



Sustainable Development
Working Group



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SDWG PROJECT PROPOSAL

<p>Project Title:</p> <p>Arctic Remote Energy Networks Academy (ARENA II, 2019-2021)</p>	<p>Lead Country/Project leader(s):</p> <p>Iceland, Canada, United States, Aleut International Association [TBC], Gwich'in Council International [TBC]</p>
<p>Summary of required inputs:</p> <p>Three on-site sessions hosted by Canada, Iceland and the US. Co-leads provide funding for expert contributions.</p>	<p>Relationship to other AC Working Groups:</p> <p>N/A</p>
<p>Summary of project objectives and main outcomes:</p> <p>ARENA II aims to build knowledge and capacities for the development and integration of sustainable energy solutions for remote Arctic communities.</p>	

Project Objectives

The Arctic Remote Energy Networks Academy II will build on the success of the first ARENA project (2017) and seek to provide participants with the necessary knowledge-base, skills and collaboration network to develop clean energy projects in their own communities or regions.

Throughout the Arctic, there are many examples of human resourcefulness and creativity in developing and adapting technology to the challenging environment. In remote communities that are not connected by transmission or pipeline to a larger regional or national network, energy for heat, power and transportation must either be imported as liquid fuel at high cost or accessed through local resources that must be used in close physical and temporal proximity to its origins. Maximizing the use of locally available renewable resources to provide affordable, reliable and clean heat and power is a priority across the region. Nonetheless, there are disparities in where and how renewable resources have been developed. For many communities, it remains a challenge to effectively integrate these resources to achieve a balance of energy security, economic viability, and environmental and public health.

In 2017, the Arctic Remote Energy Networks Academy (ARENA) pilot program¹ brought together 17 individuals from three Arctic states and three Arctic indigenous peoples'

¹ <https://www.sdwg.org/activities/sdwg-projects-2017-2019/arctic-remote-energy-networks-academy-arena/>



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groups for a combination of training, mentoring and site visits. The program focused on the development, operation and management of remote energy networks (microgrids), incorporating renewable resources and associated technologies. A series of webinars was produced for the program and made available on the ARENA program website for streaming or downloading. Participants in the initial ARENA program have shared that they experienced significant benefits from their participation, and many have continued to interact with one another, the program leaders and their mentors.

It is anticipated that the ARENA II project will create and strengthen avenues for sharing knowledge about the integration of renewable energy in remote energy networks in the circumpolar Arctic region. The project falls under the thematic priority area of Sustainable Energy in SDWG's Strategic Framework.

Activities and Outputs

Approximately 20 individuals from across the Arctic region will be selected to form the cohort for ARENA 2020. The cohort will participate in on-site sessions and virtual meetings that focus on providing them with the knowledge-base, skills and collaboration network required to help them define and implement a sustainable energy project in their community or region. Each member of the cohort will be assigned a mentor appropriate for their community setting and project focus. Three on-site sessions will be held in 2020 (Canada in May, Alaska in July, Iceland in October), supplemented by monthly virtual meetings.

Participants

Arctic Council Member States and Permanent Participants may nominate individuals to apply for the ARENA 2020 program. Participation is open to Observer Nations however priority will be given to Permanent Participants and Member States.

These individuals will come from a variety of backgrounds with a range of job responsibilities. The diversity within the 2017 cohort – including tribal leaders, economic development professionals, university graduate students, community energy focals, utility managers, engineers – was highly valued by its participants.

Participants will be selected from a pool of qualified candidates via consensus of a committee composed of individuals identified by the ARENA 2020 co-leads. Participant selection will be based on content in their application, using an objective evaluation matrix and individual interviews (conducted via Skype video or similar tool). The selection criteria will align with the overall vision and objectives for the ARENA program and will assess each applicant's current knowledge and skill sets, as well as their potential to guide or shape future development of microgrid projects in their home country or region.

Criteria for consideration as a member of the ARENA 2020 cohort should include:

- Prior knowledge of energy projects relevant in an Arctic context;
- Good English language communication skills;
- Commitment to participate in all aspects of the program and to comply with program expectations for preparation and conduct;



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- Support from their employer to make available the time required to participate in all program activities; and
- Articulation of an energy project relevant to their community and region that they will commit to plan and refine over the course of the program.

Mentors

ARENA 2020 mentors will be individuals with an experience and a professional network relevant to the needs of the cohort members. They will focus on helping the participants define and implement their project plans, as well as helping them benefit from the resources available throughout the program. Mentors and mentees will interact at least monthly throughout the program, via email and/or telephone, and will meet in-person when possible. In addition, the mentors will be available for limited *ad hoc* consultation by other participants. A subcommittee chartered by the ARENA 2020 steering committee will recruit a cadre of appropriate mentors, align them as appropriate with the individual participants, and provide training in effective mentoring relationships for both the mentors and participants.

On-site sessions

Canada (May 2020): The Canada on-site session will be based at the Canadian High Arctic Research Station in Cambridge Bay, Nunavut, with visits to community scale projects within the territory of Nunavut. The focus will be on community and indigenous energy development, ownership and management, capacity building, and the roles of governments and utilities in building success.

Alaska (July 2020): The Alaska on-site session will be held in Fairbanks, Anchorage and Kodiak, with a focus on energy system integration, high penetration variable renewable resources, wind energy, energy storage, and utility governance and supportive energy policy.

Iceland (October 2020): The Iceland on-site session, based at the UNU Geothermal Training Programme, will focus on value-added and cascading uses of available energy resources. A combination of lectures and visits to various energy and business sites in Iceland will be employed.

Steering Committee

Members of the Sustainable Development Working Group (SDWG) of the Arctic Council will be invited to participate as co-leads of the ARENA 2020 program. A steering committee composed of one representative from each co-lead will guide the definition and execution of ARENA 2020. Its responsibilities will include ratification of the process and results associated with selection of the ARENA 2020 participants, availability of the resources (fiscal, personnel, facilities) required for implementation of the program, advocacy for support of the program within the SDWG, and regular communication of program status to the SDWG. Subcommittees (e.g. on participant selection, curriculum, on-site coordination, mentoring) may be formed as required at the discretion of the steering committee. The steering committee will convene on a bi-monthly basis, or more frequently if required, to review program status, discuss future plans, and address any items requiring resolution.



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Partnerships

- The project would link with the proposed Arctic Sustainable Energy Futures Toolkit II project under SDWG.
- The Arctic Energy Summit, which may take place in Iceland in 2020, could potentially be an opportunity for outreach.

Timetable and Project Completion

- Project proposal submitted for approval at SDWG meeting in September 2019.
- Selection of participants completed by end of November 2019.
- On-site session in Canada in May 2020.
- On-site session in Alaska in July 2020.
- On-site session in Iceland in October 2020. Graduation.
- Draft SDWG project report submitted in early January 2021.
- Project presentation at the February 2021 SDWG meeting.

Costs

Co-leads will provide funding for experts who contribute to the project on behalf of each participating state. Canada, Iceland and the United States will each host one on-site session. The host will in each case cover accommodation, in-country transportation and meals for participants. Other costs should be covered by participants.

Integration of Indigenous and Local Knowledge

The integration of Indigenous and Local Knowledge is important for the success of this project. For example, awareness of local environmental conditions, historical trends, and land and resource use priorities is important for developing relevant solutions and acceptable place-based solutions. To maximize the probability of incorporating these insights, space will be reserved within the student selection committee, instruction team, and student class specifically for representation of the Permanent Participant members. This will ensure that the program brings together TLK from a wide array of Arctic communities to facilitate appropriate integration of clean energy technologies throughout the region.

Communications

Target audiences include community-level decision makers in the Arctic, local organizations and potential developers of local energy systems. Opportunities for outreach at circumpolar Arctic events will be considered.