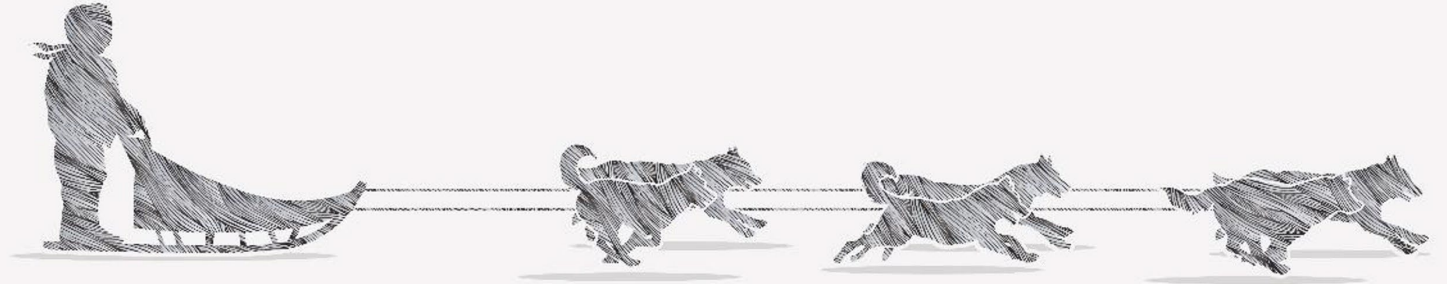




NWT ENERGY
PARTNERSHIP TABLE



Pulling together to tackle energy transition

Energy Table Talk

Can the NWT harness the winds of change?



Table of contents



I.	Opening remarks	5
II.	Roundtable of introductions.....	10
III.	Panel presentations.....	12
IV.	Moderator-guided Q&A	40
V.	Open Q&A – Shared resources.....	41
VI.	Closing roundtable	44
VII.	Closing remarks	46

Today's Objectives



Learning opportunity
on an energy topic



Sharing opportunity
on Northern case studies



Connecting opportunity
among multiple stakeholders



Today's Agenda

9:00 I. Welcome, Opening remarks

9:20 II. Roundtable of introductions

9:30 III. Panel presentations

10:30 Health Break 15'

10:45 IV. Moderator-guided discussion

11:05 V. Open Q&A session

11:30 VI. Closing roundtable

11:45 VII. Closing remarks, Adjourn



I. Opening remarks



Marjolaine Chevet - NWTAC

Mission Statement

The NWT Energy Partnership Table is a **multi-stakeholder forum** where we exchange information, pool resources, and advance community and regional energy priorities.



A **Partnership Table** with 3 faces

An online
and public
Energy Toolkit



Quarterly themed
Energy Table Talks



A members'
Energy Bulletin

Principles Statement

The Energy Partnership Table is a space for **respectful** dialogue,
where **diverse** perspectives are welcome
and **collaboration** and **agility** fuel creative solutions and hope.



A multiple station journey

04-2022

RiRC Conference in [Whitehorse](#)

S2-2022

Energy Circle [online](#) meetings

12-2022

CC & AM Conference in [Yellowknife](#)

07-2023

Multilateral Dialogue in [Yellowknife](#)

01-2024

1st Energy Partnership Table meeting

You are
here!

Energy Table Talk on **Wind power**



II. Roundtable of introductions



Participants list

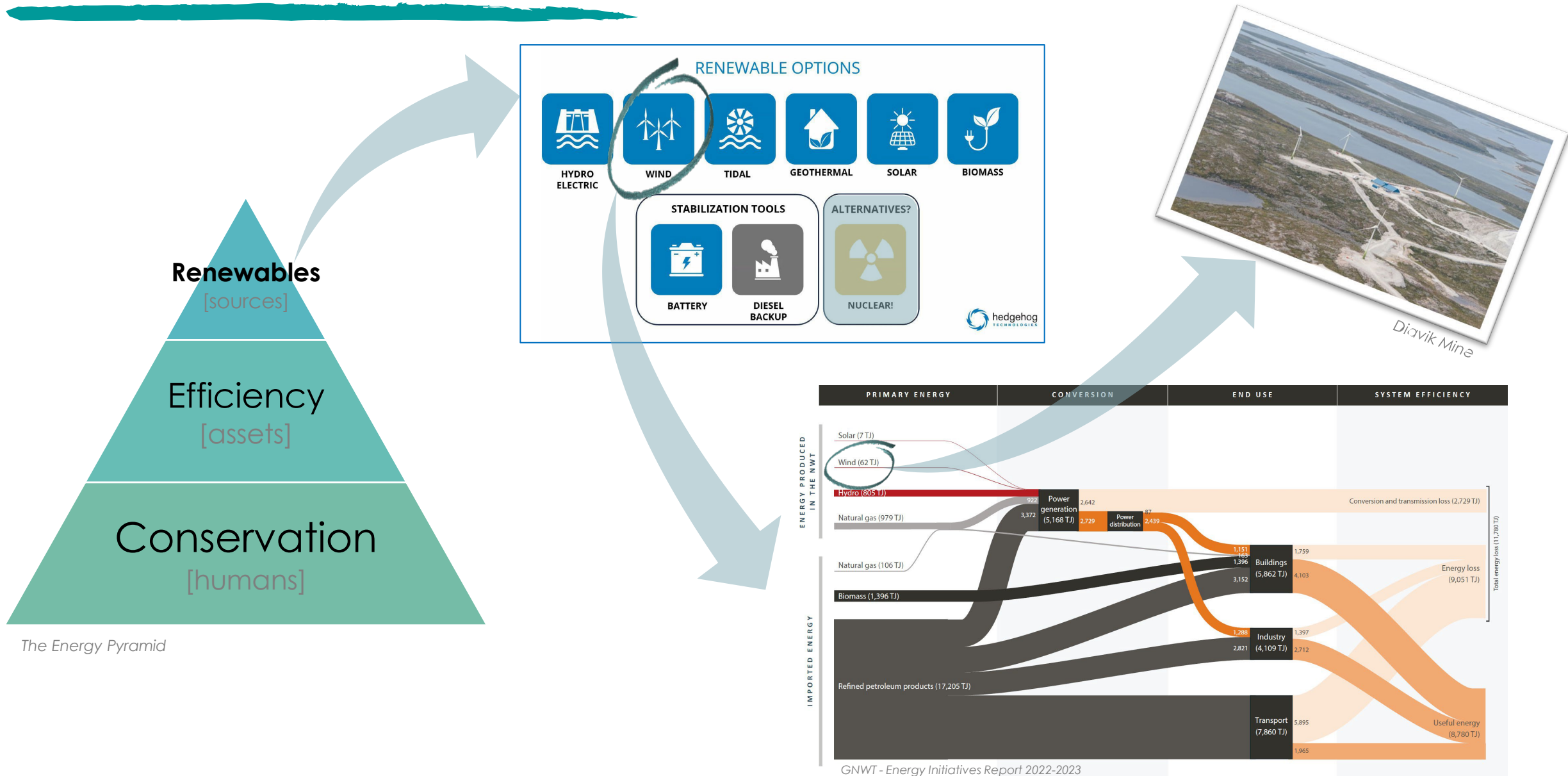


Bob	Bromley	Alternatives North
Mark	Heyck	Arctic Energy Alliance
David	Schwarz	Aurora Research Institute
Les	Wilson	Chu Niikwan Limited Partnership
Anil	Arora	CIRNAC
Mariah	StPierre	CIRNAC
Maliha	Tariq	City of Yellowknife
Dawn	Tremblay	Ecology North
Ben	Israel	GNWT - Energy Division
Loretta	Ransom	GNWT - Energy Division
Sheena	Adams	GNWT - Energy Division
Jason	Collard	Gonezu Energy Inc.
Maggie	Mills	Gwich'in Development Corporation
Becca	Denley	Housing NWT
Bronwyn	Rorke	Housing NWT
Lachlan	MacLean	MacLean Consulting
Grant	Sullivan	Nihtat Energy Ltd
Malek	Tawashy	Northern Energy Capital
Rudi	Van den Broek	Northern Energy Capital
Salah	Abouelnaga	NT Energy
Simone	Clark	NT Energy
Alexander	Love	NWT Power Corporation
Marjolaine	Chevet	NWTAC (host)
Miki	Ehrlich	NWTAC (co-host)
Sara	Brown	NWTAC
Grace	Nakimayak	Paulatuk Energy Working Group
Emily	He	Pembina Institute

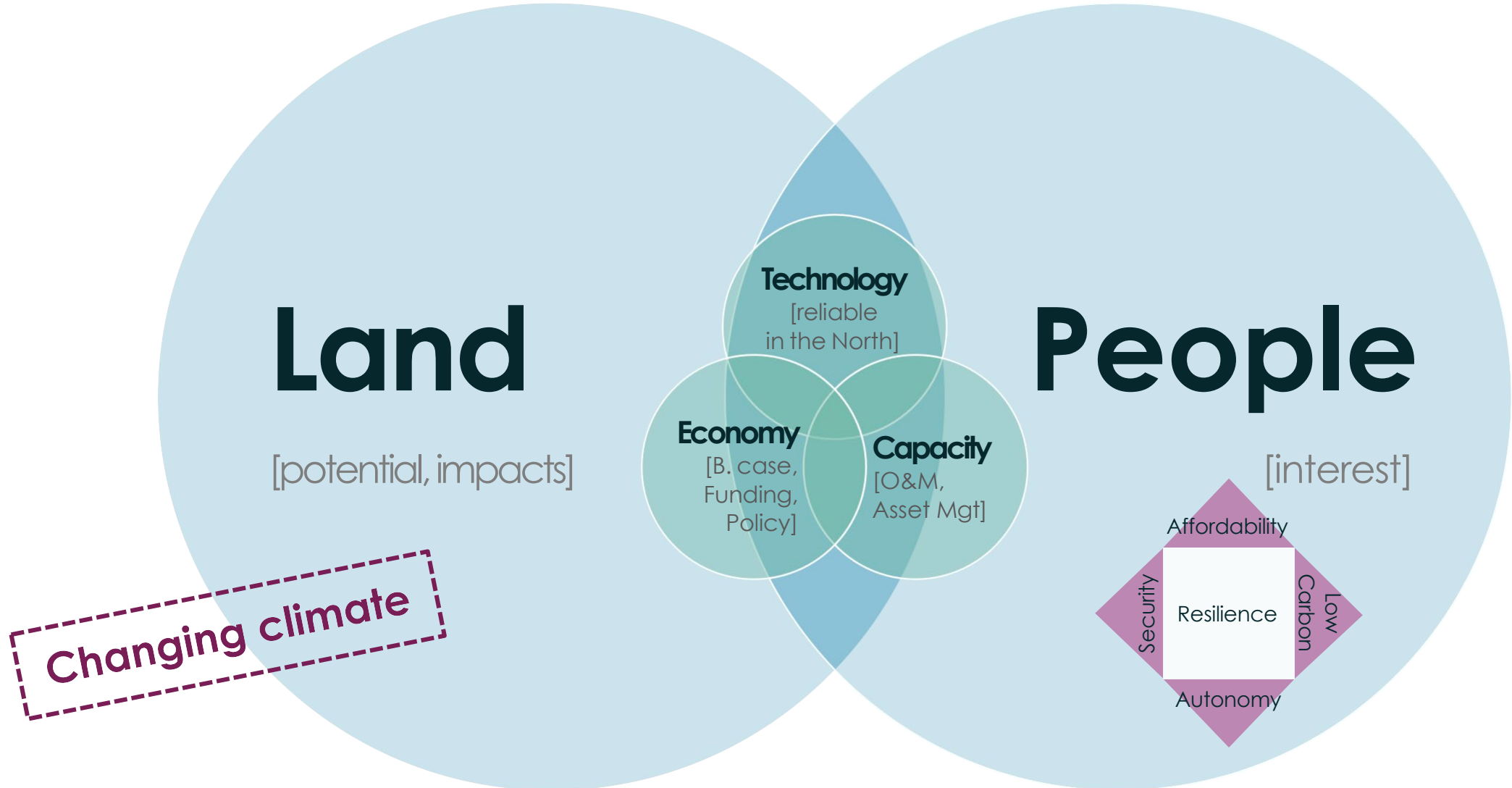
III. Panel presentations



Wind power generation in Northern communities: Why? How?



Wind power generation in Northern communities: A multi-component journey



Meet our panelists



Malek Tawashy
President and CEO
Northern Energy Capital, Yukon



Les Wilson
Director of development, Chu Níkwän LP
Kwanlin Dün First Nation, Yukon



Grace Nakimayak
Clean Energy Coordinator
Paulatuk Energy Working Group



David Schwarz
Manager of Applied Energy Research Programs
Aurora Research Institute



Alex Love
Chief Projects and Engineering Officer
Northwest Territories Power Corporation



1/5 – David Schwarz - ARI



Short Bio

David Schwarz, Manager of Applied Energy Research Programs at Aurora College - Aurora Research Institute has more than twenty years of experience leading energy research and development.

His current research focuses on conducting wind and solar resource assessments for communities throughout the Northwest Territories. He has developed and managed programs in industry for wind and solar preliminary assessment, monitoring and resource assessment engineering work, and tested and assessed emerging technologies and processes for use in operational implementations.

He has also worked as a research engineer at the National Research Council of Canada in fuel cells and hydrogen, and as an innovation and technology manager in the oil and gas industry. His scholarly impact includes numerous journal publications and conference papers in computational fluid dynamics.

Contact info david.schwarz@auroracollege.nt.ca

Wind Resource Assessment

David Schwarz, Manager of Applied Energy Research Programs



Aurora College's Aurora Research Institute (ARI) has conducted more than ten wind resource assessment campaigns in Northwest Territories communities over the last two decades including at High Point near Inuvik

We respectfully acknowledge that Aurora College is situated on the traditional territories and homeland of the Dene, Inuit and Métis peoples of the Northwest Territories (NWT). We are grateful to the many Indigenous peoples of the NWT for allowing us the opportunity to learn, work and live on their lands. We are also deeply grateful for the generous sharing of Traditional Knowledge, wisdom and ways of knowing, being and doing with our students and employees.

Applied Energy Research Programs Goals



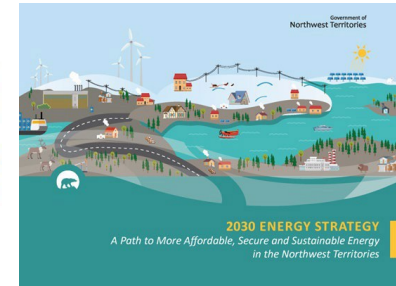
Inuvik Wind Project (NTPC)

- Build capacity for the measurement and analysis of wind data
- Provide decision makers with bankable data for wind energy developments
- Advocate for the importance of wind resource assessments

Partners



Northern REACHE
Program



Department of Infrastructure,
Energy Division



Industry



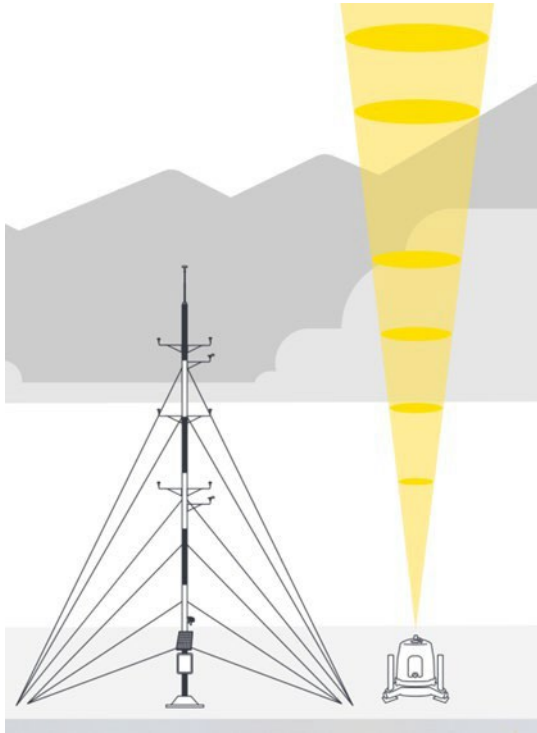
Indigenous
Communities



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AURORA
COLLEGE

Research Institute
Institut de recherche

Wind Resource Assessment



Site-specific short-term data
from meteorological towers
or remote sensing units
(NRG Systems)

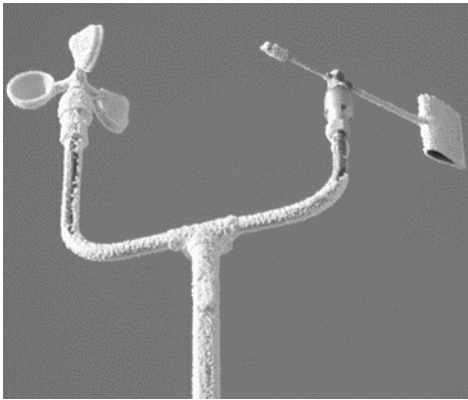


Local long-term data
from Automatic
Weather Stations
(Environment and
Climate Change
Canada, Paulatuk)

Wind Resource Monitoring Equipment

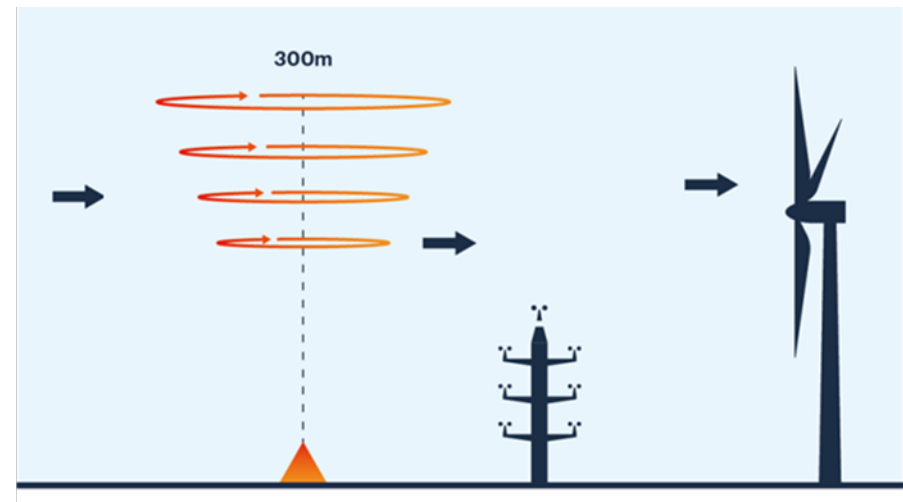
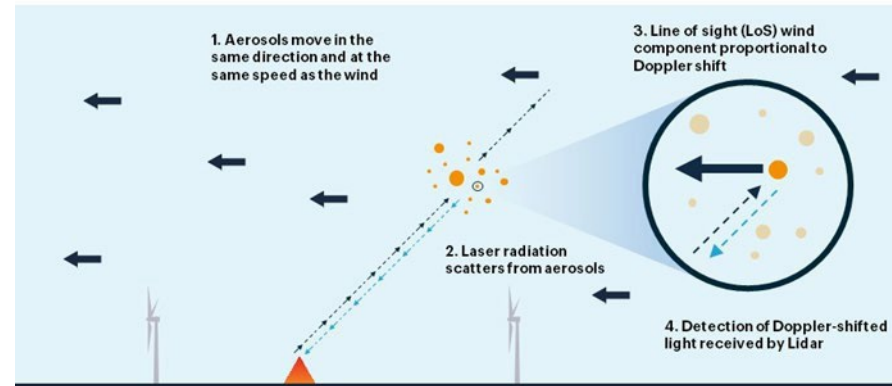


Meteorological Tower



Wind Speed (3 Cup Anemometer)
& Direction (Wind Vane)

What is a wind Lidar?



ZX Lidars

Fort McPherson Wind Monitoring Campaign



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Research Institute
Institut de recherche

Tsiigehtchic Wind Monitoring Campaign



Wekweètì Wind Monitoring Campaign



Paulatuk Wind Monitoring Campaign



Wind Resource Assessment Results

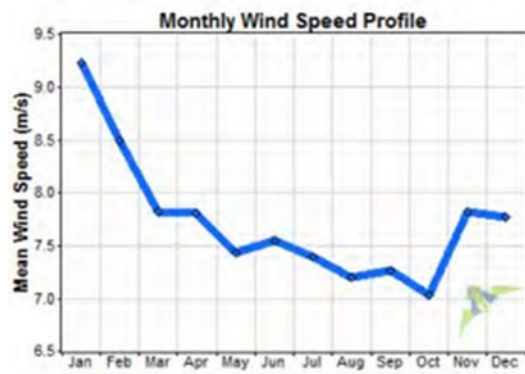


Figure 2-7 - Long term annual wind speed profile is winter-peaking

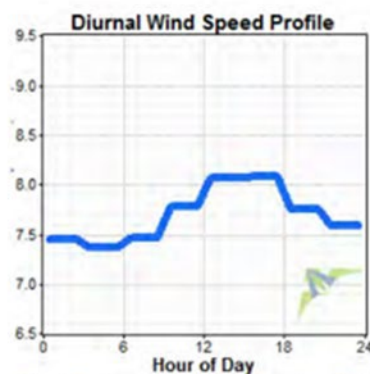


Figure 2-8 - Long term diurnal wind speed profile is afternoon-peaking

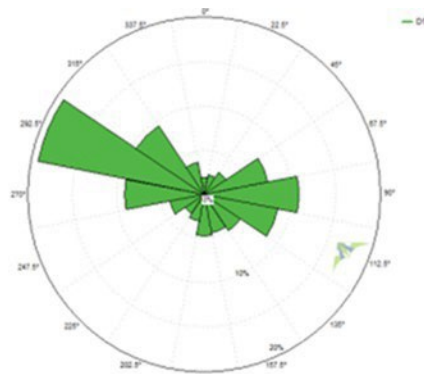


Figure 2-6 - Storm Hills measured data wind frequency rose - 1 full year

Measured wind speed and direction data for Storm Hills near Inuvik

Results publicly available for future wind energy developments



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AURORA
COLLEGE

Research Institute
Institut de recherche

Contact Details for More Information



David Schwarz

he/him/his/himself | pronoms masculins

Aurora Research Institute

Manager, Applied Energy Research Programs

Work: 867-777-3298 x252

Fax: 867-777-4264

Web: www.nwtresearch.com

PO Box 1450, 191 Mackenzie Road

Inuvik, NT, X0E 0T0

David.Schwarz@auroracollege.nt.ca

2/5 – Les Wilson – CNLP



Short Bio

Les was born and raised in Whitehorse Yukon and calls it home with his wife and two kids.

He studied science and engineering technology in Alberta and is currently working for the Kwanlin Dun Group of Companies focused on the economic development potential of the Kwanlin Dun First Nation's real estate holdings in the City of Whitehorse.

With over 20 years' experience working with Self-Governing Yukon First Nations and most recently as an Economic Development Advisor, he seeks to foster positive cooperative, collaborative relationships, and build on local resources and capacities. He loves to spend time with his family, woodworking and cooking.

Contact info les@cnlp.ca

3/5 – Malek Tawashy - NEC



Short Bio

Malek is from Vancouver, BC. He is the President and CEO of Northern Energy Capital, a renewable energy development firm committed to empowering remote communities in their transition from fossil fuel consumption to clean energy asset ownership. He has a Master of Science in International Construction Management and brings almost 20 years of experience delivering large-scale capital projects.

He sits on the board of a number of Inuit and First Nation-owned renewable energy companies in the Yukon and Nunavut as well as being responsible for leading NEC's diverse portfolio of projects through development, construction, and operations.

Outside the office, Malek runs a competitive sailing team and mentors indigenous youth pursuing careers in the clean energy sector.

Contact info mtawashy@northernenergycapital.com



Empowering Communities
in their transition from fossil fuels to clean energy

Who we are



We advance the energy transition

We are a Canadian company established in 2015 to empower communities in their transition from fossil fuel consumption to clean energy ownership.



We develop clean energy projects

We specialize in the corporate structuring, project development, and financing of indigenous clean energy projects.



We partner with local communities

We build successful indigenous clean energy partnerships and joint-ventures that span eleven indigenous communities across Canada.



Renewable Project Benefits



Energy Independence

Enhance self-sufficiency with independent energy production and ownership



Community Empowerment

Strengthen community resilience and autonomy



Energy Security

Year-round local energy production, reduce reliance on imported fossil fuels



Sustainable Future

Move towards a renewable energy system reducing fossil fuels



Reliability

Ease of maintenance with local forces , 25 year power purchase agreements

Hackel Hill Wind & Battery Project

Case Study



4
turbines

\$29M
investment

650
homes



Where: Whitehorse, Yukon

How: IPP: Eagle Hill Energy

What: First 100% indigenous owned renewable energy project in Northern Canada

When: Commercial operation March 2024

Hackel Hill Timeline



Dec 2019

Partnership
agreement



Dec 2020

Wind
research



Dec 2021

Community
engagement



July 2022

Start
construction



Oct 2023

Celebrate
completion



Mar 2024

Full
operation



Yukon implements Independent Power Production policy

January 28, 2019
By CCE

The policy allows First Nation governments, communities and entrepreneurs to generate renewable energy and feed it into the electrical grid to help meet local demands.



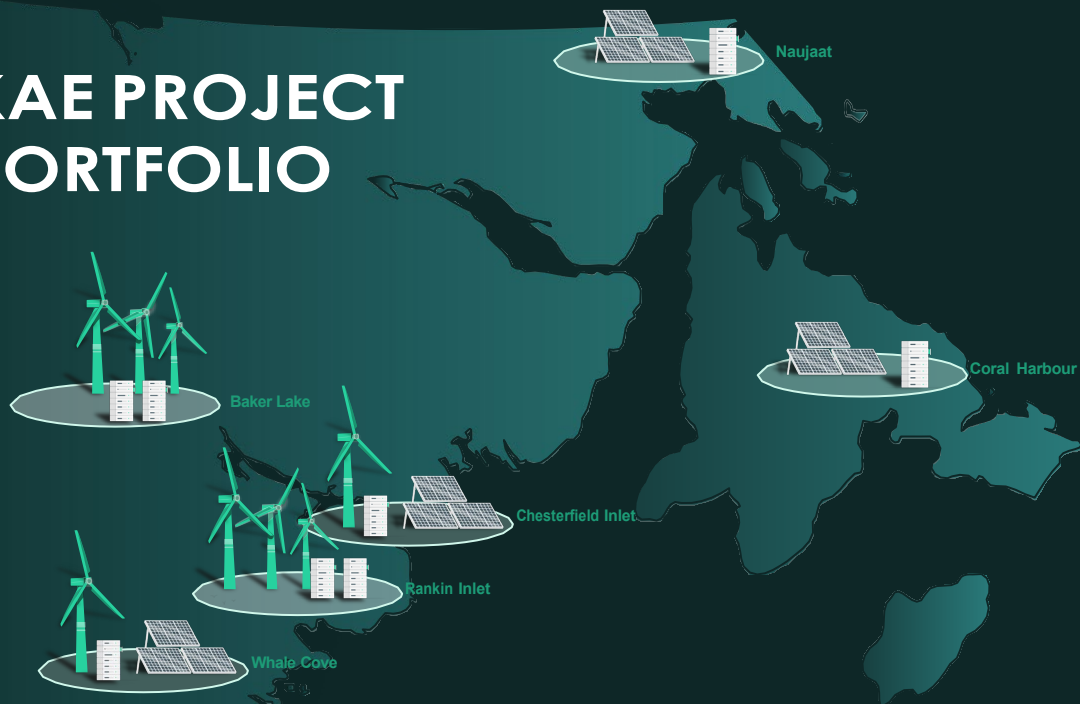
Yukon's Independent
Power Production Policy
Updated October 2018



"Long before there was a busy city with neighbourhoods full of houses, and cars on the roads, there was a giant Golden eagle, named **Thay**, who lived in his giant eagle nest **T'aw** up here on this mountain. That's why your **Ahtuq** calls this mountain here **Thay T'aw** - which means Golden Eagle Nest.

Kwáááá long ago **Thay** watched over the mountains, the forest, the valleys, the rivers and lakes. People had to walk **Kháya ch'ú** quietly and carefully on the land, but especially at the base of this hill, because Giant **Thay** was always listening around, if people made too much noise or called too much attention to themselves."

KAE PROJECT PORTFOLIO



Naujaat Solar Project Construction Start

Wind Energy Study Chesterfield Inlet

Rankin Inlet + Baker Lake Wildlife Study & Community Engagement

Rankin Inlet + Baker Lake Wind Energy Projects Construction Start

Clean Energy Project Planning Chesterfield Inlet

Community Energy Plan Chesterfield Inlet

2018-2023

2024

2025

2026

2027

Wind Energy Study in Rankin Inlet

Community Energy Plans Naujaat + Coral Harbour

Wind Energy Study Baker Lake

Coral Solar Project Construction Start

Wind Energy Study Whale Cove

Clean Energy Project Planning Whale Cove

A large, solid teal-colored circle is positioned at the top of the image, partially cut off by the top edge. The background is a dark, starry space with a teal nebula on the right side.

THANK YOU

NorthernEnergyCapital.com

4/5 – Grace Nakimayak – PEWG



Short Bio

Grace is the clean energy coordinator for the Paulatuk Energy Working Group.

She started in this role in October 2021 to carry out the clean energy ambitions of the working group, which includes community leaders from the Hamlet of Paulatuk, Hunters and Trappers Committee, Elders Committee and Paulatuk Community Corporation.

Contact info pewg@paulatuk.ca

5/5 – Alex Love - NTPC



Short Bio

Alex Love is a Professional Electrical Engineer with 35 years of experience, 25 of which are with Electric Power Utilities.

Alex has Operational, Capital Construction and Regulatory experience in the Northwest Territories, the Yukon and British Columbia. Highlights of Alex's career include leading his team to develop Canada's first Community Solar Garden, guiding a utility through a major infrastructure renewal, developing an award-winning energy efficiency program for customers, helping a city achieve a 25% reduction in GHG emissions and helping a utility reduce their power supply costs by 15%. In 2016 Alex was the President of the NWPPA (Northwest Public Power Association), which represents utilities from California to Alaska that provide power to over 5 million homes.

Alex assumed the role of Chief Projects and Engineering Officer in 2022 after serving as Director, Hydro Operations, for several years.

Contact info alove@ntpc.com

IV. Moderator-guided Q&A



1. Where do you see **opportunity** for wind power generation in NWT communities?
2. How did the **partnership** approach become real to you?
3. Is there anything you wish you had **known or understood** better at the outset of your project?

V. Open Q&A

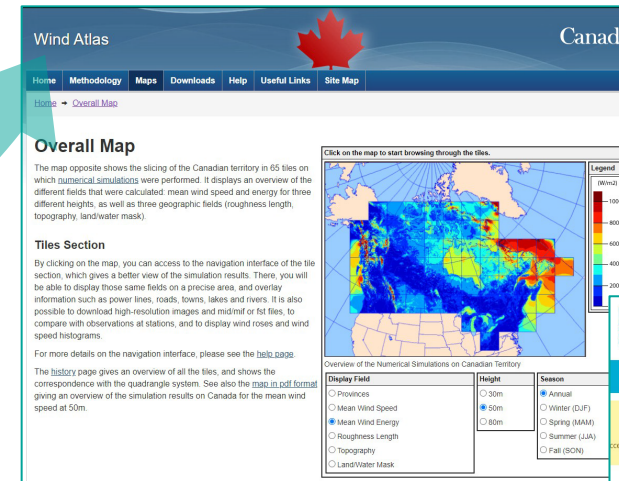


Resources shared among participants

On wind potential assessment

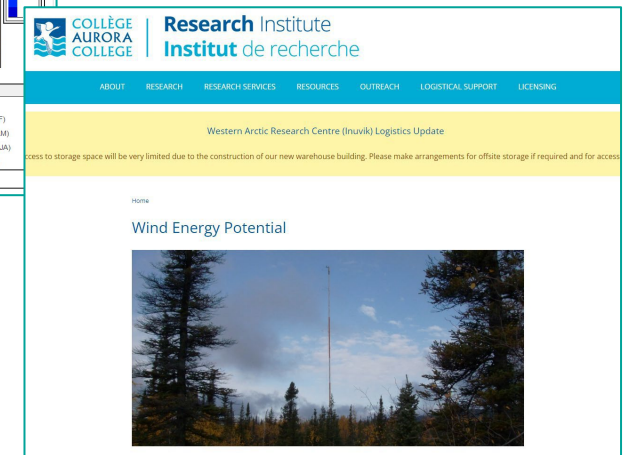
1. The **Canada Wind Atlas**

<http://www.windatlas.ca/maps-en.php>



2. Wind energy **assessment reports** conducted in communities by **ARI** over the past ten years

<https://nwtresearch.com/projects/energy/wind-energy-potential/wind-and-solar-energy-reports>



3. Reach out to David Schwarz (ARI) for a **free initial consultation call**

867-777-3298 x 252 - david.schwarz@auroracollege.nt.ca

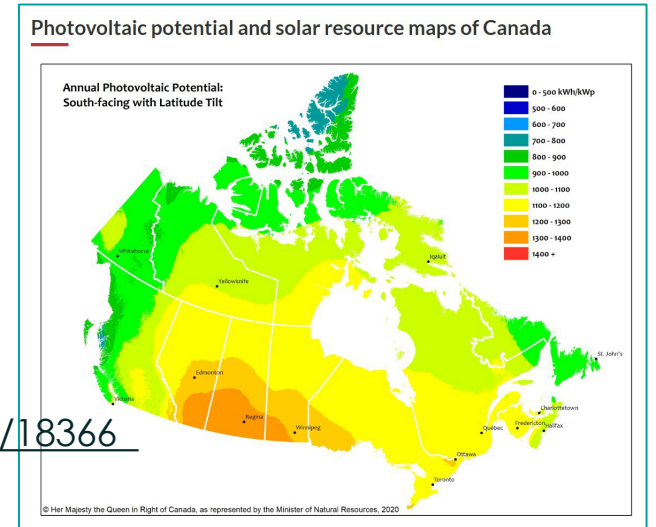


Resources shared among participants

On solar potential assessment

NRCan solar potential map

<https://natural-resources.canada.ca/energy/energy-sources-distribution/renewables/solar-photovoltaic-energy/tools-solar-photovoltaic-energy/photovoltaic-and-solar-resource-maps/18366>



On NordForsk's call for pre-proposals - deadline 4 June 2024

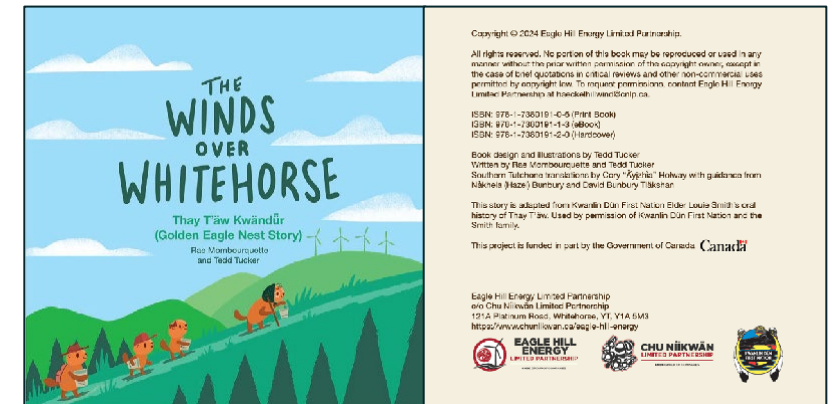
<https://www.nordforsk.org/calls/sustainable-development-arctic-call-pre-proposals>

- NordForsk funds and facilitates **Nordic research cooperation**
- Three keywords can inspire applicants : Security, Natural Resources, and/or Societal Changes.
- Four aims are central to the call: Interdisciplinarity, Sustainable development, Arctic Added Value, Indigenous perspectives

On Haeckel Hill Wind Project children's book

The Winds over Whitehorse: *Thay T'aw Kwändür* (Golden Eagle Nest Story)

Download the eBook for free from EHELP's webpage
www.chuniikwan.ca/eagle-hill-energy (*In progress)



>> Find these resources in the [Energy Toolkit](#) (*In progress)

VI. Closing roundtable



"Share your main take away of today's discussion in one sentence"

Look at several smaller turbines instead one large turbine

Having wind (and all renewables) characterization studies for all 33 communities would help inform conversation with leaders

Interesting to hear about the availability guarantee and power curve guarantee (and MSA and TSA)

Climate change also impacts wind directions

Partnerships allow our voice to be heard

The absence of a clear IPP policy in the NWT is a barrier to a fair and just transition for all 33 communities

Explore partnerships and knowledge-sharing across circumpolar countries

We need to move quickly – federal funding is changing, and it's changing the options

Renewable projects are impactful

Renewables build redundancy in the North and address vulnerability

Start with a Community Energy Planning

We need to increase the cap for energy purchase agreements

The payback timeline is long

Partnerships can help address housing issues

A high-level of community acceptance is key

Operating staff and service contracts are costly too.

Look at locations easier to access – balance/optimize wind potential vs road access costs

The IPP policy should not be developed in isolation – we'd like to see community engagement

Let's start a group chat to continue this conversation!

Support, sensitivity and continuity from partners is invaluable

We need to improve existing grids as part of renewable projects

Communication is key

VII. Closing remarks



Today's Objectives



Learning opportunity
on an energy topic



Sharing opportunity
on Northern case studies



Connecting opportunity
among multiple stakeholders



Next steps

You are
here!

Energy Table Talk on **Wind power**

06-2024

Energy Table Talk

09-2024

RiRC Conference in **Whitehorse**

12-2024

Energy Table Talk



Save the date!



- ✓ Learning, Exchanging, Networking opportunity
- ✓ Indigenous Travel support
- ✓ Jurisdictional Half Days => NWT-specific conversation!
- ✓ Site visit: Haeckel Hill Wind Farm!



A Partnership Table for you

An online
and public
Energy Toolkit



Quarterly themed
Energy Table Talks



A members'
Energy Bulletin



Thank you!



Evaluation survey

14/25 participants

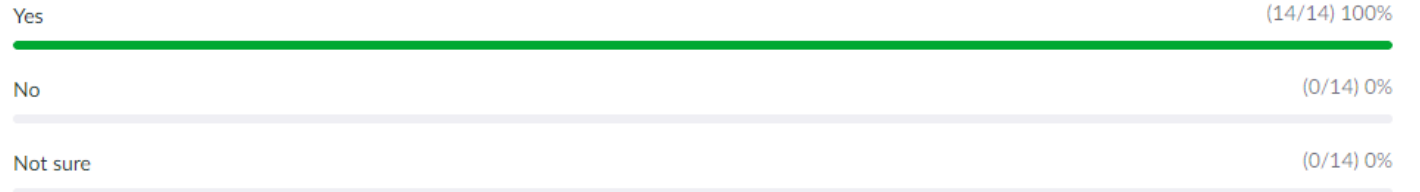
What other topics would you like to see covered in future Energy Table Talks? (8 answers)

- Indigenous leadership
- Community Solar
- Nuclear, solar viability and feasibility in the north
- hydro, housing/efficiency, policies
- solar, hydro, indigenous partnered major projects
- Breaking down barriers/silos - creating collaboration... understanding possibilities... how can we adapt renewables into the NWT Energy supply?
- How to better work together
- Hydro power

Question summary

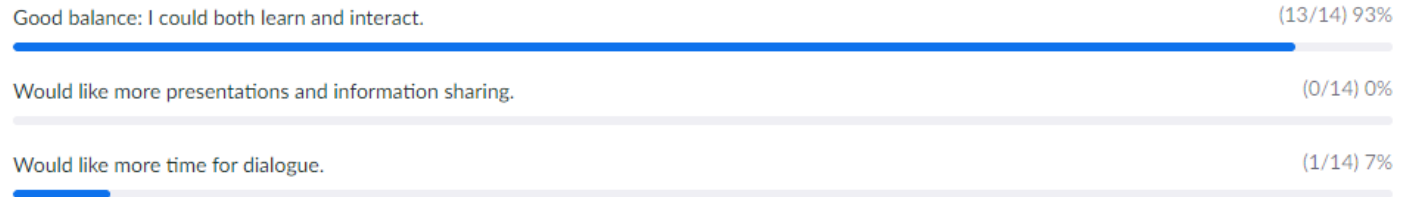
1. Have you gained some learning or a better understanding of wind power generation in the North today? (Single choice)

(14/14) 100% answered



2. Do you feel the format provided the right balance of presentations and dialogue? (Single choice)

(14/14) 100% answered



3. Please rate the length of this Energy Table Talk: (Single choice)

(14/14) 100% answered

