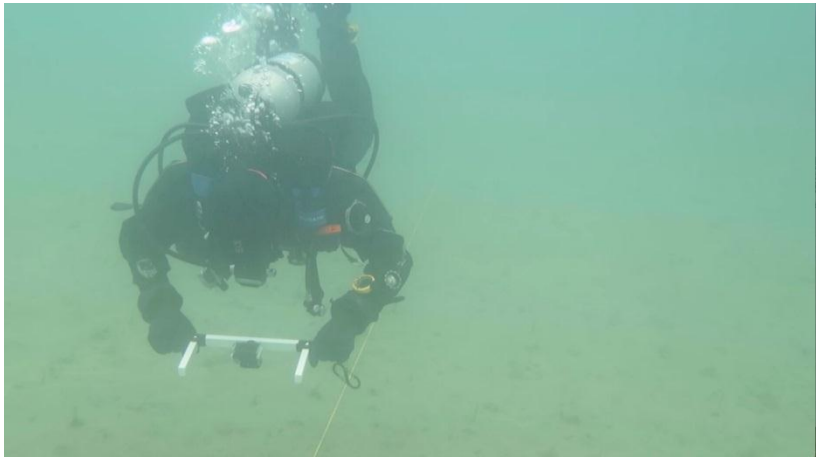
Polar Knowledge Canada

Energy From the Arctic for the Arctic

Presentation to the Arctic Energy and Emerging Technologies Conference
June 2018

POLAR's mandate

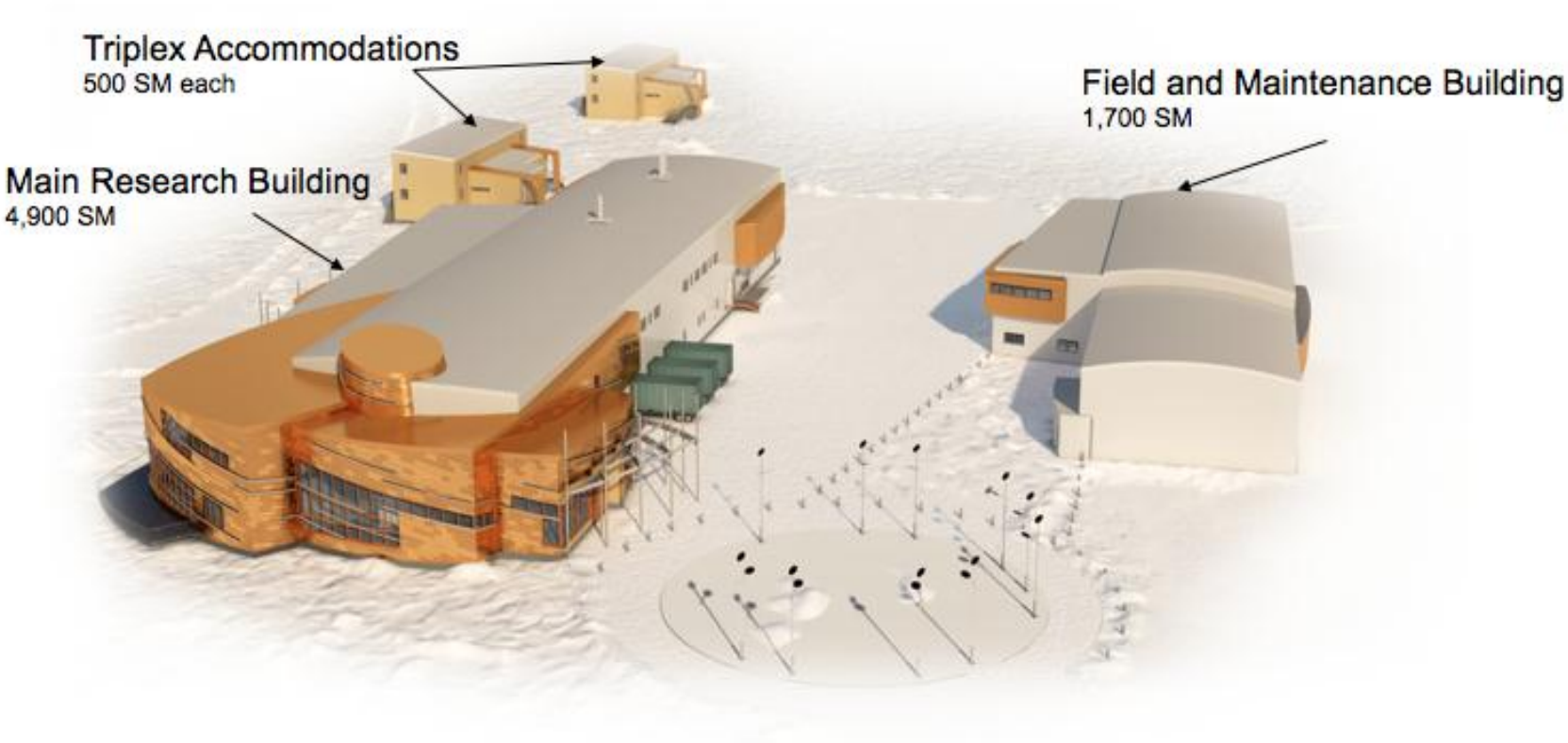
- Advance knowledge of the Canadian Arctic: Improve economic opportunities, environmental stewardship and quality of life
- Promote the development and dissemination of knowledge of the other circumpolar regions, including the Antarctic
- Strengthen Canada's leadership on Arctic issues
- Operate a hub for scientific research at the Canadian High Arctic Research Station (CHARS) campus in Cambridge Bay, Nunavut



The CHARS campus

- POLAR's world-class research campus in Cambridge Bay, Nunavut will be fully operational in 2018, and will enhance multidisciplinary exchange of leading-edge research and Indigenous knowledge.

The CHARS campus



CHARS campus: Facilitating collaboration

- Facilitates year-round scientific research and technology development activities in Canada's North
- Designed for collaboration, including knowledge sharing gatherings and workshops
- Growing interest among the domestic (intramural and extramural) and international research community

The CHARS campus: Public spaces

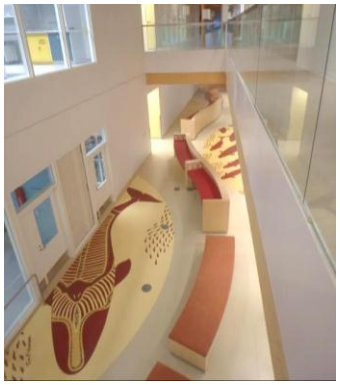
Main Research Building – First Level

The CHARS campus: Public spaces

- **The Knowledge Sharing Centre** is a space where local Inuit and scientists can meet, discuss and exchange scientific knowledge in a lounge or meeting space environment.

- **The Translation Room** allows for translators to provide interpretation services to meeting participants in the multi-use space and in the Knowledge Sharing Centre.

- **The Multi-Use Space** is used for a variety of purposes such as dining, conferences, or special events. The space was developed with community members, who wanted a space for community activities.



The CHARS campus: Labs and other facilities

- **Teaching Lab** provides space for teaching science and laboratory techniques to groups of people.

- **Mechanical Workshop** is an open engineering workshop with reconfigurable work benches and machinery for the construction and testing of equipment.

- **Necropsy Lab** provides the necessary tools, equipment and space for scientists to examine, dissect and analyze animal corpses.

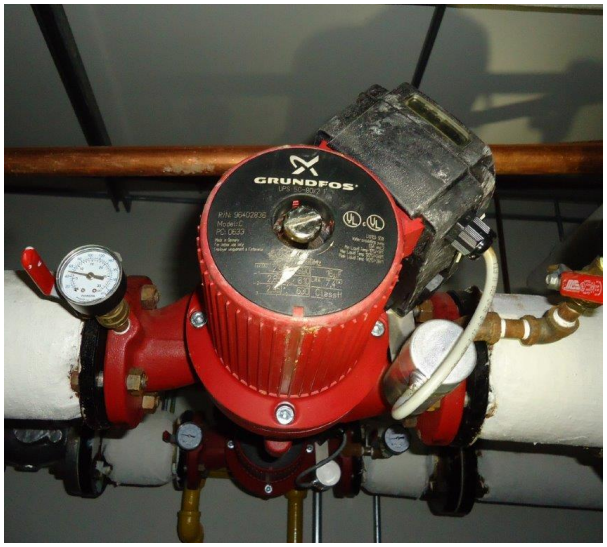
- Additionally, the CHARS campus has laydown space, a cold lab, clean lab, digital imaging, a cold room, freezers and refrigerators, a reference collection, a general analytical lab, computer GIS, growth chamber, and genomics lab.

Clean Energy Projects

Sanikiluaq Wind Project

Inuvialuit Resettlement Region Solar

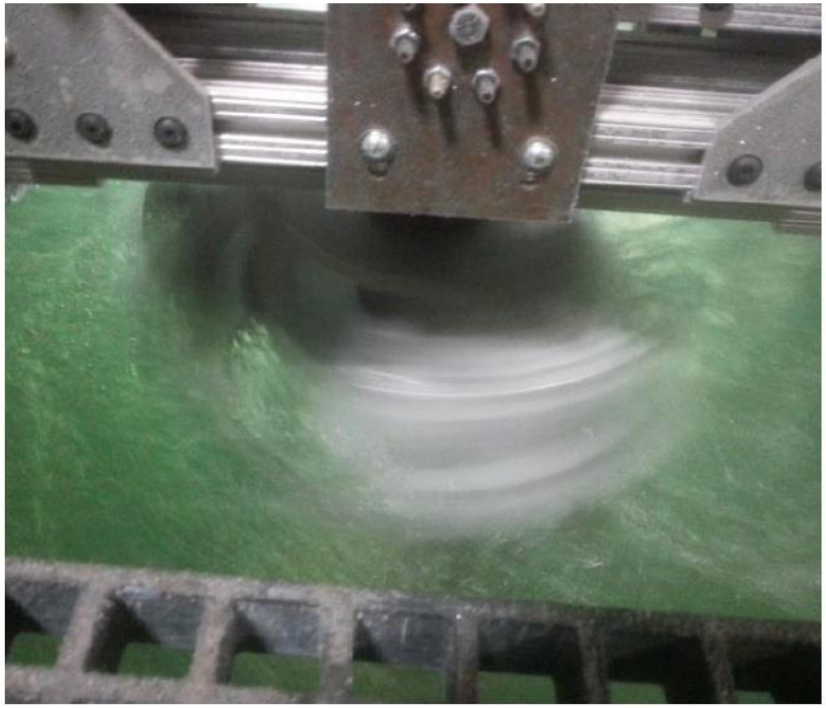
Gwich'in Tribal Council

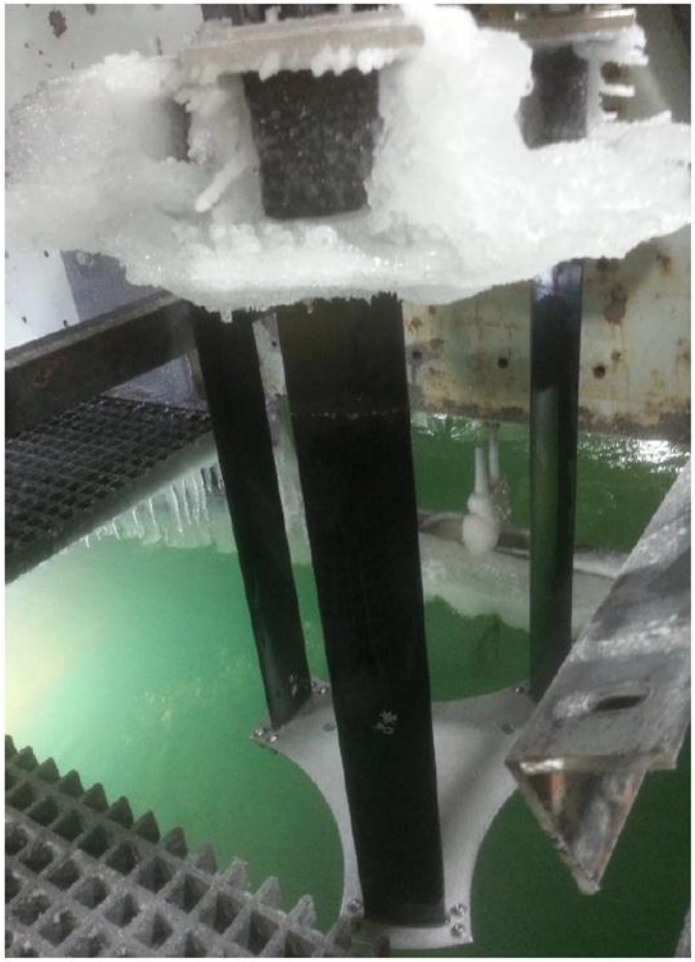


Whati Biomass

Arviat Wind and Solar

Énergies Marines Renouvelables Québécoises





Sustainable Development Working Group

ARCTIC COUNCIL

Arctic Remote Energy Network Academy - ARENA

Arctic Remote Energy Networks Academy (ARENA)

- Circumpolar Training Program
- Enhance literacy awareness on renewable energy solutions
- A circumpolar knowledge exchange program
- Improving access to affordable, clean and renewable energy solution for communities in remote areas
- Integrates web-based seminars with classroom learning and field experience
- Co-led by the U.S., Canada, Gwich'in Council International, Finland, Iceland, Aleut International Association

Sustainable Development Working Group

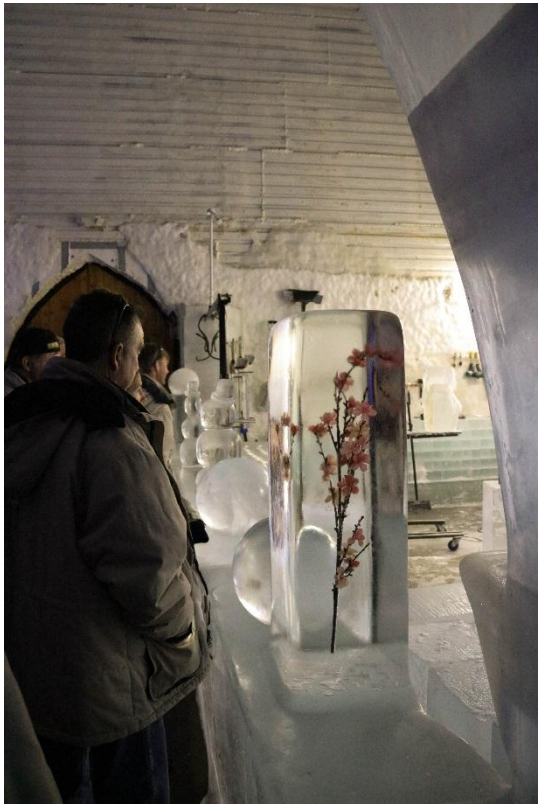
ARCTIC COUNCIL

Participant Locations

1. Greenland
2. Ontario
3. Nunavut
4. Northwest Territory
5. Yukon Territory
6. Alaska

ARENA Canada

ARENA USA



ARENA Iceland

Community Energy

Participant Projects

Future of ARENA

Summary

- Canadian High Arctic Research Station
  - Support Research in Canadian Arctic
  - Drive Down Cost of Research
  - Meeting Local Needs
  - Capacity Building
- Clean Energy Projects
  - In Communities
  - By Communities
  - Capacity Building
- Need for Wider Capacity Building
  - Appropriate
  - Required
  - Suitable
  - Sustainable
- POLAR Priorities

Thank you! Merci!

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