



AEO Introduction – George Roe

ICEIWG – 28 October 2020

Arctic Energy Office

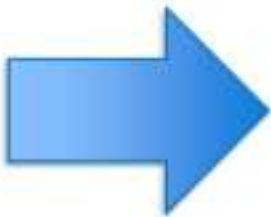
- Leads cross-cutting operations in Arctic to address energy, science and national security challenges of 21st century for United States & allies
- Nexus for DOE activities & represents DOE in Arctic engagements
- Re-established 17 September 2020 / Launch team on-boarding now
- Fairbanks office opens 1 December 2020



Email: arcticenergy@hq.doe.gov

Website: <https://www.energy.gov/arctic/arctic-energy-office>

Engaging the Future



Arctic's uncertain future □ Global **threats** & **opportunities**

The Arctic Context for DOE

- Rapidly evolving natural, economic and political conditions
- Multiple stakeholders – indigenous, national, commercial
- “All of the above” energy realities
- Wide range in community size, resources, connectivity
- Opportunities for circumpolar & trans-latitude sharing
- Compelling technology maturation / transition opportunities

“The mission of the Energy Department is to ensure America’s security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.”

About the Arctic Lab Partnerships (ALPs)

- University of Alaska Fairbanks
- Los Alamos National Laboratory
- National Renewable Energy Laboratory
- Pacific Northwest National Laboratory
- Sandia National Laboratories
- Arctic Energy Office
- ...

30-31 May 2018
Fairbanks, AK
Materials at: [link](#)

**ALASKA
NATIONAL
LAB DAY**



ALPs – Arctic Lab Partnerships for Resilience and Security: DOE National Labs & University of Alaska Fairbanks

Alaska and the Arctic are changing and may be ice free for periods of time in the near future. Research and development are needed to address new threat networks and pathways emerging as sea ice and permafrost no longer provide structural support and access deterrance.

VISION

Together, U.S. Department of Energy (DOE) national laboratories with the University of Alaska (UA) bring research strength to the national concerns in Alaska and the Arctic. Only a partnership could leverage the combined assets of these SST facilities to address long-term challenges of societal resilience and national security concerns in the face of natural and adversarial threats.

APPROACH

Four DOE national laboratories—Los Alamos National Laboratory (LANL), National Renewable Energy Laboratory (NREL), Pacific Northwest National Laboratory (PNNL), and Sandia (SNL) National Laboratory—are working with UA Fairbanks to establish an Arctic Lab Partnership (ALP) that coordinates UA research and national capabilities, facilitates cross-institutional knowledge, provides



Sandia
National
Laboratories



Los Alamos
NATIONAL LABORATORY



UNIVERSITY OF
ALASKA
FAIRBANKS



NATIONAL RENEWABLE ENERGY LABORATORY

unparalleled wealth of Arctic insight and research capability, and coordinate competencies to the people and places of Alaska.

By working together, the national laboratories can harness their diverse and complementary strengths with UA leadership to address enduring national security and resiliency challenges while providing economic growth opportunities for SST developed in Alaska. The consortium can work as a coordinated entity with state and federal partners, knowledge gaps, and priority research areas, leveraging insight offered by the multidisciplinary, trans-regional engagements.

Arctic Lab Partnerships – 2020 Virtual Workshop

- Objective: Identify actionable pathways for collaborative multi-organization R&D to address arctic challenges.
- Key findings included prioritizing broader / deeper engagement with local communities, emphasizing co-production and multi-organization sharing of data & results.

Multi-sector Cross-cutting Themes
Arctic Energy in Transition
Necessity of Systems Approach
Persistent and Timely Domain Awareness
Tracking and Predicting Disruptive and Abrupt Transitions

Multi-organization Consensus Regarding Research Area Topics	
Holistic Community Perspective	Resilient, Low Imported Energy Microgrids
Ocean Energy for Arctic Infrastructure & Security	Terrestrial Sciences
Coastal and Marine Sciences	Atmospheric and Space Sciences
Predicting and Tracking Change	...

Meeting materials available at: <https://drive.google.com/drive/folders/1LcbG77xSMFazF2R-dMYM19MsRHxVtlf6?usp=sharing>

Discussion

- Possible focus areas for AEO?
- Information sharing channels?
- Collaboration partners?
- Replication / scaling best practices?
- ... ?

Thank you!

George Roe

Director, Arctic Energy Office

george.roe@hq.doe.gov

