



Mining in the NWT & Nunavut

– Past, Present and Prospects for the Future –

To: Arctic Oil & Gas Symposium, Calgary – March 13, 2019

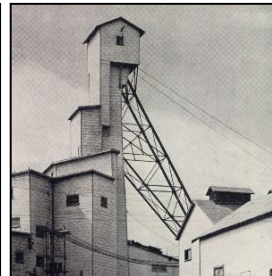
By: Tom Hoefer, Executive Director

Key Messages



- Historical mining production and contributions
- Current mines and advancing projects
- How it's been a community game changer
- Significant opportunity and potential in the wings
- Addressing challenges to sustain and grow opportunities

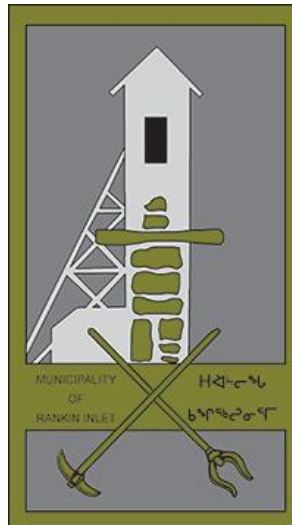
Our economic advantage = 80+ years of mining history

- 1930s – Eldorado (radium), Con, Negus, Rycon (gold)
- 1940s – Giant, Thompson-Lundmark (gold), Eldorado (uranium)
- 1950s – Rankin (nickel), Discovery (gold)
- 1960s – Pine Point (zinc-lead), Cantung (tungsten), Echo Bay (silver)
- 1970s – Nanisivik (zinc), Terra (silver)
- 1980s – Polaris (zinc-lead), Lupin (gold), Cullaton Lake (gold)
- 1990s – Colomac (gold), Ekati (diamonds)
- 2000s – Diavik, Snap Lake, Jericho (diamonds)
- 2010s – Meadowbank and Hope Bay (gold), Mary River (iron), Gahcho Kué (diamonds)



Mining has contributed legacy infrastructure

- Mining Communities: Yellowknife, Rankin Inlet
 - Roads to Resources, eg: highways to Yellowknife, Pine Point Ft. Resolution
 - Railway to Hay River & Pine Point
 - All 3 NWT hydro-electric facilities
 - Marine shipping & ports
 - Microwave communications
 - Nunavut “highway system”
- 
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- The coat of arms of the City of Yellowknife, Northwest Territories, is located in the bottom right corner. It features a shield with a blue background, a white lighthouse, a yellow maple leaf, and a white ship. Above the shield is a banner with the text "THE CITY OF YELLOW KNIFE NORTHWEST TERRITORIES". Below the shield is a banner with the text "MULTI IN PARVO". To the right of the coat of arms is a small icon of a house with an upward-pointing arrow, indicating a home or return function.



Mining has contributed Technical Innovation

- High efficiency diesel power
- Award-winning dikes to allow mining under lakes
- Innovative wind energy at Diavik
- Engineered ice “highways”
- Arctic shipping technology



Heat recovery on diesel electrical power plants



Diavik's wind turbines



MV Arctic ice breaking technology



National award winning Diavik dikes



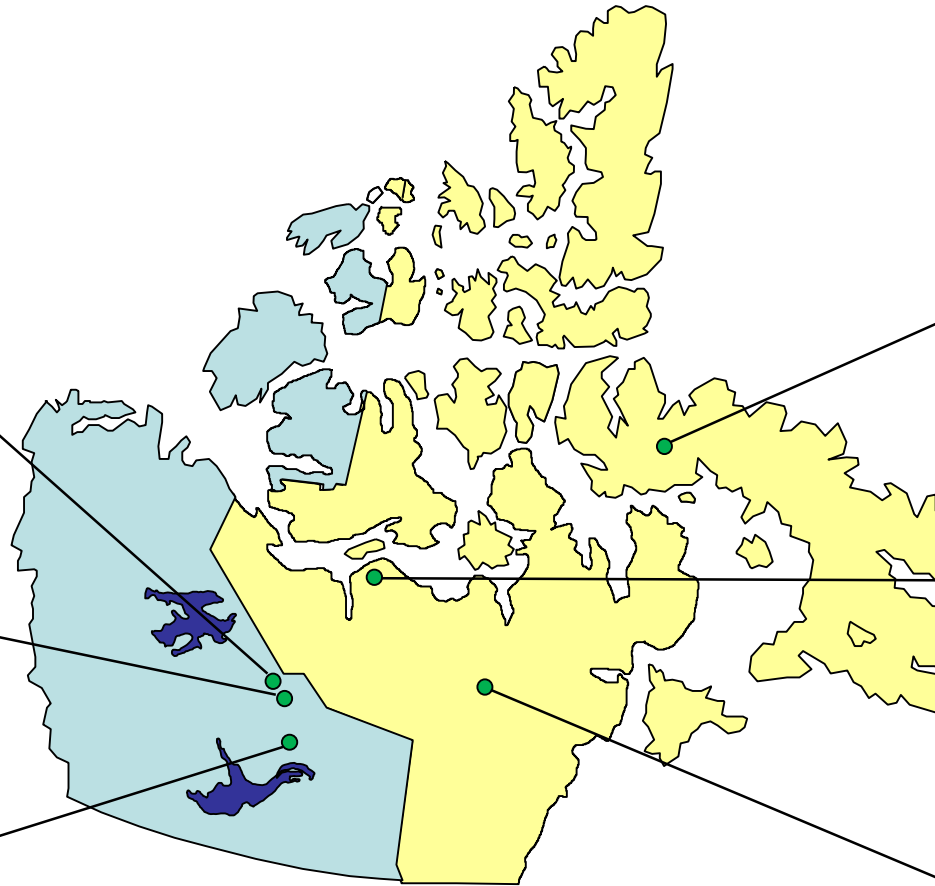
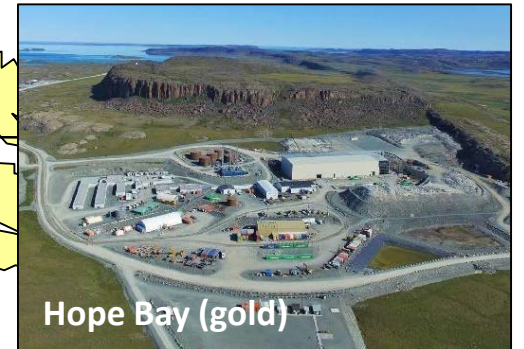
Engineered ice road “highways”

Today: 6 Operating mines

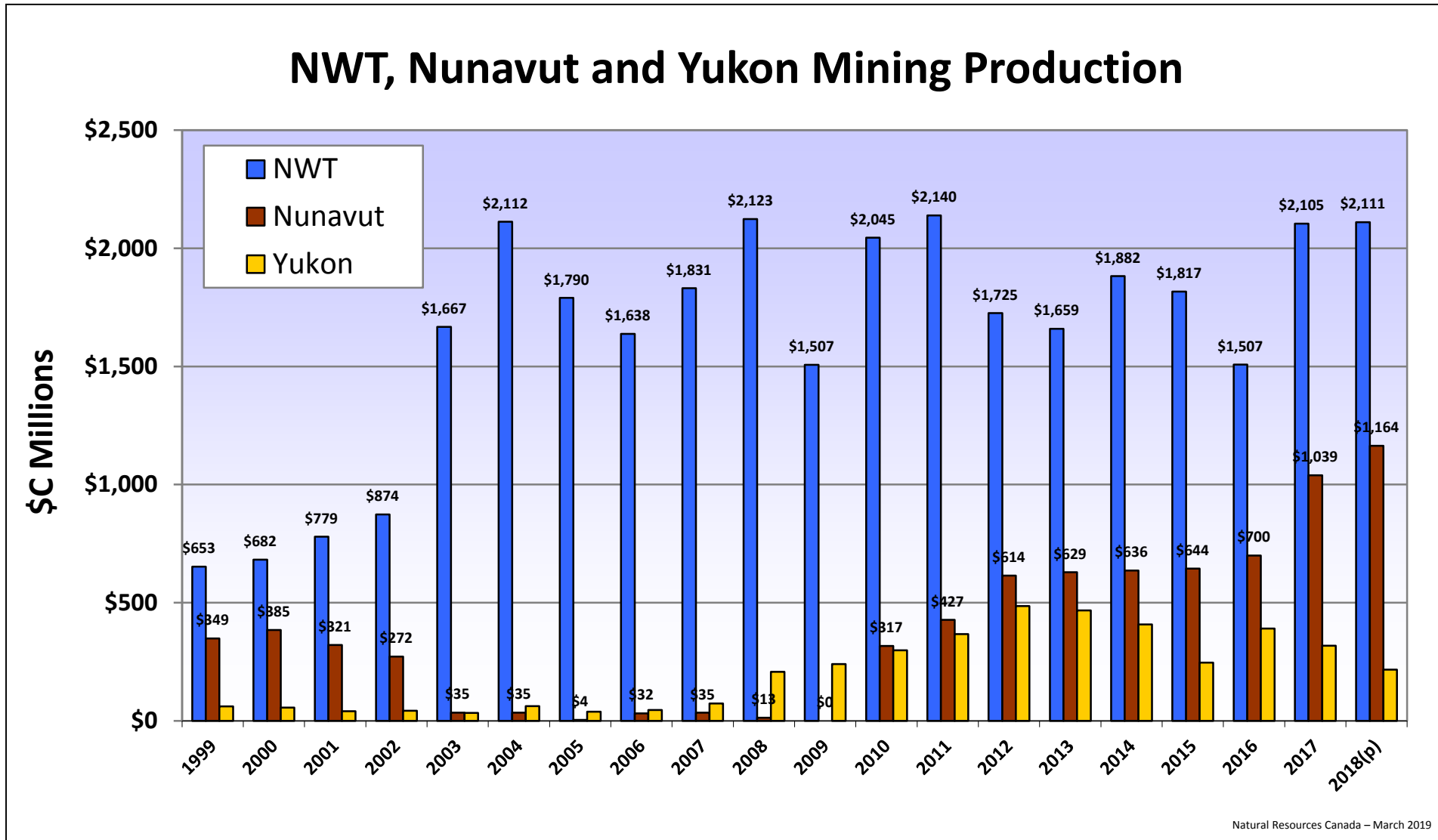
NWT Mines



Nunavut Mines

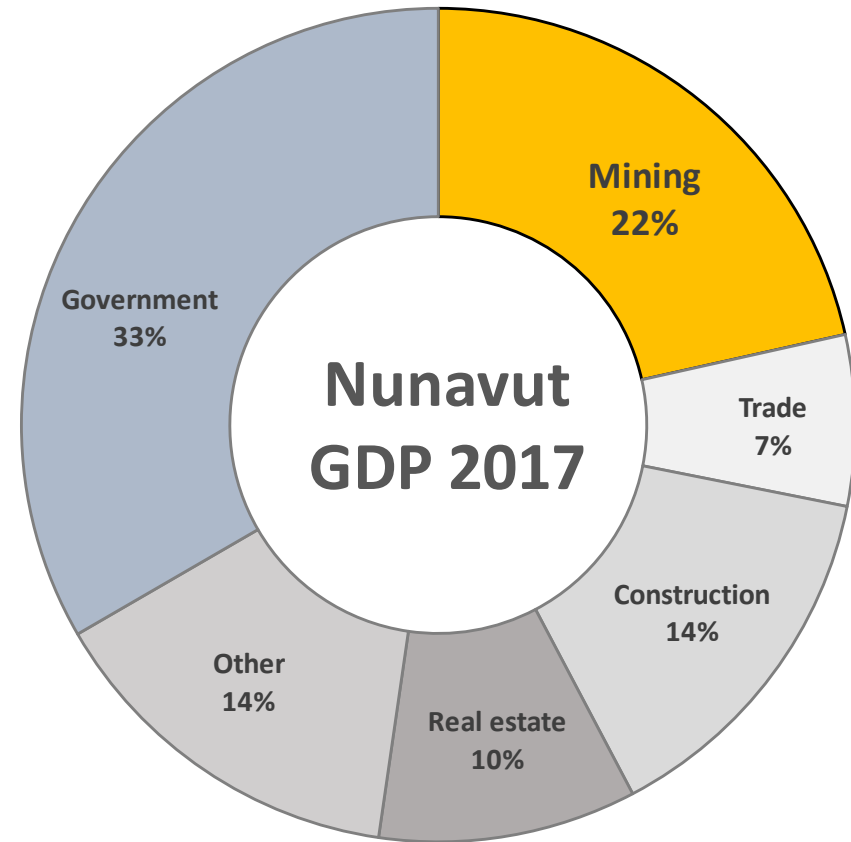
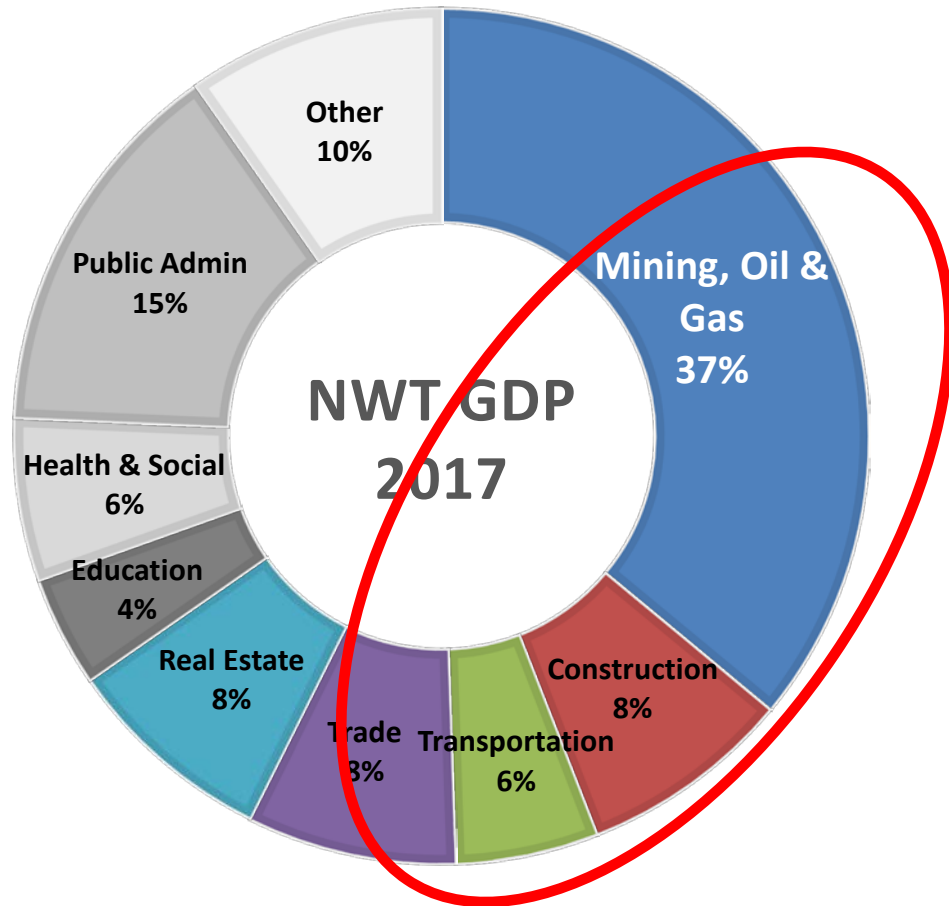


Producing significant mineral value



- Note Nunavut is making a comeback from zero production in 2009

Largest private sector economic contributor

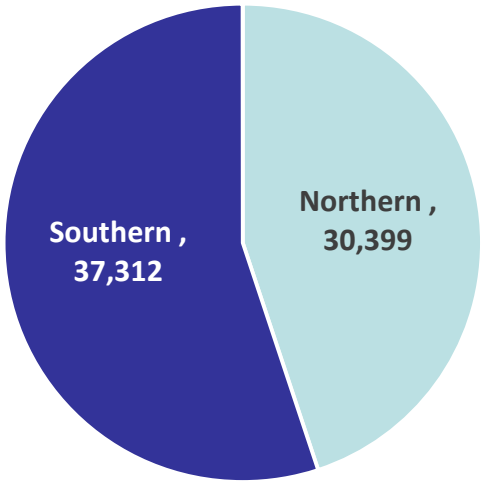


- The largest direct private sector contributor to both economies
- And even larger with indirect contributions to other sectors, eg, construction, transportation, etc.

Game changing, significant benefits for the North and Canada

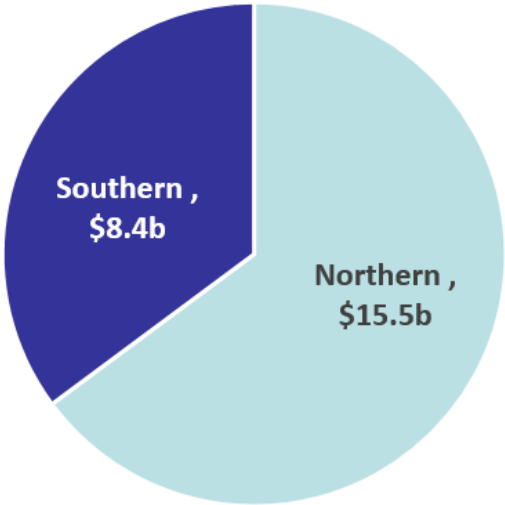
(1996-2017)

Mining Jobs – NWT + Nunavut
(68,000 person-years)



14,000 person-years Indigenous Jobs

Mine Spending – NWT + Nunavut
(\$24 billion)



\$6 billion Indigenous business spend



Training is facilitating success, eg, NWT

Mine Training Society's Results: 1,471 people employed

- 7% of the entire NWT working labour force

Recipe for Success:

- Influential Partners
 - Aboriginal Governments
 - Industry
 - Public Government
- Partner funding: Over \$53 million since 2004
- REAL JOBS after training



Mine Training Society
NORTHWEST TERRITORIES

"Where training and jobs get together"

Indigenous mining business development

Mining has spawned a new generation of Indigenous businesses in NWT and Nunavut

- Tli Cho Logistics Inc.
- Tli Cho Landtran Transport Ltd.
- Tli Cho Air Inc.
- Tli Cho Road Constructors Ltd.
- Tli Cho Blasting Services Inc.
- Denesoline Western Explosives
- Aboriginal Engineering Ltd.
- Tlicho Engineering & Environmental Services Ltd.
- Ventures West Transport Ltd.
- Metcrete Services Ltd.
- Metshaw Freighters Ltd.
- Kete Whii Ltd.
- Kete Whii Procon J.V.
- Sodexho Alliance
- Exploration Medical Services
- Kitikmeot Cementation Mining & Development
- Lac De Gras Constructors
- Nishi Khon SNC Lavalin Inc.
- North Slave Logistics
- Nuna Logistics
- Malca-Amit (NWT) Ltd.
- Nishi Khon / SNC Lavalin Inc.
- Tundra Site Services North
- KBEX
- Ekati Services
- Det'on Cho Earth Energy
- Det'on Cho DNX
- Bouwa Whee Catering
- Det'on Cho Foraco
- Det'on Cho Hazco
- Det'on Cho Nahanni Construction
- Det'on Cho New North
- Det'on Cho NUNA
- Det'on Cho Pure Earth Elements Environmental Solutions
- Det'on Cho Scarlet Security
- Det'on Cho Stantec
- Det'on Cho Training & Conference Centre
- Det'on Cho Logistics
- Det'on Cho Medic North
- Det'on Cho Mining Supplies
- DICAN / ADG
- Kete Whii / Ledcor
- Kete Whii / Procon
- Akaitcho Helicopters
- Dene-Emco Ltd.
- Denesoline/Air Tindi Joint Venture
- Denesoline/Arcan Construction
- Denesoline/De Beers Labour Contract
- North Slave Freighters Ltd.
- Northcan Freighters Ltd.
- Denesoline/Discovery Mining Services – Logistics Expediting
- Denesoline/Deton Cho/Procon
- Denesoline/Deton Cho/Ledcor
- Denesoline/Dyno Nobel
- Denesoline/ESS Compass
- Denesoline/McCaw Drilling & Blasting
- Denesoline/Nuna Logistics
- Denesoline/Tlicho Logistics
- Lutsel K'e Air Services
- A.T.B. Construction
- Trinity Helicopters
- Nuna Logistics (on there already)
- Kitnuna
- Kitikmeot Caterers
- Kitikmeot Cementation Mining & Development
- Geoteck Ekutak
- Medic North Nunavut
- Nunavut Sealink & Supply
- Nanami Stantec Ltd
- Toromont Arctic Ltd
- Kitikmeot Blasting Services
- Kitikmeot Tire
- Kusugak Consulting
- Qikiqtani Industry Ltd.
- Nuna Group of Companies
- AGLU Consulting & Training
- Kitikmeot Caterers Ltd.
- Medic North Nunavut
- Baker Lake Contracting & Supply
- Forest North Aviation & Logistics
- Eskimo Point Lumber & Supply
- Kivalliq Expediting & Storage
- Kitikmeot Blasting Services
- Kitikmeot Cementation Mining
- M & T Enterprises
- Kasuk Exploration
- Jago Services
- Qillaq Innovations
- Toromont Arctic
- Kitnuna
- Oomilik Enterprises
- Akhaliak Consulting
- Qillaq Innovations
- Kiluk Ltd.
- Peter's Expediting



Taxes and Royalties – now paid to Indigenous governments, too

- Taxes
 - \$ Billions paid to governments of Canada, NWT, Nunavut in various taxes
 - Tlicho Government now collects 95% of income taxes in their land claim region
- Royalties
 - Canada has been the main recipient, and shares with settled land claimants
 - Under Devolution, Canada now shares 50% of royalties with NWT Government
 - NWT Government shares 25% of the royalties with Indigenous governments
 - In Nunavut, most mines will pay royalties to Inuit, forecast at over \$500 million

Today – Mining is increasingly becoming more Indigenous

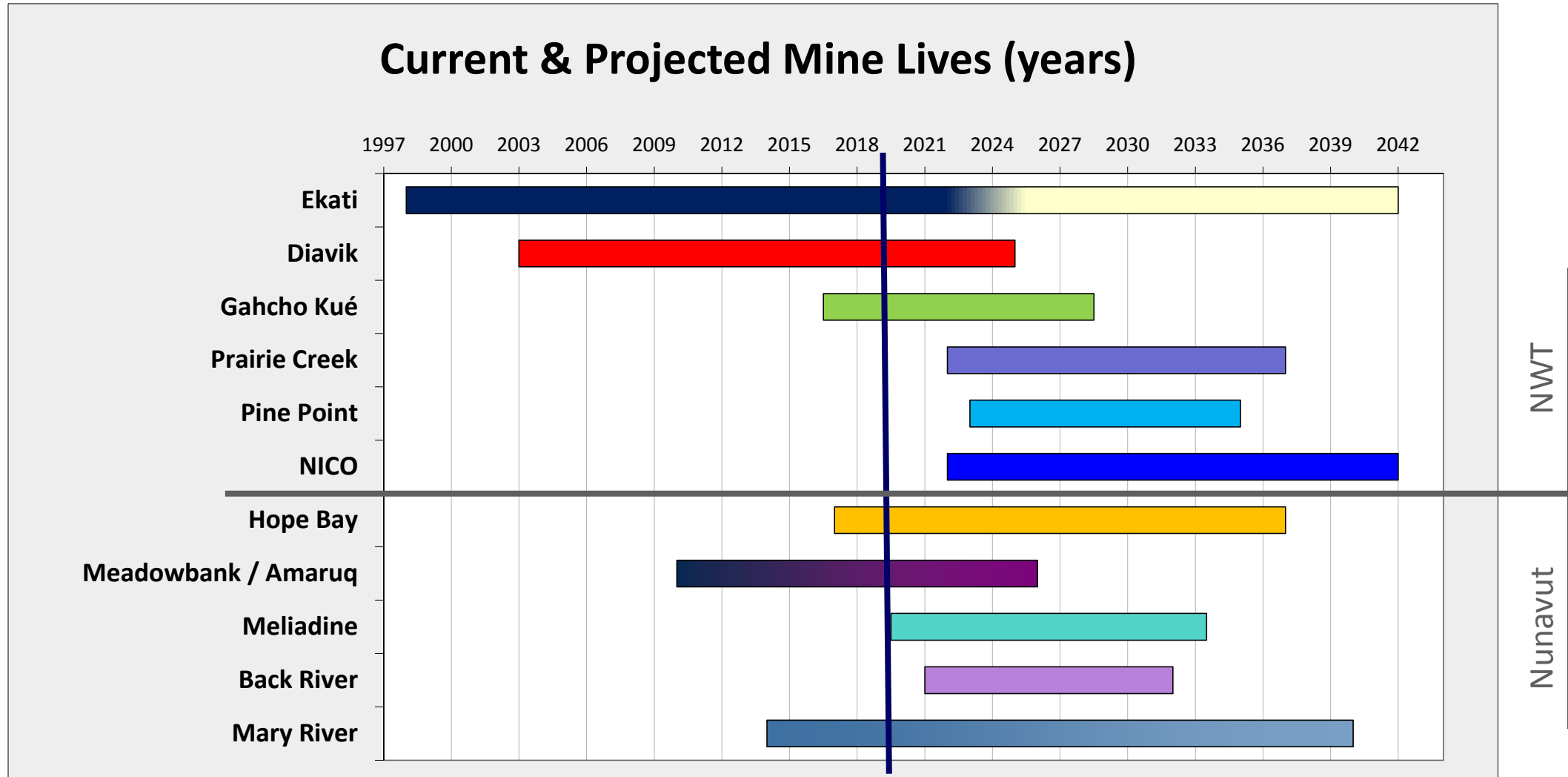
- Training Indigenous workers
- Employing more Indigenous mine workers
- Conducting more business with Indigenous companies
- Providing benefits to Indigenous communities
- Providing taxes and royalties to Indigenous governments
- **INDIGENOUS NORTHERNERS ARE BECOMING THE INDUSTRY**
- Trending up: Indigenous equity participation in projects and infrastructure



Projects in our Future: what's on deck?



NWT & Nunavut mine lives



- NWT diamond mining is maturing and industry will shrink with smaller mines on the horizon
- Nunavut mining is growing

State of mining as reflected recently by leadership

- Nunavut Finance Minister Hicks, 2019 Budget Address:

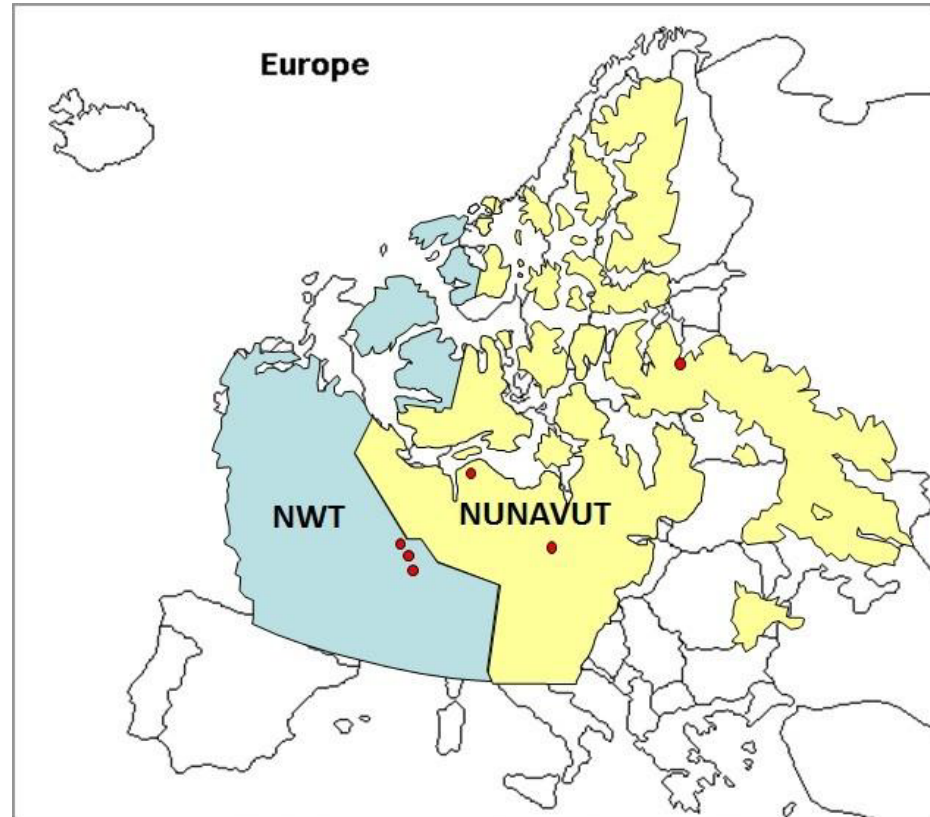
“A strong mining sector helps reduce dependence on public-sector jobs. We cannot rely solely on the public sector to create jobs and grow our economy. The best growth opportunities are found in the private sector, like mining. As more mines export gold, iron and other commodities, more jobs open up.”

- NWT Premier Bob McLeod to Indigenous Summit, October 2018:

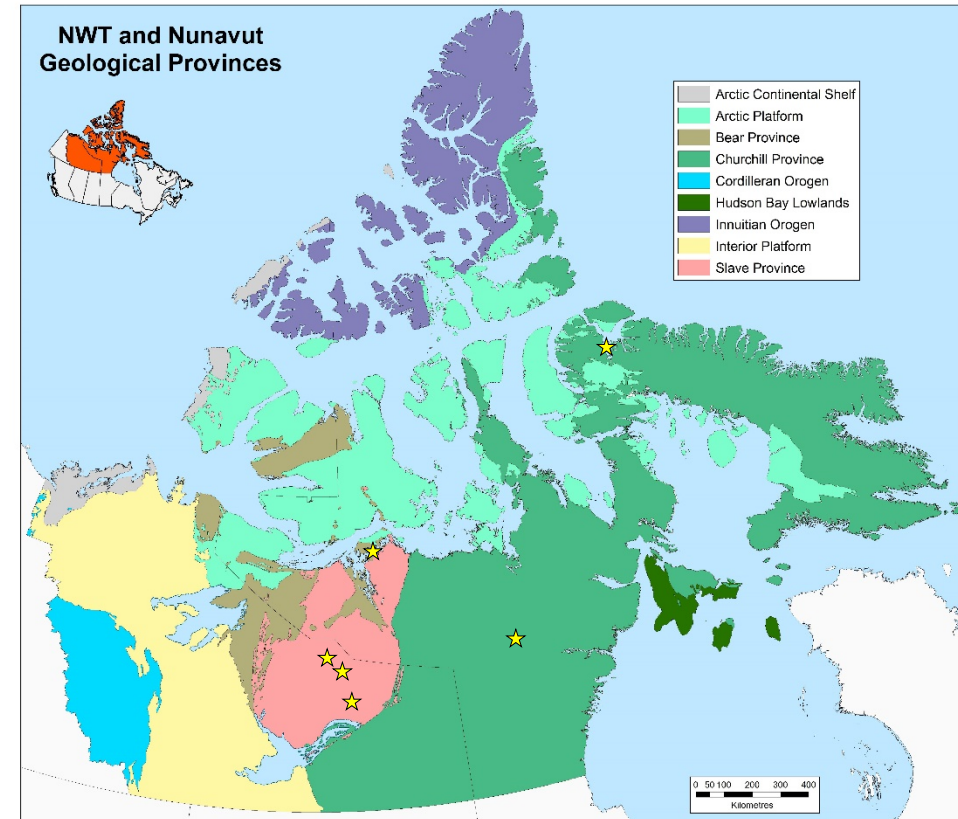
“... the NWT is facing significant economic challenges and steps need to be taken immediately. The diamond mines – currently the engine of the Northwest Territories economy – will not last forever. Their eventual closure will shrink the economy by about \$1.1 billion and lead to about 3,300 job losses.”

The North has huge potential but mining is underdeveloped

Huge Geography

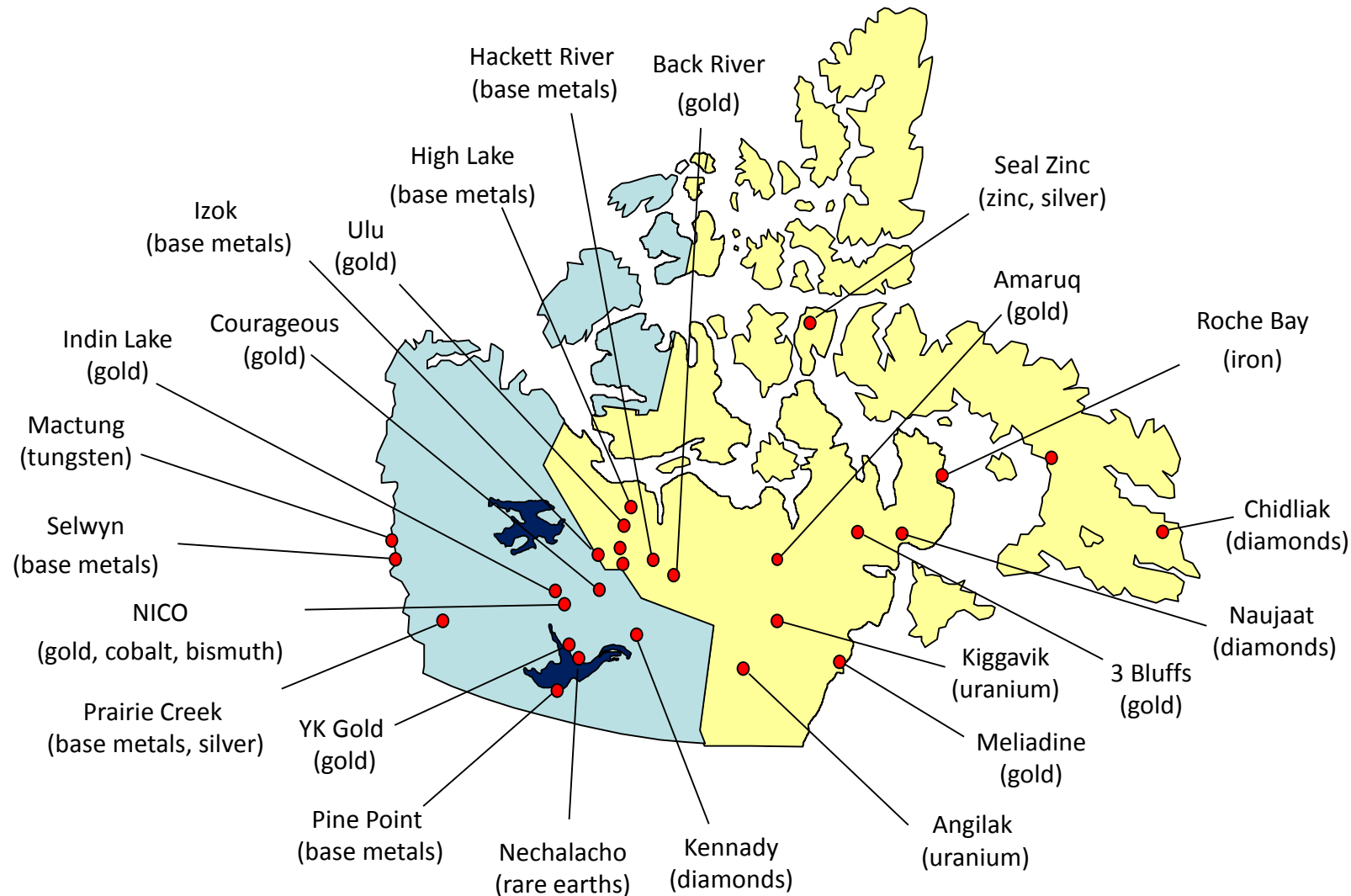


Rich Geology, barely tapped



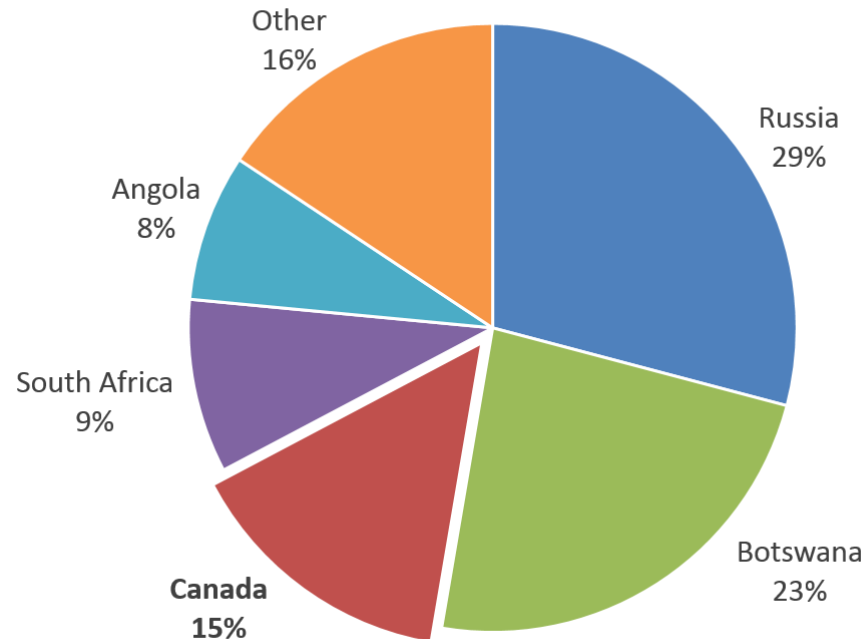
- 6 operating mines in an area the size of Europe – footprint is < 0.006% of area of NWT + Nunavut
- Mining is under-developed largely because of costs, lack of infrastructure
- With 9 Geological provinces, the potential is significant to Canada's mining future

No shortage of Opportunities – many undeveloped deposits

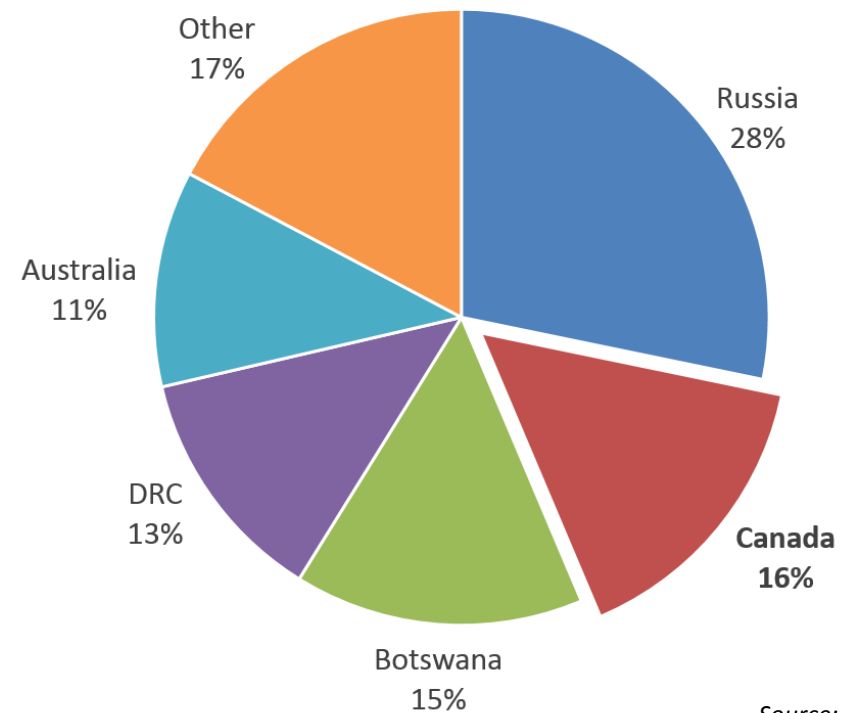


An example of what's possible

2017 Diamond Production, Value



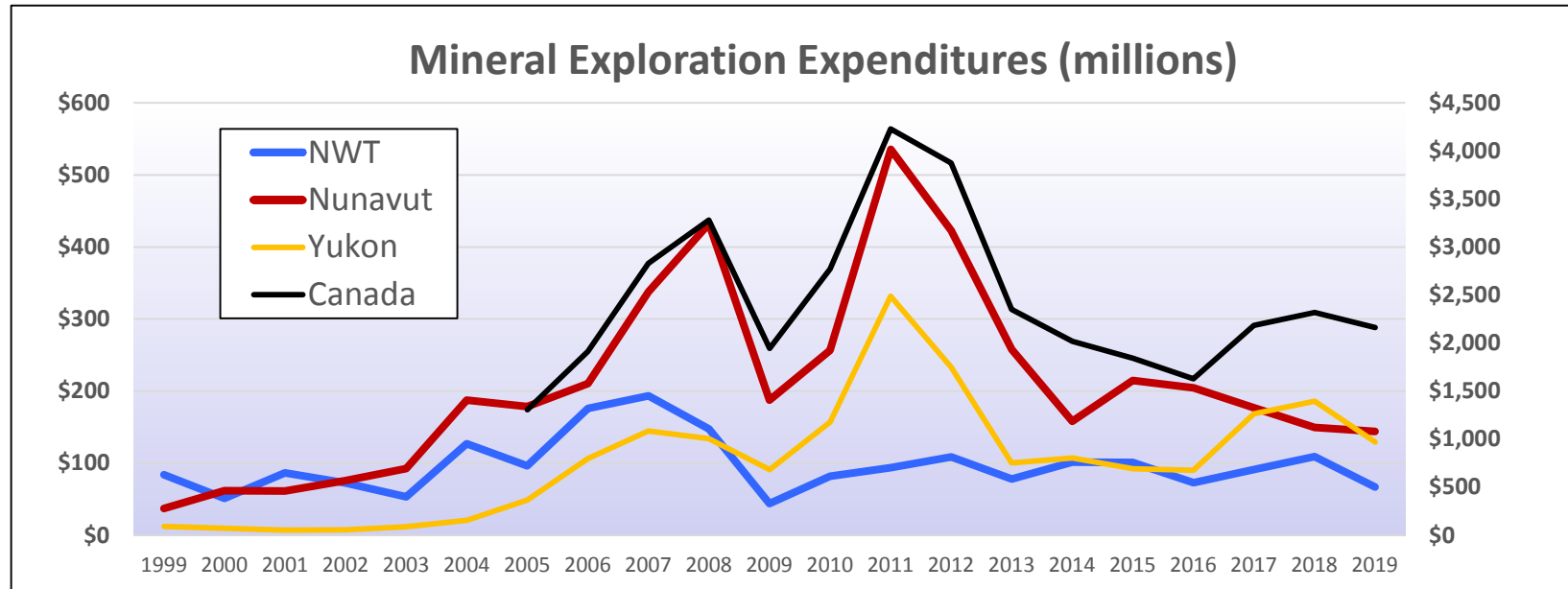
2017 Diamond Production, Carats



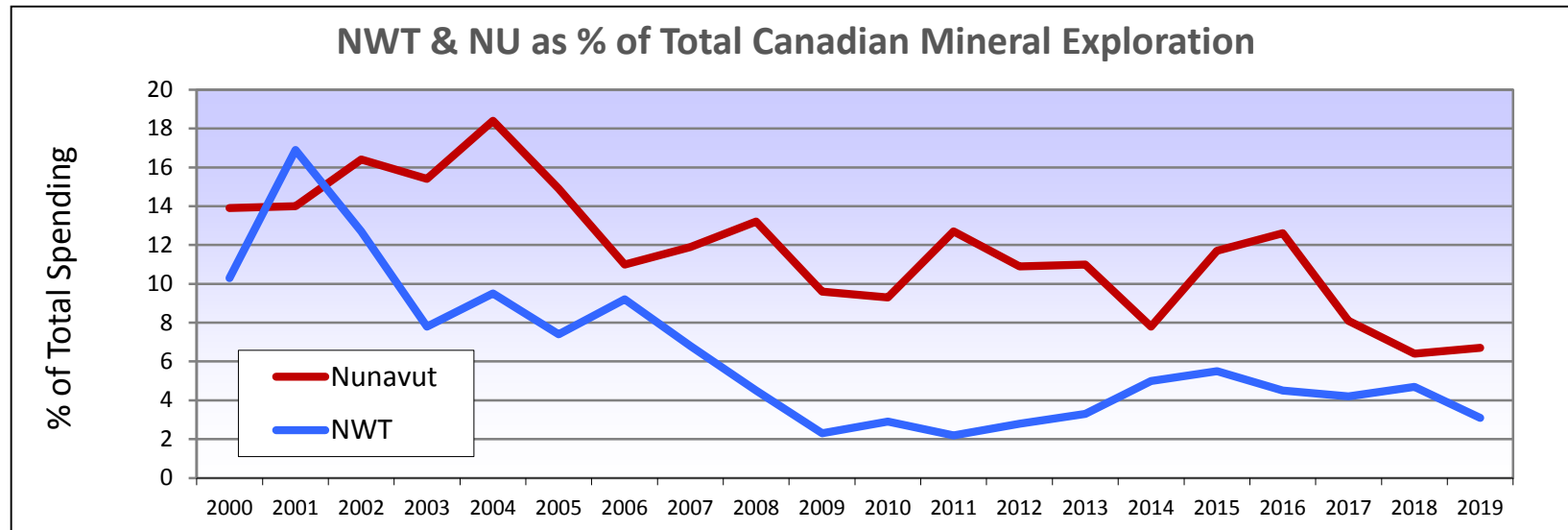
Source: Kimberley Process

- 21 years ago, Canada had zero diamond production
- Today, the NWT alone is 3rd in global diamond production and value

But we face investment challenges: exploration is underperforming



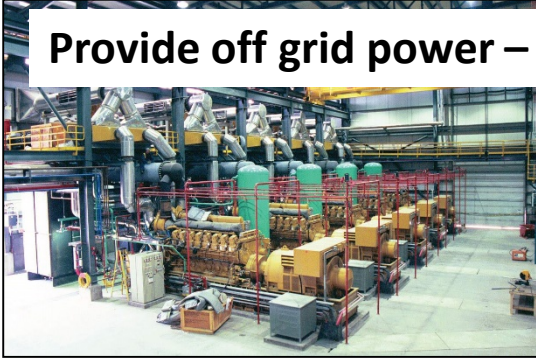
- NWT mineral exploration investment is languishing
- NU falling 4 years running



- Both have lost Canadian investment share

And Cost Challenges create un-level playing field

Provide off grid power – diesel, wind



- The North is a high cost jurisdiction
- Today, mines are on their own to pay it all
 - Exploration costs up to 6 times higher
 - Capital costs up to 2.5 times higher
 - Mine operating costs 30 to 60% higher

Build Roads – seasonal, all weather



Buy & Store Annual Inventories



Build Sea Ports and Air Ports



Provide room & board, medical



= \$!

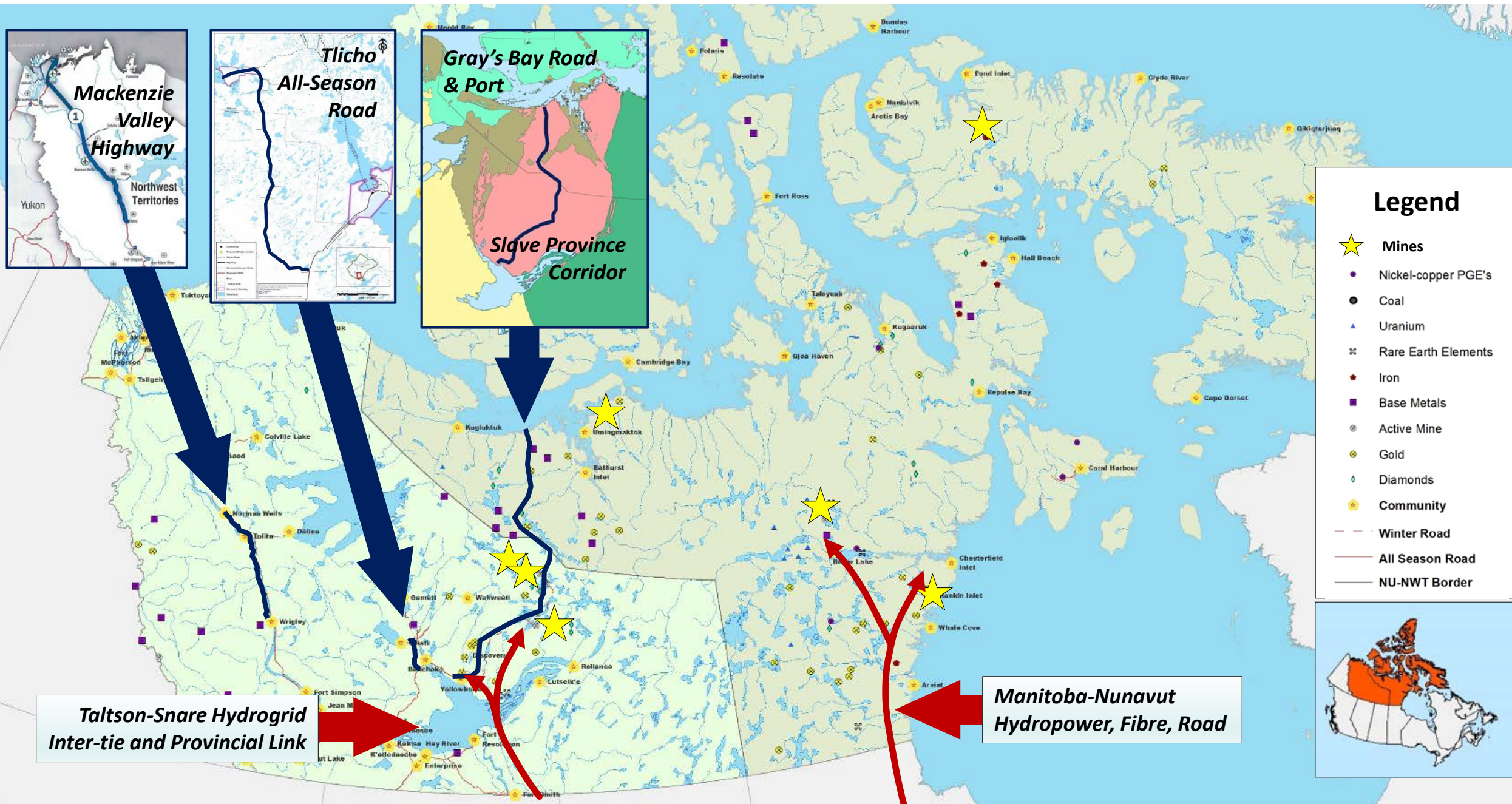
It wasn't always this way ...

Federal Government partnerships in Northern mining Infrastructure

- 1948 – Snare Hydropower for Yellowknife gold mines
- 1959 – Roads to Resources, highways to mining towns
- 1961 – Great Slave Lake Railway for Pine Point zinc-lead mine
- 1966 – Taltson Hydropower for Pine Point mine
- 1974 – Town site, dock, airport for Nanisivik zinc-lead mine
- 1975 – Ice-breaking cargo ship technology to service Nanisivik & Polaris mines
- **40 YEAR FEDERAL INVESTMENT GAP FOR NORTHERN MINING**
- 2017 – Tlicho road with indirect benefit for NICO mine project



To catch up: Seeking key infrastructure investments



Addressing the challenges – some Key Chamber Activities

- To reduce costs
 - New roads and cheaper power infrastructure
 - Carbon tax reduction or removal given the north has few alternatives
 - Reduced regulatory burdens and costs
 - Exploration incentives, geoscience investment
- To increase access to land
 - Land claims, land use planning, caribou, conservation, road infrastructure
- To increase public support, attract more youth to industry
 - New program – *MiningNorthWorks!* (www.miningnorthworks.com)
 - Supporting *MiningMatters* in schools



Why is Industry here?

- At Government's invitation to do what governments cannot do
 - Turn rock into benefits – jobs, business spending, taxes
 - Assume the risks of exploration, mining and the markets
 - Bring money to do the job
 - Bring expertise to share and build capacity & wealth
- We can do a fine job, but ...
- Industry can't do this alone
- We need governments' – NWT, Canada & Indigenous – collaboration and support

Why it's important: people success!

