What does the **Arctic Energy Office** do?

As the only regionally focused office in the U.S. Department of Energy (DOE), the Arctic Energy Office is unique. It advises DOE on energy and related topics in Alaska and coordinates efforts across DOE program offices to ensure a unified voice on Arctic issues.

Defining the Arctic

The Arctic Energy Office considers all of Alaska as part of the Arctic. It also works with Arctic allies in the Arctic Council—Canada, Sweden, Norway, Finland, Iceland, the Kingdom of Denmark (Greenland)—and Arctic Council observers and permanent participants.

Finding Us

The Arctic Energy Office has staff in Alaska, Washington, D.C., and other locations. The Fairbanks office sits on traditional Dënéndeh land, and the Anchorage location sits on traditional Dena'ina Ełnena land.

Getting to Work

To achieve its mission, the Arctic Energy Office makes connections between Alaskan residents, companies, Alaska Native corporations, Tribes, villages, academic institutions, national labs, interagency partners, and other stakeholders to support energy solutions, invest in workforce development, and share Arctic expertise and analysis.

Making **Connections**

Creating Networks: Supporting a large land area with a diverse array of people, cultures, economies, and ecosystems, the Arctic Energy Office facilitates projects that reduce household energy burdens, support the clean energy transition, and fulfill the *National Strategy for the Arctic Region*[1] and the *U.S. Department of Energy's Arctic Strategy*[2]. The Arctic Energy Office interfaces with national lab partners and technical advisors who specialize in nuclear energy technology and policy and hydrogen energy technology to advance the region's work in these critical clean energy areas.

Arctic Energy Ambassadors: In partnership with the Denali Commission and Alaska Municipal League, a dozen experienced practitioners throughout Alaska work to improve energy security across the state in alignment with the clean energy transition. The Ambassadors are developing regional, place-based, and collaborative energy leadership in Alaska, along with sharing resources and knowledge.

International Dialogue: DOE's Arctic equities are guided by the *National Strategy for the Arctic Region* and the DOE *Arctic Strategy.* The United States seeks to promote and maintain an Arctic region that is peaceful, stable, prosperous, and cooperative. This work encourages sustainable economic development and the building of climate-friendly transportation links across the Arctic. The Arctic Energy Office also participates in and organizes a number of international research and policy forums and dialogues.

1. The White House. 2022. National Strategy for the Arctic Region. www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf
1. DOE. 2022. U.S. Department of Energy Arctic Strategy. www.energy.gov/sites/default/files/2022-11/Arctic%20Strategy_1.pdf

Alaska's Energy Potential and Landscape

ALASKA'S ENERGY POTENTIAL[1]

Quantities are in trillion British thermal units per year (TBTU/year); 1 TBTU is approximately equal to 1 billion cubic feet of natural gas.

Tidal	Wave	Solar	Land-Based Wind	Offshore Wind
700	1,800	37,000	19,000	41,000

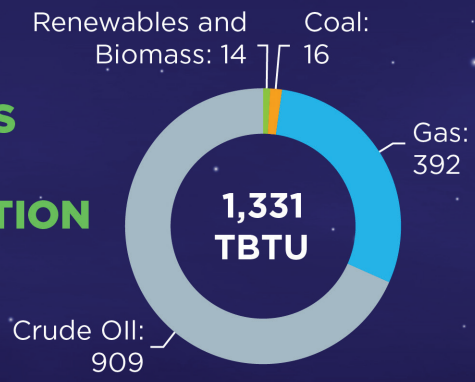
Identified Coal	Natural Gas	Crude Oil	Geothermal	Nuclear
56,000	4,200	3,400	unknown	unknown

The energy potential in Alaska is more than the entire United States' current annual energy consumption.[1]

ALASKA'S OPPORTUNITIES

- Replacing aging energy infrastructure to boost resiliency
- Diversifying energy options to improve resilience
- Investing in workforce training and STEM education
- Reducing high energy burdens in Alaska (currently 150% of the average national cost)

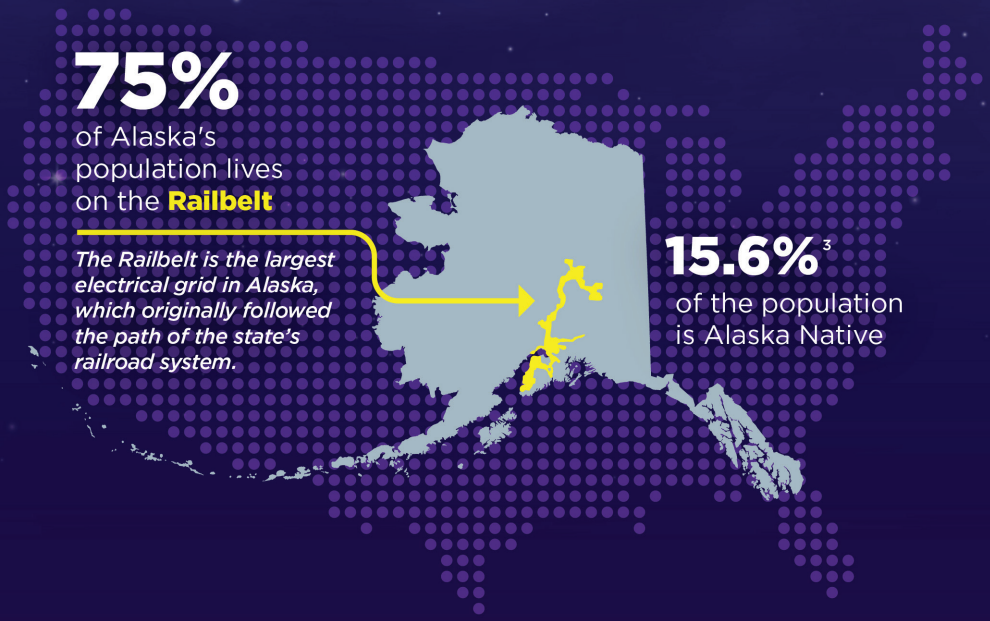
ALASKA'S ENERGY PRODUCTION (2021)[2]



Alaska's energy consumption was 675 TBTU in 2021.

75%
of Alaska's population lives on the **Railbelt**

The Railbelt is the largest electrical grid in Alaska, which originally followed the path of the state's railroad system.



15.6%[3]
of the population is Alaska Native

1. Whitney, Erin, Mariya Koleva, Levi Kilcher, and Jeff Raun. 2024. *Alaska Hydrogen Opportunities Report.* Anchorage, Alaska: Alaska Center for Energy and Power. www.energy.gov/sites/default/files/2024-04/Alaska_hydrogen_report_ACEP_publication.pdf
2. U.S. Energy Information Administration State Energy Data System. 2021. Accessed September 23, 2024. www.eia.gov/state/seds
3. Alaska Native Claims Settlement Act Regional Association. 2024. Accessed September 23, 2024. www.ancsaregional.com

Investing in **Arctic Development**

Hydrogen Potential in the Arctic

Hydrogen energy solutions are garnering greater national and local attention in the energy transition. In-depth research is increasingly important to evaluate hydrogen's place in the context of rural, remote, and underserved regions of Alaska. The Arctic Energy Office leads the Alaska Hydrogen Working Group and spearheaded the publication of the *Alaska Hydrogen Opportunities Report* in early 2024. The Arctic Energy Office is working to further understand and demonstrate the feasibility of energy generation and storage technologies in the state.

Supporting Utilities With Workforce Capacity Building

The Arctic Energy Office helps fund the Renewable Energy Alaska Project's People in Power program to address training needs in Alaska's rural, stand-alone electric utilities with respect to governance, management, operations and maintenance, and clerical needs.

Alaska Critical Minerals Accelerator

The Arctic Energy Office is partnering with the University of Alaska Fairbanks to drive economic expansion around innovative critical minerals processes and create a new green mining workforce in underserved Alaska Native communities.

Solar Energy in the High North

With the launch of the Alaska Solar Microgrid Working Group in 2024, led by the University of Alaska Fairbanks, the Arctic Energy Office is supporting collaboration and knowledge sharing. There is currently a once-in-a-generation investment from the federal government to fund energy infrastructure that reduces greenhouse gas emissions and promotes clean energy demonstrations in Alaska. Collaboration across the region will be critical for project success.

Visit us online at energy.gov/arctic

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