



APRIL 20-22, 2021 | FREE VIRTUAL CONFERENCE

ARCTIC SUSTAINABLE ENERGY RESEARCH CONFERENCE

Research and community needs in the context of a global energy transition

A free, three-day virtual conference focused on sustainable energy and energy efficiency research featuring guest speakers and panelists from Alaska and around the world.

Workshop Objectives

- Provide a forum to share the latest information on sustainable energy research in remote, cold climate communities
- Determine sustainable energy research gaps in Arctic and sub-Arctic regions
- Investigate links between renewable energy research and climate and energy equity
- Discuss changes in policy needed to meet climate goals and community needs

All times Alaska Time Zone

* Designates invited, unconfirmed speaker

DAY 1. Tuesday, April 20

8:30 a.m.	MEETING COMMENCES
8:30-10:00 a.m.	KEYNOTES ON CLIMATE, ENERGY, AND COMMUNITY NEEDS – Moderator: Bruno Grunau, NREL
8:30-8:40	Introductions/introductory remarks/workshop objectives – C. Rosa, USARC
8:40-8:45	Welcome from US Arctic Research Commission Chair – D. Kennedy, USARC
8:45-9:10	Keynote 1: Alaska-specific context of energy and climate equity: Distinct regional needs that can inform energy policy – S. Adams, NANA, and B. Hirsch, Deerstone Consulting
9:10-9:35	Keynote 2: Native American and Alaska Native community roles in energy development: What is needed to ensure an equitable energy transition? – C. Deschene, NITEC
9:35-10:00	Keynote 3: Energy efficiency in the global energy transition: How rural communities can equitably transform their energy systems – E. Doris, NREL
10:00-10:30 a.m.	BREAK

10:30 a.m.–Noon	KEYNOTES ON CLIMATE, ENERGY, AND COMMUNITY NEEDS <i>(continued)</i> – Moderator: Bruno Grunau, NREL
10:30–10:55	Keynote 4: Arctic Energy Office perspectives on existing and future climate/energy legislation and Executive Orders and what they will mean for remote/Arctic communities – M. McEleney, Arctic Energy Office
10:55–11:20	Keynote 5: Sustainable energy research needed to support the Biden administration’s policy goals: How research can be designed to increase energy and climate equity in rural communities – W. Johns, DOE
11:20–12:00	Guided Panel Discussion

Noon **ADJOURN**

DAY 2. Wednesday, April 21

8:30 a.m. **MEETING COMMENCES**

8:30–10:15 a.m.	BUILDINGS AND INFRASTRUCTURE, SESSION 1: EFFICIENCY FIRST – Moderator: Scott Waterman, Spirited Energy Ventures
8:30–8:35	Short welcome and Day 1 recap
8:35–8:50	Energy efficiency & healthy homes – J. Hebert, NREL
8:50–9:05	Energy efficiency in public facilities – D. Madden, ANTHC
9:05–9:20	Remote community water & sanitation efficiency/renewables integration – B. Gamble, ANTHC
9:20–9:35	The future of whole-community energy optimization through cutting edge building science, grid interactive efficient buildings, and grid optimization (URBANopt/REopt) – W. Livingood, NREL
9:35–10:00	Discussion/Q&A

10:00–10:30 a.m. **BREAK**

10:30 a.m.–Noon	BUILDINGS AND INFRASTRUCTURE, SESSION 2: DISTRIBUTED ENERGY RESOURCES – Moderator: Isaac Vanderburg, Launch Alaska
10:30–10:45	Air source heat pumps in cold climates – T. Marsik, NREL/ACEP
10:45–11:00	Kake heat pump/electric rate analysis – M. Wilber and S. Colt, ACEP
11:00–11:15	Optimization of dispatchable loads for RE generation in microgrids – D. Sambor, MicroFEWs/ACEP
11:15–11:30	How behavioral science can inform energy program design – E. Palchak, Vermont Energy Investment Corporation
11:30–12:00	Discussion/Q&A

Noon **ADJOURN**

DAY 3. Thursday, April 22

8:30 a.m.	MEETING COMMENCES
8:30–10:00 a.m.	SUSTAINABLE ENERGY, SESSION 1: TECHNOLOGIES – Moderator: David Lockard, AEA
8:30–8:35	Short welcome and Day 2 recap
8:35–8:50	Hydrokinetic energy research – J. Kasper and B. Loeffler, ACEP
8:50–9:00	Solar performance in the Arctic: Bifacials – C. Pike, ACEP
9:00–9:15	Renewable energy, demand side management, and diesel efficiency – M. Ross, Yukon College
9:15–9:30	Hydrogen and renewables: Technical and economic potential – M. Ruth, NREL
9:30–10:00	Discussion/Q&A
10:00–10:30 a.m.	BREAK
10:30–11:55 a.m.	SUSTAINABLE ENERGY, SESSION 2: INTEGRATION – Moderator: Bill Stamm, AVEC
10:30–10:45	Wind/storage/secondary loads in St. Mary's and Mountain Village – J. VanderMeer, ACEP
10:45–11:00	Renewable energy integration in Hawaii (use of batteries) – M. Glick, Hawaii Natural Energy Institute
11:00–11:15	Supporting the transition of remote and Indigenous communities to a clean energy future – M. Bennett, Natural Resources Canada
11:15–11:30	Modeling renewable energy integration in Canadian Arctic communities – R. Kilpatrick, Natural Resources Canada/CanmetENERGY
11:30–11:55	Discussion/Q&A
11:55 a.m.–Noon	WRAP UP AND NEXT STEPS
Noon	ADJOURN

For more information and to register go to

www.arctic.gov/arctic-sustainable-energy-research-conference

Sponsored by the US Arctic Research Commission with cosponsorship by the Cold Climate Housing Research Center, the National Renewable Energy Laboratory, the Alaska Native Tribal Health Consortium, and the Alaska Center for Energy and Power.

