

ARENA CANADA

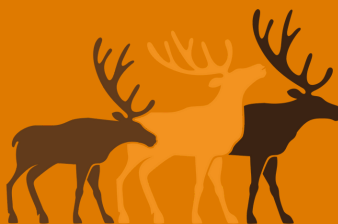
SUMMARY
REPORT



Arctic Remote Energy Networks Academy

Prepared by

Gwich'in Council
INTERNATIONAL



2023

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Introduction

The Arctic Remote Energy Networks Academy (ARENA) is a unique circumpolar knowledge sharing program about isolated power systems integration endorsed by the Sustainable Development Working Group (SDWG) of the Arctic Council.

The Arctic Remote Energy Networks Academy program addresses the need for the development of community energy experts to ensure affordable, reliable, and renewable energy solutions. Shifting towards renewable energy is of vital importance to Arctic communities, many which currently rely on diesel power generation. A switch to renewables will help communities increase energy security by providing reliable sources of energy generation, encourage economic benefits by diversifying the economy and creating jobs, and reduce reliance on fossil fuels, which have a negative impact on our Arctic environment.

ARENA is designed specifically for individuals living and working in remote circumpolar Arctic communities. It combines visits to communities and participant knowledge exchanges with presentations and laboratory demonstrations, and connects current and emerging energy professionals with hands-on learning experiences, mentors, and project development leaders from throughout the circumpolar north.

First held in 2017, ARENA-II was approved in 2019 for delivery in 2020. Due to COVID-19 and other delays, the program was delivered 2022-2023, with on-site components in Alaska, Canada, and Iceland.

The Canada on-site was hosted in the Yukon January 14-22, 2023. It was led by Robert Cooke, Manager Clean Energy & Infrastructure, POLAR and delivered in partnership with Polar Knowledge Canada, Gwich'in Council International, the Vuntut Gwitchin First Nation, Crown-Indigenous Relations and Northern Affairs Canada, and Natural Resources Canada.



Program Objectives

Arctic communities are at the forefront of microgrid innovations.

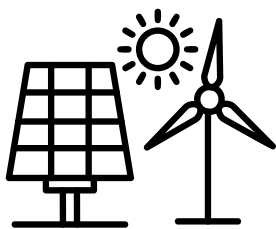
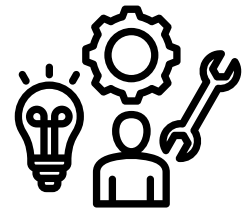
The high cost of imported fuel in the Arctic has created a setting where emerging energy technologies can more quickly become commercially viable. Experience across the region has resulted in a strong awareness of what works, what doesn't, and what improvements are needed, and sharing and applying this expertise is what ARENA is about.

For ARENA-II, it was important that the program maintain visits to remote energy projects, learning across the Arctic, and a complementary curriculum across the on-sites. It was also important to promote and support Indigenous participation, and attract a diversity of candidates. There were five program objectives.



Build a cooperative international cohort of energy champions

Provide participants with the knowledge-base, skills and collaboration networks to develop clean energy projects in their own communities or regions



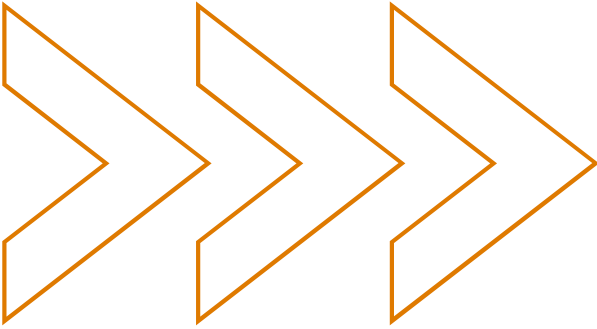
Enable sustainability in Arctic energy development

Improve community energy resiliency



Achieve balance between economic viability, energy security, environmental and public health concerns in the circumpolar Arctic





Delivery

“The infrastructure futures of Arctic communities don’t just depend on engineering capacity, but the ability to understand and appreciate the values and culture of the community.”

ARENA Cohort Member

The ARENA team welcomed twelve participants for eight days of events and activities. The program provided an overview of the Yukon’s Indigenous and territorial landscape as well as an understanding of the utility and energy structure in both the Yukon and the broader Canadian North. It included visits to Old Crow, Yukon’s only fly-in Arctic community and the site of the largest operational solar array in the Arctic, and Teslin, an on-grid community in the Southern Lakes area that has successfully installed a biomass district heating system. These visits were supplemented by a tour from Yukon Energy of the Whitehorse Hydro Facility and the diesel and liquified natural gas (LNG) back-up generation systems.

Thirty-nine speakers and invited guests contributed to the program. Lectures and discussions were hosted at the Kwanlin Dün Cultural Center (KDCC) in Whitehorse and Darius Elias Community Hall in Old Crow that included how to engage communities; developing community energy plans; developing and installing a community project; presentations on four community-based wind projects and the key lessons learned; a roundtable with the Vuntut Gwichin Government (VGG) and ATCO energy on the partnership development for the Old Crow Solar Project; and a panel discussion with Yukon Energy, Northwest Territories Power Corporation (NTPC) and Newfoundland and Labrador Hydro (NL Hydro) on community engagement and the development of Independent Power Producer (IPP) policies and Power Purchase Agreements (PPAs).



Delivery

“Connecting with people across the North who share a passion and drive to improve energy security and resiliency was inspiring. I'm returning from ARENA with many ideas for my own projects, and a real sense of community. A key aspect of ARENA was exposure to multiple successful (and unsuccessful) projects across Arctic communities. This was particularly useful as we gained insight into not only the unifying characteristics across the regions, but also the richness and diversity of Northern ingenuity.”

ARENA Cohort Member

In addition to the technical elements of the program, extracurricular activities were arranged to enable cohort team building and networking, provide a balance to the intensive learning activities, and offer some exposure to cultural activities. These included storytelling at Tl'oo K'at, tours and time at the John Tizya Cultural Centre, dog sledding, glass blowing, a tour of the Yukon Wildlife Preserve, an open evening at MacBride Museum, and a presentation on dog sledding and the Yukon Quest.

The Canadian program concluded with cohort presentations on their individual community projects and how those projects have benefitted from ARENA participation, and a closing banquet with keynote addresses from climate activist and outgoing Chief of the Vuntut Gwitchin First Nation, Chief Dana Tizya-Tramm, and Erin Linklater, Gwich'in Council International.



"I spent the entire week in total awe of the richness of the program both in content and geographical reach, and was so very impressed with the cohort you have assembled, from their passion, their drive, their accomplishments and their character; they are no doubt the leaders in clean energy. This is a powerful group, and together they are changing the landscape of northern energy right before our very eyes."

ARENA Speaker



"Though we are all experts in our fields, there isn't any speaker in attendance that didn't learn a lot from watching other presenters or during the tours. The more we learn from each other, the more progress we will make in our own regions and for the remote energy cause as a whole. The relationships built throughout the ARENA event, even amongst competitors, were numerous. This networking will allow ongoing sharing of knowledge as we navigate the difficult Northern projects we are all tackling."

ARENA Speaker



ARENA Canada Cohort

Some members of the ARENA cohort from Alaska, Greenland, and Russia were not able to join the Yukon program. We welcomed the participants below.



Canada

- Shivani Chotalia (NRSTor Inc) Toronto, Ontario
- David Frost* (Vuntut Gwitchin Government) Whitehorse and Old Crow, Yukon
- Kristina Hamernik (Tugliq Energy) Montreal, Quebec
- Tyler Jobb, Peter Ballantyne Cree Nation, Southend, Saskatchewan
- Jackson Savikataaq Karetak Lindell, Rankin Inlet, Nunavut
- Rachel Mandel* (POLAR) Cambridge Bay, Nunavut
- Grace Nakimayak, Paulatuk Energy Working Group, Paulatuk, NWT
- Brendan Matto, Deh Gah Gotie Dene First Nation, Zhahti Koe (Fort Providence), NWT
- Heather Shilton (Nunavut Nukkiksautiit Corporation (NNC)), Iqaluit, Nunavut
- Rena Squirrel, Teet'it Gwich'in, Hay River, NWT

(*) Also assisted in planning & delivery



United States

- Alyssa Pantaleo, Dartmouth College, New Hampshire

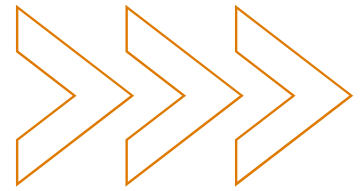


Greenland

- Niels Erik Hagelqvist (Nukissiorfiit) Nuuk



Speakers & Supports



There were many people involved in ARENA Canada who contributed time, expertise, and support.

Speakers

Ruth Massie (Ta'an Kwäch'än Council)
Opening Prayer

Wayne Walsh (Northern Strategic Policy,
CIRNAC) Welcome from Canadat

Jordan Peterson (Affinity North) Cohort
Alumni and Interactive Engagement
Workshop

Tosh Southwick
(Inspire.Reconciliation.Potential) Yukon First
Nations 101

Martha Lenio (Arctic Renewables Society)
Engaging with Communities

Tom Rutherford (Aurora Energy Solutions)
Developing a Community Energy Plan

Danny Guhl & Brock Kelsch (Solvest)
Development and Installation of the Old Crow
Solar Project; Industry Partnerships with
Communities

Chief Pauline Frost & Councilor Debra-Leigh
Reti (Vuntut Gwitchin Government) Welcome
to Old Crow, Vuntut Gwitchin homelands

Michael Ross (Yukon University) Energy
Profile of the Canadian Territories and
Community Energy Capacity Building

Erika Tizya-Tramm (Vuntut Gwitchin
Government (VGG)) What renewable energy
means to the Vuntut Gwitchin

Norm Curzon, Bill Cullen (ATCO Energy Ltd)
Power and Renewables in Off-Grid
Communities; (with VGG) Roundtable on
Partnering and IPP/PPA Negotiations

Paul Josie (Josie's Old Crow Adventures) Old
Crow and Solar Project Tour

Brandon Kyikavichik (Vuntut Gwitchin
Government) History of the Vuntut Gwitchin

Dennis Meiners (Intelligent Energy Systems
(IES) Connect) Developing Wind Projects in
Remote Communities

Carsen Bannister (National Research
Council): Planning and Pitfalls of a Small
Wind Project in a Remote Northern
Community



Speakers & Supports

Speakers (con't)

Kristy Kennedy (Kluane First Nation) Kluane Wind Project: Pitfalls and Successes of a Community Led Renewable Energy Project

Malek Tawashy (Northern Energy Capital) Kwanlin Dün First Nation Haeckel Hill Wind Project

Andrew Hall (Yukon Energy) The Structure of Yukon Energy and What Renewables Means to the Utility

Paul Murchison (Yukon Energy) Current, Future and Possible Renewable Energy Projects

Andrew Hall, Paul Murchison, Cory Strang (Northwest Territories Power Corporation), Walter Parsons (Newfoundland and Labrador Hydro) Utilities Roundtable on IPP and PPA Negotiations

Minister John Streicker (Minister of Energy, Mines, and Resources) Welcome from the Yukon Government

Blair Hogan (Gunta Business) The Teslin Biomass Project

Erin Linklater (Gwich'in Council International) Closing Banquet Address

Chief Dana Tizya-Tramm (outgoing Chief, Vuntut Gwitchin First Nation) Keynote Address

Delivery Team

Polar Knowledge Canada: Rob Cooke, Canadian Technical Lead; Amber Polson; Rachel Mandel

Gwich'in Council International: Devlin Fernandes

Circumpolar Affairs Directorate, CIRNAC: Sarah Cox; Katherine O'Leary

Vuntut Gwitchin Government: Erika Tizya-Tramm; David Frost

Guests

Ludvik Georgsson, UNU Geothermal Training Program, Iceland Technical Lead

Carolyn Loeffler, Alaska Center for Energy and Power (ACEP), USA Technical Lead

Amanda Byrd, ACEP

Annaliese Klien, ACEP

Ingemar Mathiasson (Alaska)

“This is one of the best, if not THE BEST event I have been to. It is more value-dense both in terms of time and participants than anything else I have participated in

ARENA Speaker



Reflections

The Canadian delivery of the ARENA program supports Canada's vision for an Arctic leadership model championing environmental protection through clean energy adoption in the Arctic and sub-Arctic.

By equipping participants – both cohort members and guests – with increased skills, capacity, confidence, and a network, they can play a leadership role in advancing clean energy solutions in remote and northern communities. By seeing and learning what is possible, understanding the challenges of working in the clean energy sector, and building a network of expertise, these energy champions and leaders will play a significant role in achieving Canada's greenhouse gas emission targets.

By hosting the on-site in Canada's north, Canada was able to showcase work across the Yukon and advance international and domestic collaboration with other Arctic states, particularly the United States and Iceland, across federal departments, and across territorial and state borders. This will strengthen cross-border collaboration on renewable energy, and advance solutions designed in and for the north.

The decision to delay the program during COVID-19 so that it could visit remote communities and learn about their energy projects was affirmed by participants noting how valuable their experience in Old Crow and hearing from the Vuntut Gwitchin were. In addition to better understanding how the self-governing First Nation runs its solar project, participants and guests better understood how the project was interconnected with sovereignty, culture, food security, and nationhood. Further, by building multiple Indigenous-led projects into the curriculum and also visiting Teslin, ARENA advanced circumpolar understanding of the role that Arctic and sub-Arctic communities have in developing, championing, and leading clean energy projects.

"There are times when you can get a little disheartened with how slow some areas or some places are regarding the technology. But ARENA has really given me the strength to keep going and the willingness to keep going."

ARENA Cohort Member

"I was planning to leave my career in renewables in the North prior to attending ARENA due to personal reasons. Being involved in ARENA made me seriously reconsider. My involvement, the people I met, and the things I learned caused me to re-evaluate my decision. I take so much pride in the work I got to do, and the work everyone involved continues to do."

ARENA Speaker



Conclusion

“ARENA has taught me a lot from learning everyone’s background to their projects. Coming from a small community and no education background in Energy I have been learning on the fly. From reading and watching videos on biomass to wind turbines during COVID, as a champion I want to better my community and region.

I started taking what I learned in Alaska and tried implementing into my community and I won people’s respect. They elected me on Hamlet Council recently. As I got to know everyone’s background and projects from this young cohort my knowledge is ‘if they can do it, I can do it too’.”

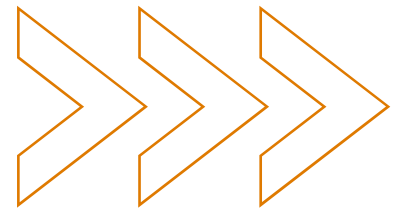
ARENA Cohort Member

Despite the challenges faced with COVID-19 and the Arctic Council pause, the Canadian on-site of ARENA was a significant and valuable offering in countering fossil fuel dependence and as action against climate change. Both cohort members and guest speakers got personal and professional benefits from participating, and the investment in creating space for learning and networking, providing content, ensuring hands-on opportunities for learning, and building site visits around First Nations’ projects will carry forward into the days, months, and years ahead.

ARENA would not have been possible without multiple federal departments, agencies, and partners, technical leads from other countries, and Indigenous partners, as well as all of the participants and guests who gave their time. There are strong recommendations to continue the program, ensure a circumpolar cohort, prioritize participants living in remote Arctic communities, and maintain visits to community-led projects.



Acknowledgements



We acknowledge with our thanks and gratitude that we met and learned on the beautiful and inspiring traditional territories of the Kwanlin Dün First Nation and the Ta'an Kwäch'än Council, the Vuntut Gwitchin First Nation, and the Teslin Tlingit Council.

We are grateful to everyone who was a part of the ARENA program. From cohort members and speakers to technical leads and support staff, First Nations and community partners to delivery partners and contractors, Steering Committee members and Arctic Council and Sustainable Development Working Group partners – you shared content, time, expertise, networks, relationships, logistics, services, and support. Haǰ'ęę.

We are especially grateful to the Vuntut Gwitchin First Nation and Chief Zzeh Gittlit School, who hosted us, allowed us to use your space, and shared your history, work, and people. A special mahs' choo to Erika Tizya-Tramm and David Frost, whose leadership and planning made our visit to Old Crow such a valuable and impactful part of ARENA. A special thank you as well to Blair Hogan for assistance in planning and hosting the site visit in Teslin.

We are grateful to our partners at the Government of Canada, including the Circumpolar Affairs Directorate and Northern REACHE program at CIRNAC, and the Clean Energy for Rural and Remote Communities Deployment Program at the Department of Natural Resources, for the financial support to the program and its participants. We also acknowledge the Global Arctic Leadership Initiative at Global Affairs Canada which contributed to Gwich'in Council International participation. We are grateful to our funders' flexibility and commitment to ARENA when plans had to be adapted due to COVID-19 and other circumstances, and their partnership in providing not only funding but support with staff and communications.



Vuntut Gwitchin Government

Canada 



Acknowledgements

We are grateful to POLAR Knowledge Canada for their support and staff member Rob Cooke, who served as the Technical Lead for the Canada program and was essential in its success.

We recognize that this began as a project of the Arctic Council's Sustainable Development Working Group, and the program built on delivery by - and partnerships with - the Alaska Centre for Energy and Power and the United Nations University's Geothermal Training Program in Iceland.

Gwich'in Council International became a co-lead of ARENA in 2019 and we acknowledge the leadership of our Board and partners in advancing this work.

"The Yukon program was incredible experience. I'm so grateful for the site visits hosted on traditional lands, inspiring speakers and the opportunity to once again be with a remarkable cohort."

ARENA Cohort Member

Datthak hąj'ęę (thank you all)



2023 ARENA Canada



"ARENA is a capacity building program aimed at taking energy champions from remote communities across the north and giving them the skills, knowledge, mentorship, and networks to go back to their own communities and build projects in their own communities."

Rob Cooke, ARENA Canada Technical Lead

"Energy is connected to economies, housing, food security, health, self-sufficiency and sovereignty. We need ways to address high energy costs, lack of infrastructure and dependence on diesel. Arctic communities are at the forefront of climate change but also at the forefront of innovation, and ARENA aims to share and apply this expertise."

Devlin Fernandes, Gwich'in Council International

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