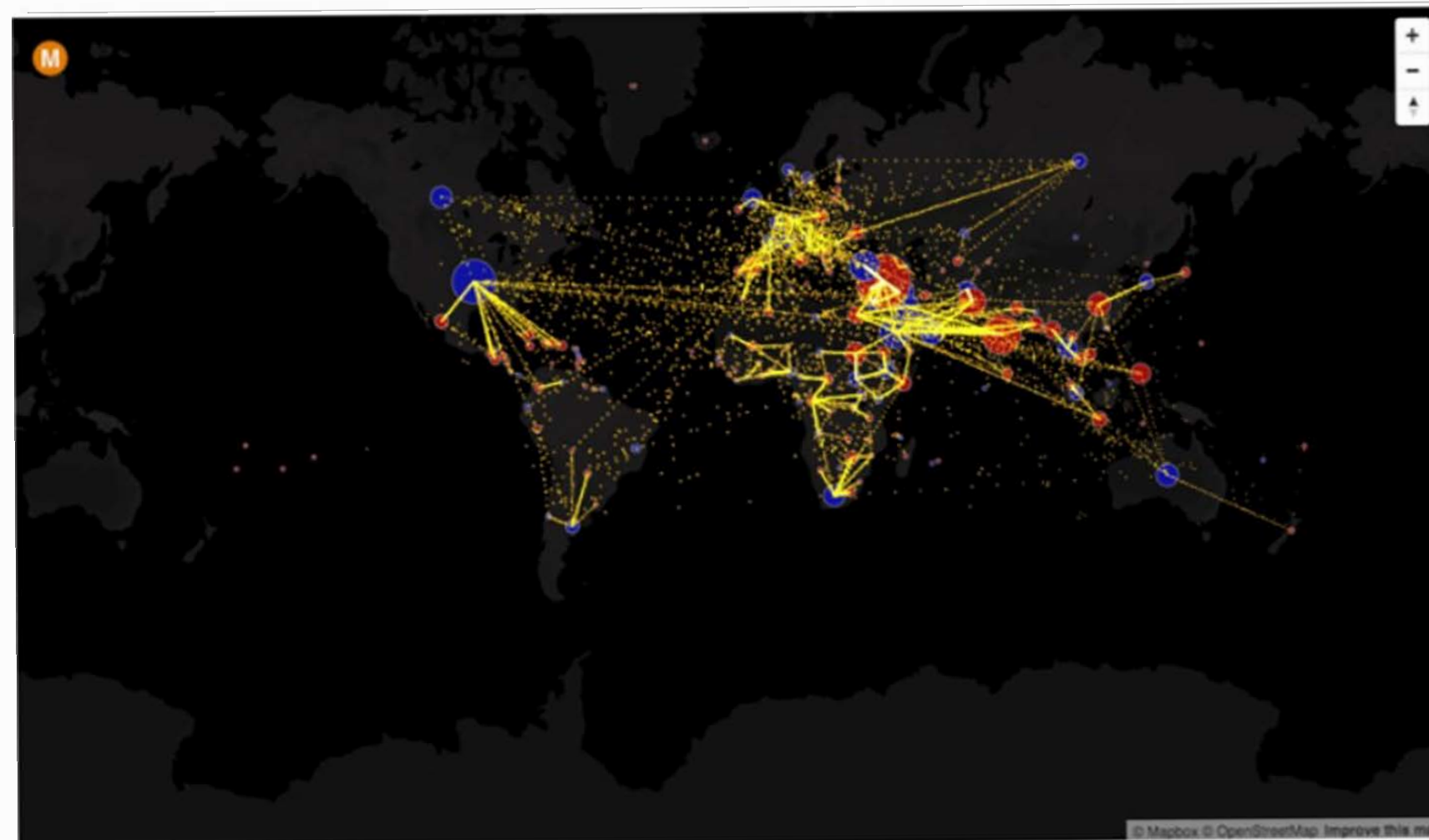
A construction apprentice program for young adults to build tiny homes around a communal gathering space to address overcrowding and homelessness.



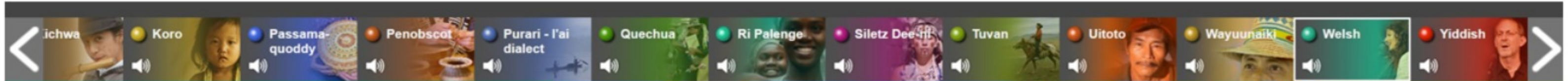


AGAIN – SOME INFORMATION BUT NOT ENOUGH BE IMPACTFUL

7. Country-to-country net migration



INTERVIEWS AND OTHER AUDIO/VISUAL DATA



WELSH

Successful Revitalization



Photo Betty Belanus



"With a language it's not just words. It's a way of life" Aneirin Karadog, Welsh poet. In 2001, the Welsh language, one of Europe's oldest living languages, had an increase in its number of speakers for the first time in many years, centuries perhaps. The latest census from 2011 however shows a slight decrease in the percentage of speakers, a disappointing and unexpected finding. The Welsh language has official language status in Wales alongside English, and everything from road to supermarket signs is bilingual.



HISTORICAL: 2020/2030/ 2040

