

Thank you for very much Gaetan and organizers for the invitation to speak to you today. I know it's close to the end of the day, but I am confident that you will find our presentations interesting.

The title of my talk is Mining in the NWT, but since I also represent Nunavut, I will also speak a bit about it too.

Why we are here

- To describe mining opportunities in the North
- To attract you to come do business 😊
- To provide some thoughts on working with Aboriginal and northern businesses; and
- To share with you some ideas which you might find helpful in Quebec



So, why are two guys from Yellowknife here at a Quebec conference?
It's to do these 4 things: RECITE THEM.

Topics for today

- Overview of our NWT industry
- Aboriginal benefits and relations
- Opportunities and challenges before us

... Then I'll pass it over to Darrell



With that, I want to address 3 topics today that will give you a foundation on the North. Then I will hand it over to Darrell Beaulieu who will build upon it.

We have 80+ years of mining history

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



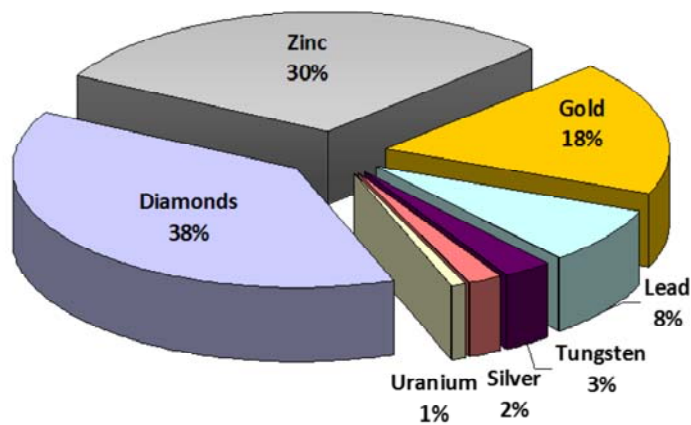
We have over 80 years of mining history in our territories.

And we developed new mines in every decade.

We have produce a wide range of commodities from radium to diamonds.

Historical mineral production

– Over C\$60 billion since 1932 –



Current & Past Producing Mines: Ekati • Diavik • Snap Lake • Meadowbank • Con • Giant • Lupin • Polaris • Nanisivik • Pine Point • Cantung • Discovery • Rankin Nickel • Rayrock • Outpost Island • Supercrest • Eldorado • Ruth • Terra • Norex • Silver Bay • Colomac • Tundra • Camlaren • Contact Lake • Ptarmigan • Tom • Mon • Cullaton Lake • Salmita • Hope Bay • Negus • Thompson-Lundmark • Rich • El Bonanza • Rycon • Bullmoose

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That mining has generated over \$60 billion in wealth for the North and for Canada.

You will note we have produced gold, we became a major Canadian zinc producer, and now diamonds dominate.

Mining contributed legacy infrastructure

- 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



Our mines have helped contribute legacy infrastructure.

Two of our communities reflect their mining history in their crests (crossed picks and shovels, headframes).

Our mines contributed to resource roads, our only railway, all of our hydro power development, marine shipping, and more recently microwave communications into the hinterland.

Much of this infrastructure is still serving the north, long after the mines closed.

And Technical Innovation

- High efficiency diesel power
- Innovative wind energy
- Dikes
- Ice roads



Heat recovery on diesel powerplants



Diavik's wind turbines



National award winning Diavik dikes



Engineered ice road "highways"

Our mines have also brought technical innovation.

I've put a few examples here:

- High efficiency diesel power. We have to generate power by diesel today, as we are off the grid, but we are very efficient at it, recycling waste heat to heat our buildings.
- Innovative wind energy – Diavik the first mine in Canada and one of the first in the world to use wind in combination with diesel. They have of these wind turbines.
- Dikes – award winning dike design and construction has allowed us to mine diamonds and gold. Diavik's dike design won the top Canadian engineering award and allowed us to build a mine temporarily on the lake bottom. This will eventually be returned to the lake.
- Ice roads – the continued engineering of the ice roads gets better every year. Every year we build several hundreds of kilometres of ice roads to access our mines, as they have no all-season road access. In our best year, we handled 11,000 highway transports like these, bringing equipment and consumables to our mines.



Today, we have 5 producing mines in NWT and Nunavut. The NWT has 3 producing diamond mines.

Nunavut has two mines, one gold and one iron.

Last year we lost two mines in the NWT due to lack of profitability: a diamond mine at Snap Lake, and our tungsten mine in the mountains to the west.



This is the Ekati diamond mine now owned by Dominion Diamonds and the two geologists who discovered it. It is the first one built and went into production in 1998. It is our largest mine, but not the largest producer of diamonds.

Ekati mines in open pits (the holes in the ground), and by underground methods too.



This is Diavik, the largest producer of diamonds in the NWT and Canada. It is owned 60% by Rio Tinto and 40% by Dominion Diamond.

It is built on an island in a 60-km long lake called Lac de Gras. It has been approved to mine 4 diamond deposits called kimberlite pipes. They are currently mining 3.

These pipes were discovered under the water of the lake and so Diavik had to develop engineered dikes that would let them borrow the lake bottom for mining. Those are the roads that you see around the holes in the ground bordering the lake. When Diavik is finished mining, they will return this area to the lake again as part of the reclamation plan.

They began mining by open pit in 2003, and in 2012 became all underground; in 2018 they will add a new open pit to the mine plan.

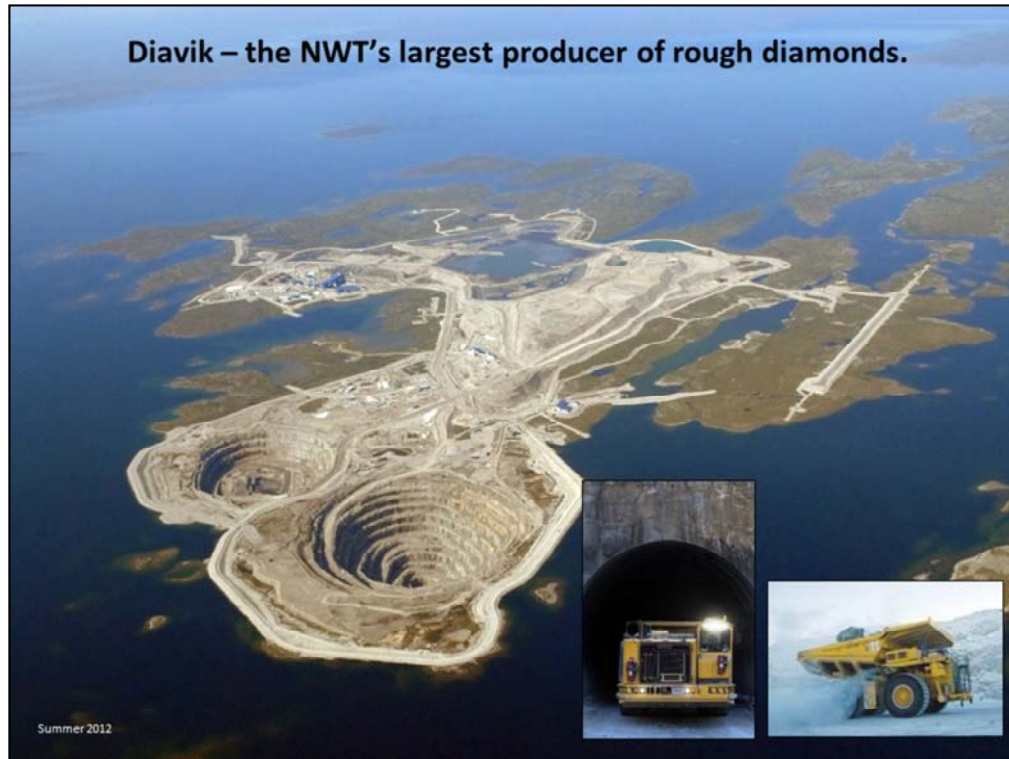
The footprint of Diavik is about 13 sq.km footprint.

The value in the ground is well over C\$10 billion.

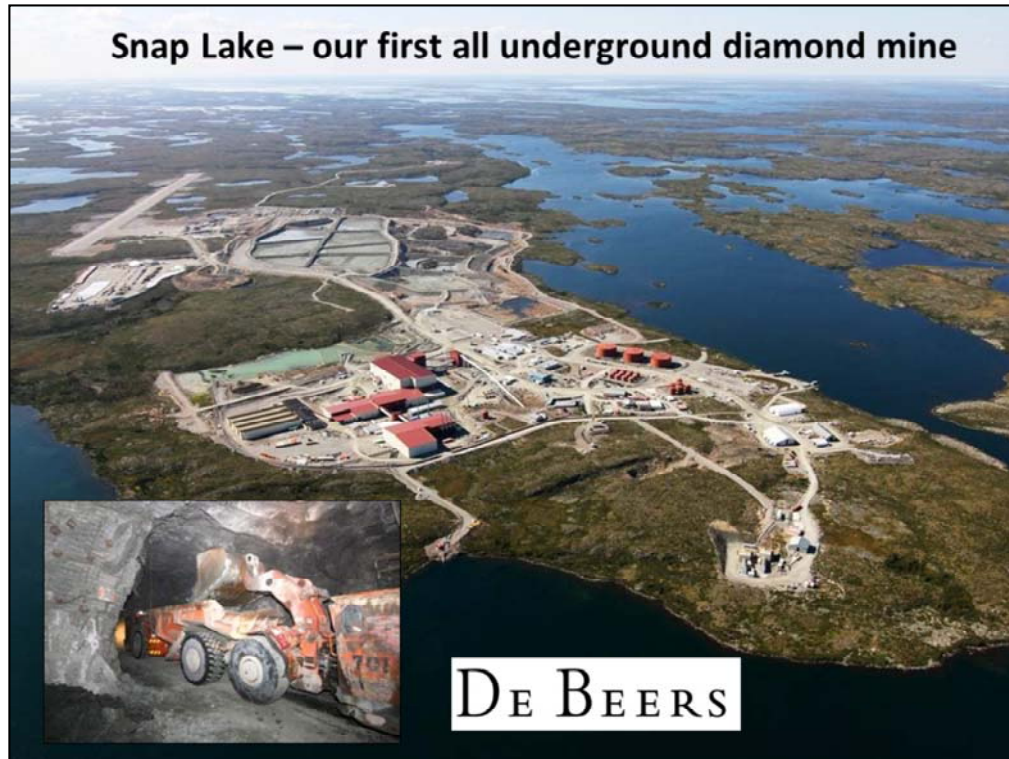
Like all diamond mines, it doesn't use chemicals to separate diamonds from waste.

It's a mine the protects the environment, and produces very significant benefits to local communities and the Canadian economy.

It's what all of you should be so lucky to have in your backyards.



Here is Diavik in summer. This image makes it easier to see that it is built on an island in the 60-km long lake called Lac de Gras.



This is the De Beers underground mine, Snap Lake, which was closed in December 2015 because of economics.



This is Cantung, the NWT's tungsten mine. It closed in 2015 due to economics. It has closed before (generally because the Chinese flood the tungsten market and reduce the price) and then reopened.

It is uncertain if it will re-open, as this time it is in receivership, and reverted to the Federal Government.

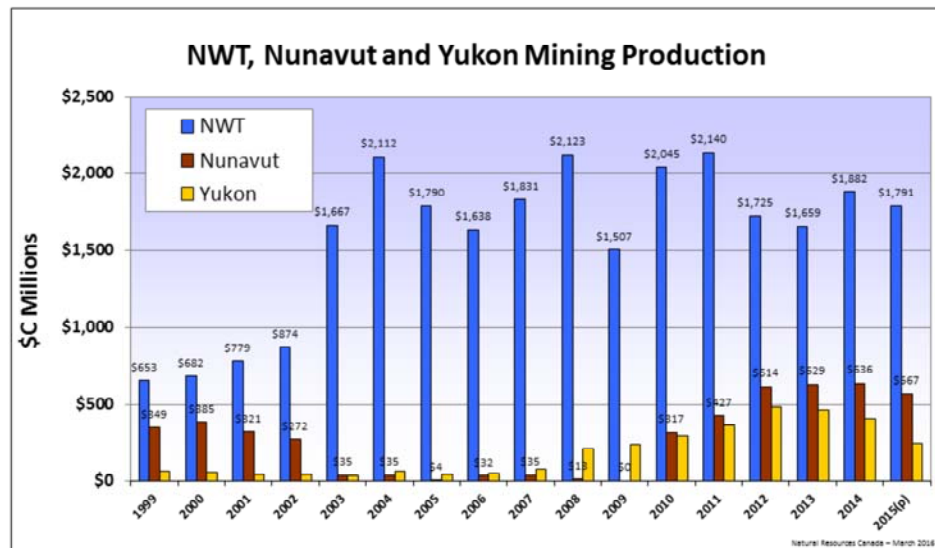


This is the Meadowbank gold mine, in Nunavut, approximately XX kilometres from Baker Lake.



This is the Mary River iron mine in Nunavut. Baffinland Iron Mines are essentially mining this hill, and because the rock is so iron rich, requires only blasting, crushing and then loading onto ships to take the ore to smelters in Europe.

Our mines create significant value



- NWT: Diamond production down slightly; much less value in tungsten & copper
- Nunavut: Gold production was down at its one mine (note no iron reported yet)

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Our mines generate significant value as shown in this chart comparing the three northern territories.

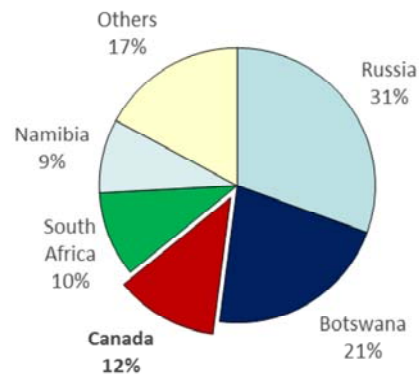
You will note that the NWT is significantly larger, and that is virtually all because of our diamond mines.

Nunavut reporting is a bit low here, as the new iron mine's production has been included yet.

Diamonds – NWT is world leader today

- The Northwest Territories by itself is the world's 3rd most valuable diamond producer

Value of Global Diamond Production 2015



Source: Kimberley Process

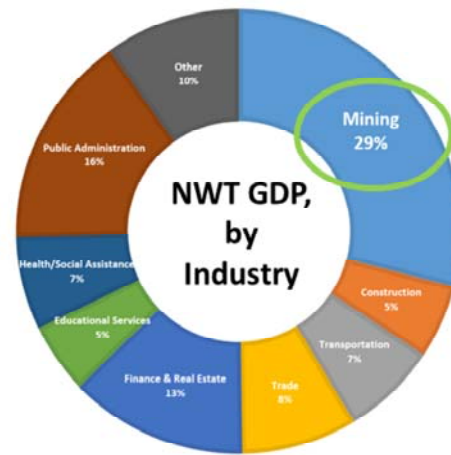


The NWT's mineral production value is so high because of diamonds, and in fact globally, the NWT by itself is the world's third richest producer of diamonds.

The opening of our newest diamond mine, Gahcho Kué, is projected to allow us to hold this position.

Mining: Our economic strength & advantage

- Mining is the largest private sector direct contributor to the NWT Economy
- and...
- contributes even more through other sectors of the economy including transportation, construction trade, real estate
- **Direct + indirect > 40% of GDP**



Source: NWT Economic Outlook 2014-2015

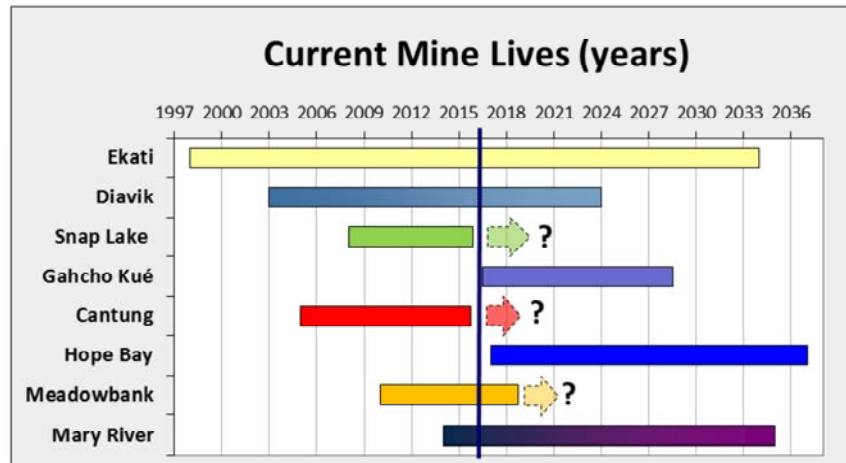


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With those kinds of values, mining is the largest private sector contributor to the economy, both in NWT and in Nunavut.

A reminder too, that these are direct contributions, and ... in both territories, mining contributes even more indirectly through other sectors of the economy like construction, transportation, finance and real estate.

The future of our mines



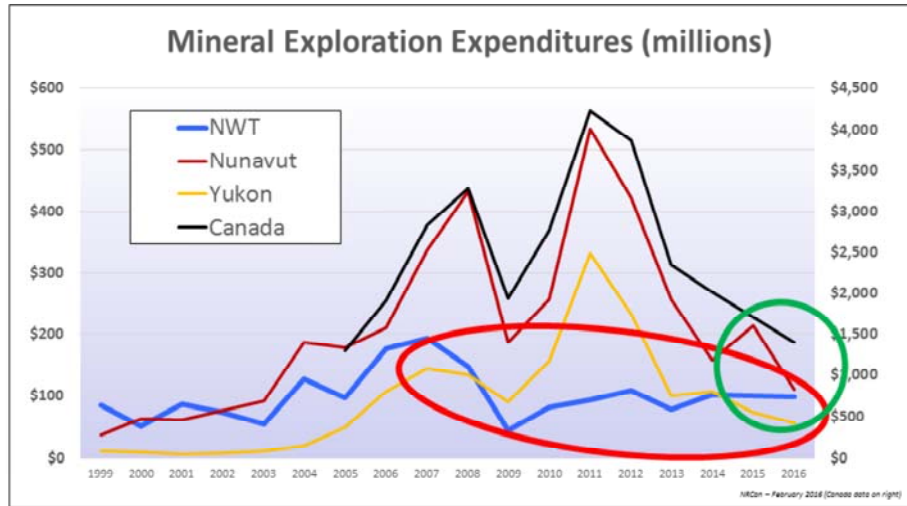
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When we look at our future mine lives, we aren't looking too bad.

While we had closures, we also have opened a new diamond mine in the NWT, and a gold mine in Nunavut next year. More on that later.

Note here too the two mines that closed in the NWT, and that we have quite a few question marks on the future, meaning options.

Mineral exploration still challenged



- **NWT lost over \$1 billion in opportunity over 2007-2014**
- **Falling tide is now affecting all boats**
- **Opportunity today to rejuvenate our investment climate**

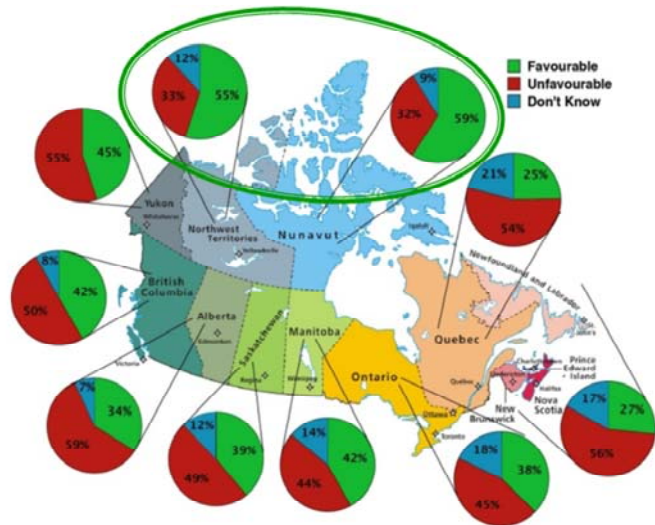


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Exploration investment for new mines is not pretty, and you can see that our investment has fallen along with everyone else as part of the “Chinese hangover”. Note the NWT missed the whole Chinese party, and essentially flatlined for some 9 years due to investment uncertainties around lack of tenure certainty created by unsettled land claims, and lack of land use planning, and some regulatory issues. This market low provides the opportunity to take appropriate steps to improve our investment climate for the eventual market turn around.

Survey 2014: Aboriginal Support for Mining

The highest approval rating for mining is in NWT & Nunavut.



Aboriginal Canadians and Their Support for the Mining Industry: The Reality, Challenges and Solutions:
PR Associates, 2014: www.prassociates.com

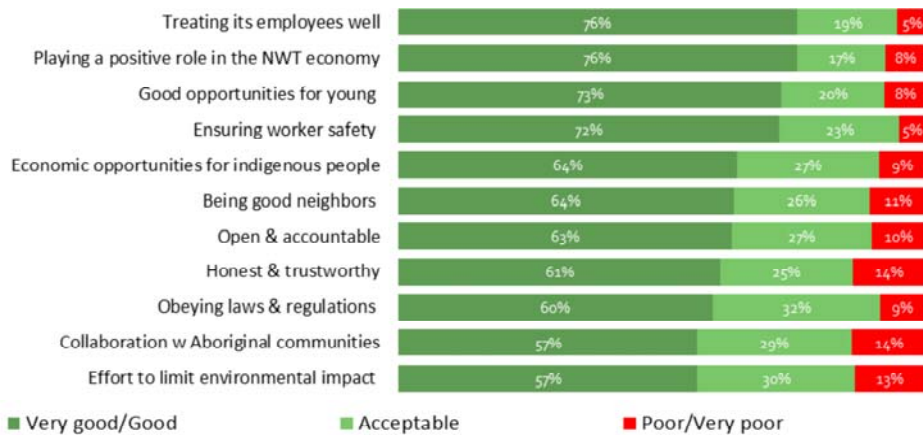
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I want to shift gears now by showing you two surveys.

The first was conducted in 2014 and was conducted of Aboriginal communities on their perceptions of mining.

It was generally low across Canada, but you will note that the two areas with the highest positive ratings were Nunavut and the NWT.

Survey 2016: Strong performance of NWT Mining Companies



Question: Thinking specifically about mining companies operating in NWT, would you rate their performance as very good, good, acceptable, poor, or very poor?



Source: [Mining in the Northwest Territories: A Public Opinion Study](#),
Spring 2016, by Abacus Data

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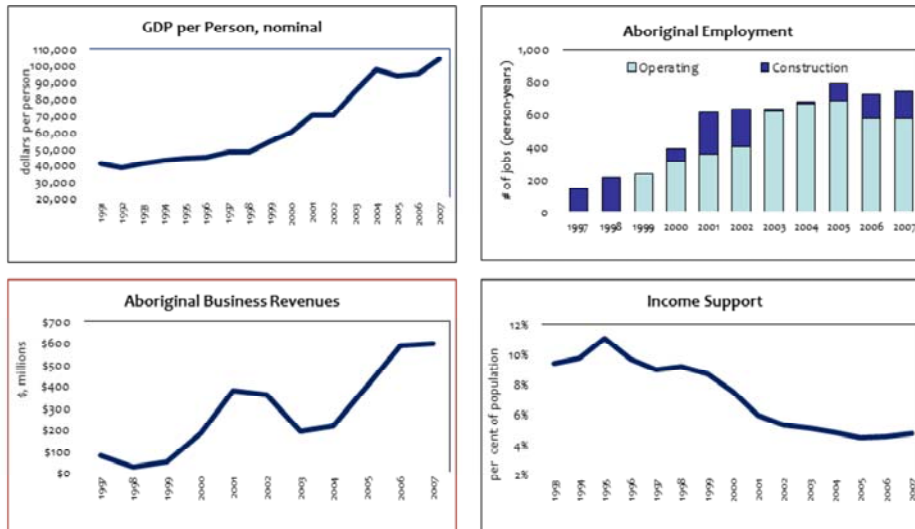
The second survey was conducted this year in the Northwest Territories.

You will note the very strong performance of our mining companies in a variety of areas.

This is just one slide for one question of many that form the survey, but it is reflective of the entire survey, which you can download from our website.

SO WHAT'S GOING ON HERE? WHY THE POSITIVE APPROVAL RATINGS IN THE NORTH?

Diamonds made a fast Aboriginal difference



Source: [NWT Diamonds Report – 2008](#)



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SO WHAT'S GOING ON HERE? WHY THE POSITIVE APPROVAL RATINGS IN THE NORTH?

This, I believe is at the heart of it. It's Performance and results, particularly with Aboriginal communities.

These are charts from an economic study we did with MAC in 2008 of the diamond mines performance.

You will see some very rapid changes with increasing GDP per person, Aboriginal employment, and Aboriginal business revenues.

You will also see decreasing income support, or social welfare payments as new jobs were provided for Aboriginal residents.

We have never seen such great participation of Aboriginal northerners in our history ever before.

Why? A new world today

- Increasing recognition s.35 Aboriginal Rights
 - Land claims, Aboriginal & Inuit Impact Benefit Agreements
- Legislation: MVRMA & NWT Socio Economic Agreements
- Sustainable development “invented”
- Corporate Social Responsibility



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SO WHAT CREATED THAT?

A number of advancements that came together at the same time in the late 1990s made the difference:

- First, was strong recognition of Aboriginal rights, which were put into the Canadian Constitution in 1982, but took some years to be clarified and “sink in” through court cases.
- From that recognition, lands claims were being settled and in many of those, a new requirement for companies to negotiate Impact Benefit Agreements with traditional Aboriginal landholders.
- Second, was the new environmental legislation – like the Mackenzie Valley Resource Management Act for the NWT, that required assessment of POSITIVE socio economic effects as part of environmental assessments. With that, the NWT Government then began requiring mines to sign Socio-Economic Agreements and report on them at least annually.
- Third, was the creation of a new term “sustainable development” by the World Commission on Environment and Development’s report, Our Common Future. This SD term began to become mainstream in the late 1990s.
- Finally, was corporations adopting another new term, Corporate Social Responsibility, like Rio Tinto’s The Way We Work shown here.

It was a perfect storm, as some would say, with the confluence of all of this driving significant changes in community benefits from our industry.

Example of Socio-Economic Agreement – Diavik

- Training
 - DDMI agrees to establish training programs on-site and in communities
 - Employ and train 8-18 apprentices annually
- Jobs
 - Employ 66% Northern residents
 - Priority to Aboriginal people
 - Hire 40% Aboriginal northerners
- Business:
 - Conduct 70% of spending in the NWT
- Other mines have similar SEA commitments



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Here's a quick example of a Socio Economic Agreement, this one for the Diavik mine. Other mines have similar commitments.

You can download this and other agreements on our website here:
<http://www.miningnorth.com/commitments>

Success factors: Training

The Recipe for Success:

- Start with influential Partners
 - Aboriginal Governments
 - Industry
 - Public Government
- Mix in money – \$50 million since 2004
- Add the Secret ingredient: **REAL JOBS after training**
- Result? 1282 people employed
 - 5% of the entire NWT working labour force employed



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Why else were we so successful? One reason is Training

We have been very successful at training and employing northerners, particularly Aboriginal northerners.

Our recipe?

Start with the right partners:

Aboriginal Governments: Tlicho Government, Yellowknives Dene First Nation, Lutsel K'e Dene Band, North Slave Metis Nation

Industry: DeBeers Canada, Diavik Diamond Mines Inc., Dominion Diamond Corporation

Public Government: Government of the Northwest Territories (Education, Culture and Employment)

(Ex-officio members: Aurora College, Procon Tunneling and Mining, NWT Metis Nation)

Mix in money, from a variety of sources, Federal, Territorial, Industry, Aboriginal

ADD THE REAL SECRET: PROVIDE JOBS AT THE END OF TRAINING. Not just training in hopes of a job.

And the results have been tremendous.

Success factor: Business development

- Game changing new generation of Aboriginal businesses
- \$11 billion in northern mining business, \$5 billion Aboriginal

• Growth of new Aboriginal companies in past 20 years

- | | | |
|---------------------------------|--|---|
| • Tli Cho Logistics | • Det'on Cho Earth Energy | • Akaitcho Helicopters |
| • Tli Cho Landtran | • Det'on Cho DNX | • Dene-Emco Ltd. |
| • Tli Cho Cement | • Bouwa Whee | • Denesoline/Aboriginal Engineering Ltd. |
| • Tli Cho Air | • Det'on Cho Foraco | • Denesoline/Air Tindi Joint Venture |
| • Tli Cho Road Constructors | • Det'on Cho Hazco | • Denesoline/Arcan Constructio |
| • Tli Cho Orica Explosives | • Det'on Cho Nahanni Construction | • Denesoline/De Beers Labour Contract |
| • Denesoline Western Explosives | • Det'on Cho New North | • Denesoline/Discovery Mining Services – Logistics Expediting |
| • Metcon | • Det'on Cho NUNA | • Denesoline/Deton Cho/Procon |
| • Kete Whii Ltd. | • Det'on Cho Pure Earth Elements Environmental Solutions | • Denesoline/Deton Cho/Ledcor |
| • Kete Whii Procon | • Det'on Cho Scarlet Security | • Denesoline/Dyno Nobel |
| • Sodexho Alliance | • Det'on Cho Stantec | • Denesoline/ESS Compass |
| • Exploration Medical Services | • Det'on Cho Training and Conference Centre | • Denesoline/McCaw Drilling and Blasting |
| • Kitikmeot Cementation | • Det'on Cho Logistics | • Denesoline/Nuna Logistics |
| • Lac De Gras Constructors | • Det'on Cho Medic North | • Denesoline/Tli Cho Logistics |
| • Nishi Khon SNC Lavalin Inc. | • Det'on Cho Mining Supplies | • Lutsel K'e Air Services |
| • North Slave Logistics | • DICAN / ADG | • A.T.B. Construction |
| • Nuna Logistics | • Kete Whii / Ledcor | • Trinity Helicopters |
| • SecureCheck | • Kete Whii / Procon | |
| • Lac De Gras Constructors | | |
| • Nishi Khon / SNC Lavalin Inc. | | |
| • Ekati Services | | |
| • I&D Management Services Ltd. | | |



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The other reason for success has been through Business Development.

Before the diamond mines there were perhaps a handful of Aboriginal companies that could do business with our mines.

What we have seen since is an explosion of Aboriginal businesses. A sample is here.

Because of commitments in Impact Benefit Agreements, Socio-Economic Agreements, Corporate Social Responsibility, etc., mining companies wanted to do business with Aboriginal communities. The communities also wanted to do business with mining. And contractors, suppliers, and other such companies who had the expertise required, created partnerships with the Aboriginal corporations to get them going and to get the mines' business.

The result is a real game changer in Canada. Of the \$11 billion in business to date (up to and including 2014) with northern firms, \$5 billion is with Aboriginal mining businesses.



I won't spend much time on this, but this is an example of one of the largest Aboriginal corporations, the Tli Cho Investment Corporation.

You can see the growth they went through in members companies, employment, and annual revenues.

One of their companies, Tli Cho Logistics, created to work at the Diavik Mine, was recognized by the Prospectors & Developers Association of Canada with their Skookum Jim award, shown here.

Some of the Tli Cho companies



**Tli Cho Lafarge
Cement**



Tli Cho Logistics



**VENTURES WEST
TRANSPORT LP**



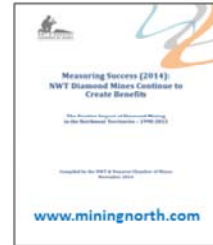
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Here are some examples of just a few of the Tli Cho companies that supply the mining industry.

Our mines create huge people & business success

(Note: NWT diamonds example ... Nunavut benefits similar)

- 22,000 person years northern mine employment
 - Over 1,400 northern workers, 50% Aboriginal
 - Mining – largest employer of Aboriginal people
- Over \$11 billion in northern business
 - \$5 billion with Aboriginal businesses
- \$100 million plus to communities in IBA payments, scholarships, donations



So where are we at today? At our last formal report last year (including 2014), we had passed:

22,000 person years of northern mine employment

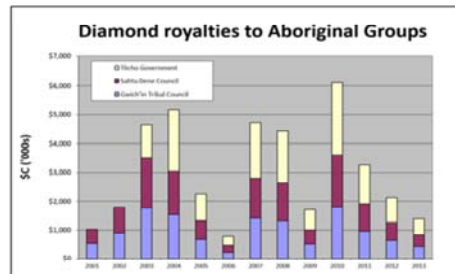
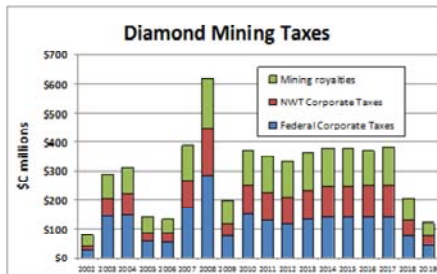
Over 1,400 Northern workers, and about 750 Aboriginal.

Over \$11 billion in business, and of that \$5 billion Aboriginal.

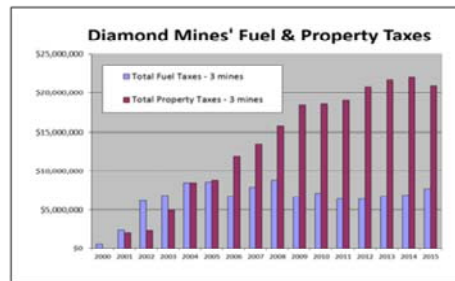
And over \$100 million in various payments to communities.

More details in this report on our Website.

Plus taxes & royalties to Governments too



- Public and Aboriginal governments now benefit directly from mining taxes and royalties



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And of course we made significant payments in taxes too to governments. But that happens in all jurisdictions.

What is unique in the NWT and Nunavut, is that it's not just public governments that benefit. Under their self-government agreement, the Tlicho Government collects 95% of the income taxes generated in their region, and the more high paying mining jobs they have resident in their region, the higher the taxes they collect.

Many Aboriginal governments are now collecting royalties as well.

This chart shows royalties that come through the three settled claims up to devolution.

There are now additional royalties shared by the GNWT with Aboriginal groups that have signed on to the devolution agreement.

We compare well with the best

- Saskatchewan uranium mining has been a leader in northern community benefits for many years

2014	Saskatchewan Uranium	NWT Diamonds
Wages	\$ 98.7 million	\$ 150 million
Northern Purchasing	\$ 420 million	\$ 653 million
	Saskatchewan (since 1991)	NWT (since 1996)
Spending to date	\$ 6.2 billion	\$ 11.3 billion

Sources: [2014 Northern Benefits Summary](#), Government of Saskatchewan, Saskatchewan Surface Lease Agreements [Measuring Success 2014](#), with figures updated for 2014 by NWT & Nunavut Chamber of Mines



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So we think we are doing pretty well.

But how do we compare to our peers?

Saskatchewan has been mining uranium for much longer than we have been mining diamonds. They have also been a leader in creating local and Aboriginal benefits.

Here is a quick comparison to our annual reporting.

I believe we have much to be proud of.

We have opportunities: Gahcho Kué diamonds

- World's largest and highest margin new diamond mine
 - Project cost \$1 billion to date
 - Officially opened September 20, 2016
 - Commercial production on track for Q1 2017
 - Joint Venture: De Beers 51%, Mountain Province 49%
- Benefits
 - Annual production 4.5 million carats, averaging \$157/carat
 - Operating costs \$218m annually for 12 year mine life
 - 530 operations workers
 - Estimated \$5.7 billion to NWT economy over mine life



Looking forward to opportunities. We have many.

The first is our newest diamond mine, Gahcho Kué.

\$1 billion invested in the mine to date.

Opened officially one week ago.

You can get a sense of the benefits here.

A pretty nice ace up our sleeve considering we lost two mines last year!

4.5 million carats per year at \$157/carat = \$706 million per year!

Diavik Opportunity: A21 deposit

- US\$350 million to develop A21 deposit over 4 years
- Diamond production planned for late 2018
- Makes production more robust to 2024 closure
- Brings construction jobs and business spending



A21 is under the lake, and will be developed with similar dike technology as shown around the A418 and A154 deposits. Courtesy: Diavik Diamond Mines Inc.

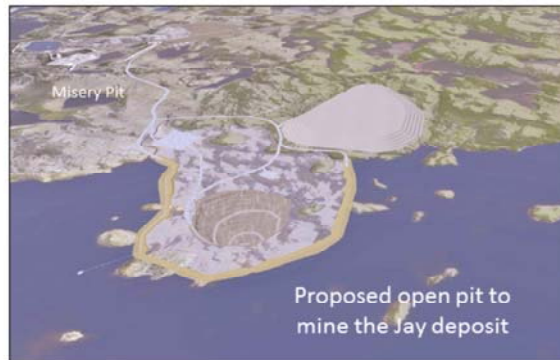
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Our top producing mine, Diavik is also developing a fourth ore body which is a significant investment and adding to our economy.

While it won't add to mine life, it will make the mine's production more robust to closure.

Ekati Opportunity: Jay deposit

- EKATI is already huge benefit to the NWT
 - Sustains our largest mine with 1,500 workers and \$400 million annual spending
- Jay deposit will add 11 more years
 - \$690 million to build = jobs, business opportunities



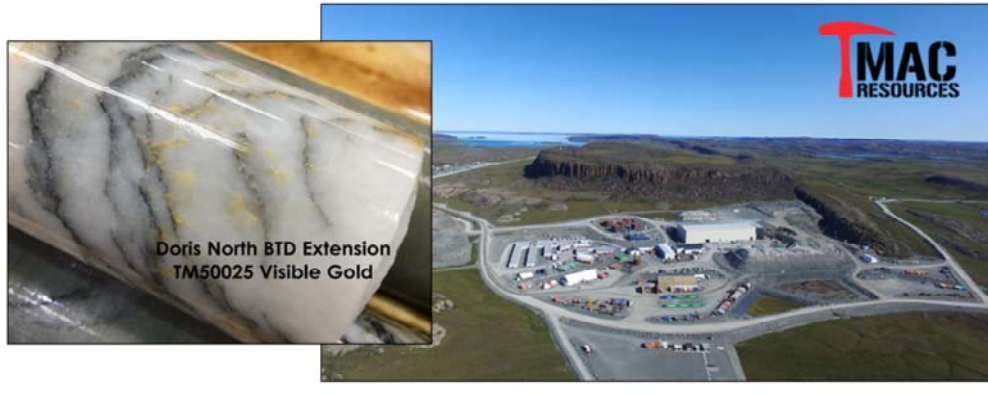
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Our largest mine, EKATI is proceeding to develop another ore deposit called Jay which will extend their mine life by 11 years.

Considering they employ 1,500 workers, this is very significant.

Nunavut opportunity: Hope Bay gold mine

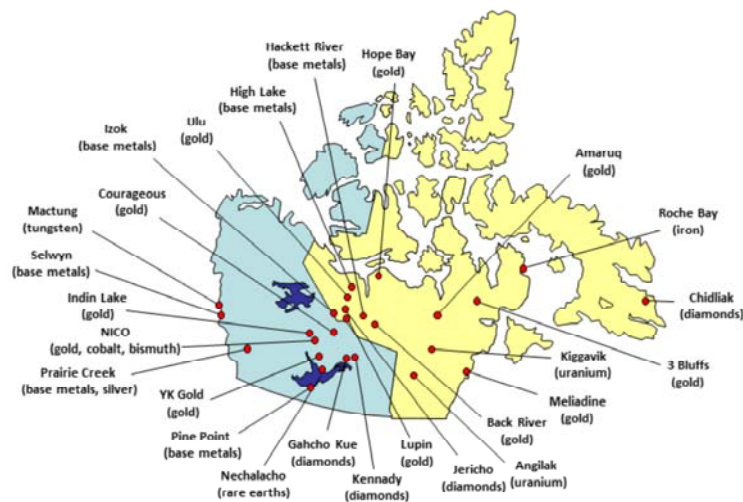
- Commercial production in early 2017
- \$334 million capital cost
- 20 year mine life



In Nunavut, north of Yellowknife, TMAC Resources is constructing Nunavut's second gold mine, called Hope Bay.

Commercial production is expected in early 2017. And they are planning for a 20 year mine life. Also a sizeable investment for Nunavut's economy.

We have near-term opportunities too



- Much more lies undiscovered

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Looking further out, we also have quite a number of other opportunities “waiting in the wings”, if you will, in both territories.

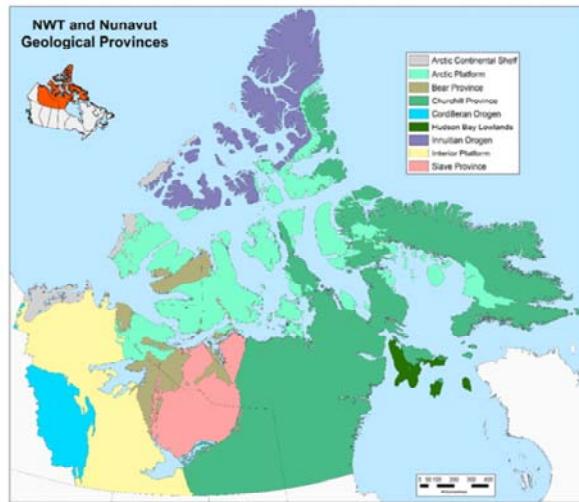
These are what we call advanced projects. Many have received regulatory approval, or are close to it. Many of them are close to making production decisions.

Better market conditions and infrastructure will really help them advance.

We have great long-term opportunity, too!

Rich Geology

- 9 geological provinces
- Diverse mineralogy
 - Gold, silver, diamonds, lead, zinc, uranium, tungsten, rare earths, cobalt, bismuth, nickel, copper, iron, etc.
- But, under-mapped & remote means under-explored
- This equals tremendous mining opportunity



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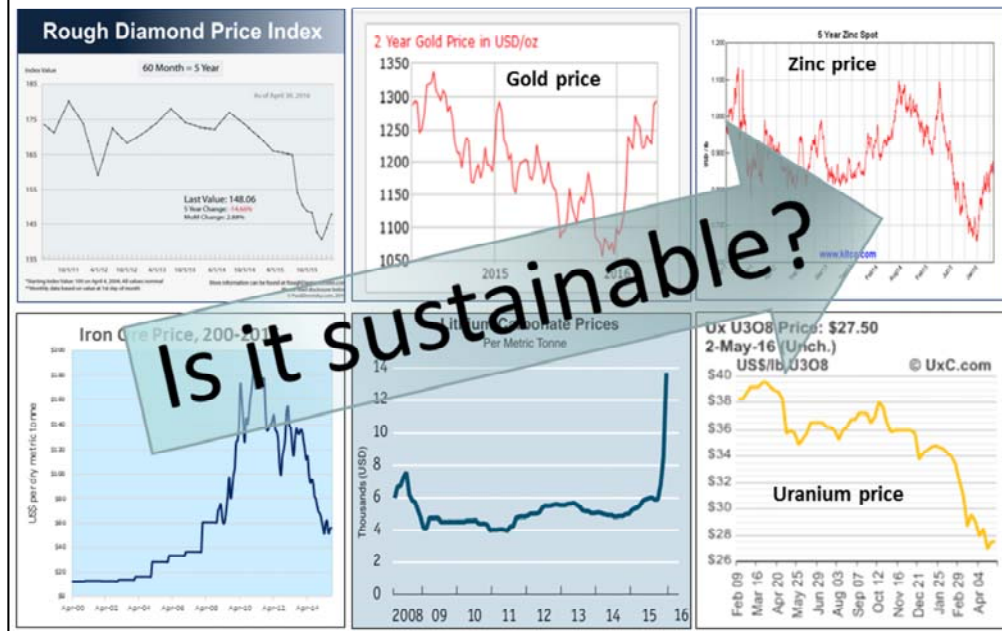
And if you look at the biggest picture, we have very rich geology. And this is because of our size and our geological diversity. Ironically, because of those same conditions, we haven't undergone much explored.

That spells opportunity.

The challenges though too, is our size and remoteness, which means lack of infrastructure, which adds to costs.

We are working with governments to see infrastructure constructed and/or supported.

Challenges: Do we have the markets yet?



Of course it is never easy.

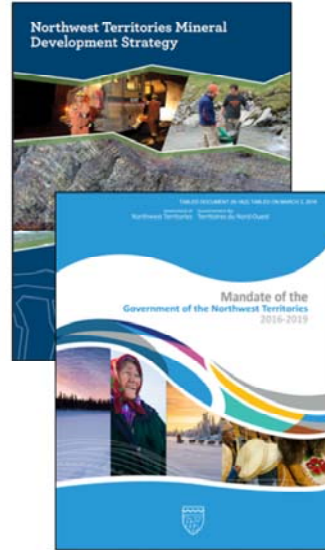
The markets haven't been kind in recent years.

We are just starting to see some increases, but the big question is, will they continue?

Time will tell.

Challenges: where we need Governments' help

- Invest in infrastructure
- Settle remaining Aboriginal Land Claims
- Advance land use plans
- Reduce growing protected areas
- Increase Federal regulatory certainty
- Reduce the cost of living
- Continue to increase public awareness and support for mining in our economies
- Work with Aboriginal governments, too



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In the meantime, there are areas where we can use governments' help to make us more attractive. I won't get into much detail here, in the interests of time, but many are probably similar to your own.

The Chamber has been very active in informing governments (federal, territorial and Aboriginal) on what they can do to help increase revenues and opportunities.

There are two key documents that are guiding our NWT Government now, our first ever NWT Mineral Development Strategy, in which we are a partner.

And the Mandate of our newly elected territorial Government.

These contain many positive action statements, (like settle land claims and complete land use planning). We need to help ensure Governments keep them as their priority.

This is why it matters!



For, at the end of the day, this is why it matters.

It's all about people success!

And our mining industry is creating much of that.

People success can lead to community success and territorial success.

(These are a small selection of photos of Aboriginal workers from the Diavik mine. There are of course many others at all the mines. Some work for the mining companies, and some work for new Aboriginal mining companies.)

These are tremendous success stories, and we must sustain and grow them.

Thank you for your time today.