

What energy sources are used in the Arctic?

Electricity generation and installed capacity In the remote Arctic the most commonly used energy sources for electricity generation are diesel, followed by several mature renewable energy technologies such as hydropower, wind power, and photo voltaic (PV) power. In Section 3.2 the technologies used to harness energy are discussed in more detail.

How will the Arctic energy sector develop?

It seems highly realistic, however, that the medium- and long-term development of the Arctic energy sector will develop under a strong influence of the following trends: A continued global warming, which is going to be more tangible in the Arctic than in the moderate climate areas.

Is wind energy available in the Arctic?

Wind is a widespread energy source in the Arctic, with a high potential in coastal areas [56,57]. Wind potential is available throughout the year with seasonal variations. Wind energy can be harnessed using wind turbines and analysis (eg. Refs. [32,33]) has shown that a number of installed wind turbines can be found in the Arctic.

Why is energy security important in the Arctic?

Energy security is critical for Arctic inhabitants, with affordability and availability being central elements to the well-being of local communities. Further investigation is needed to support the transition towards a more sustainable energy future in the Arctic.

Why should you attend the Arctic Energy Conference?

Attendees will have the opportunity to establish networks and partnerships focused on advancing resilient, affordable, and reliable energy systems, explore emerging energy technologies applicable to the Arctic, and connect with experts across various disciplines. [View Agenda](#) [Registration](#) [Travel Support](#) [Confirmed Sessions](#)

How much energy does a remote Arctic community use?

little as 35 kW to more than 10 MW. Heat is often the largest type of energy used in residential settings. Remote arctic communities typically experience high energy costs - in some cases exceeding \$1 USD per kWh for electricity and \$10 USD per gallon of heating fuel, with the result that residents can face energy bills that

type of energy used in residential settings. Remote arctic communities typically experience high energy costs - in some cases exceeding \$1 USD per kWh for electricity and \$10 USD per gallon of heating fuel, with the result that residents can face energy bills that are over half their disposable income. The circumpolar Arctic is unique in its ...



Arctic energy Montenegro

An online tool designed to enhance knowledge of the best practices and local adaptation actions on Arctic renewable energy and energy efficiency. Website. Powered by Nature: The Old Crow Solar Project How one remote Arctic community transitioned to green energy - and why it doesn't need to be an exception.

The Arctic Energy Office (AE) seeks to reinvigorate this program to include all Alaska stakeholders and develop an AE-led network of energy leaders to help move the state towards sustainable and impactful projects that could be ...

The Arctic Renewable Energy Atlas (AREA) provides tools for Arctic communities looking to transition to affordable and reliable, renewable energy. Start by exploring the Arctic's renewable energy potential through AREA's interactive ...

News and Press Releases of interest to Arctic stakeholders. As part of the Biden-Harris Administration's Investing in America agenda, the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED) today opened applications for up to \$400 million to spur innovative, community-focused, clean energy solutions for rural and remote communities ...

Introducing new energy sources is of course more difficult and expensive in remote Arctic communities but the long-term gain is undeniable. Feasibility studies show that an energy shift is possible, however there's a need to support communities in this transition. It's also important to think about the energy security aspect.

On July 24, 2023, the U.S. Department of Energy (DOE) announced it is making \$100 million available to support states, local governments, and public utilities in purchasing products derived from converted carbon emissions. The goal is to speed up adoption of advanced carbon management technologies, creating a market for environmentally sustainable alternatives in ...

In this article from Laresa Syverson, the Arctic Energy Ambassador serving the Aleutian region, hear about her experience growing up in Unalaska and how her work today helps bring about energy infrastructure upgrades for her community. September 6, 2024.

Arctic Council oIceland hands over to Russia in May oRussian Chairmanship plan unpublished but likely to focus on support for energy infrastructure development, economic support for Arctic communities and indigenous economic/social development oDOE-financed ARENA (Arctic Remote Energy Network Academy) program through the Sustainable ...

The ArcticX kickoff event took place virtually Nov. 17, 2021, with Secretary of Energy Jennifer Granholm.. In Secretary Granholm's remarks, she recalled seeing firsthand how Alaska is "both ground zero for climate change and a pioneer for the nation's clean energy future." Despite estimates that those climate impacts will cost residents upwards of \$6.1 billion by 2030, ...

Arctic Energy Resources While there are deposits of uranium and coal scattered throughout the area north of

the Arctic Circle, the main energy resources of interest for commercial operators are oil and gas. The precise quantities of these resources remains unknown however a study conducted in 2008 by the United States Geological Survey (USGS ...

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The Arctic Energy Summit (AES) is a multi-disciplinary event expected to draw several hundred industry officials, scientists, academics, policy makers, energy professionals and community leaders together to collaborate and share leading approaches on Arctic energy issues. The Arctic Energy Summit in the past has been an endorsed project of the ...

The Arctic Energy Office has primary responsibility for coordinating efforts across the Department of Energy's (DOE) program and staff offices and National Laboratories to ensure a unified voice on all Arctic issues, and we report through the Under Secretary for Science and Innovation (DOE Organization Chart).

ARENA provides training and capacity-building programs to Arctic stakeholders, empowering them to optimize energy systems and integrate renewable energy sources. This knowledge transfer strengthens local ...

The Arctic is changing rapidly, bringing new challenges to its remote communities, industry, military bases, and associated infrastructure. North Slope Alaska is very limited with respect to assets, and many unique challenges ...

Energy-Storage.news" publisher Solar Media will host the 5th Energy Storage Summit USA, 28-29 March 2023 in Austin, Texas. Featuring a packed programme of panels, presentations and fireside chats from industry leaders focusing on accelerating the market for energy storage across the country. For more information, go to the website.

The University of Alaska, Fairbanks (UAF) is a key partner with the Arctic Energy Office. Office space for the Arctic Energy Office is located on the UAF campus, providing immediate proximity to its array of arctic research expertise and resources, UAF's Alaska Center for Energy and Power testing facility, the Cold Climate Housing Research ...

Today, Dr. Erin Whitney, Director of the Arctic Energy Office announced the launch of the Arctic Energy Ambassadors on stage at the annual Alaska Federation of Natives Convention in Anchorage.. The Arctic Energy ...

The Arctic Energy Alliance (AEA) is a not-for-profit society with a mandate "to help communities, consumers, producers, regulators and policymakers to work together to reduce the costs and environmental

impacts of energy and utility services in the Northwest Territories." [Read More ->](#)

Rebecca Porter. Controller. Rebecca Porter is Arctic Energy's Controller and the financial arm of our project management. She holds a Bachelor's degree in accounting from the University of Alaska Anchorage, and has worked with Arctic Energy Inc. since 2012, and has helped many of our customers understand and implement the economics of their CHP and DG projects.

Abstract This study combines state-of-the-art reanalyses such as the fifth-generation European Re-Analysis (ERA5) and the Ocean Reanalysis System 5 (ORAS5) with novel observational products to present an updated estimate of the coupled atmosphere-ocean-sea ice Arctic energy budget, including flux and storage terms covering ...

Webinar: Arctic Energy Ambassadors Information Session (November 9, 2023) Applications closed for the Arctic Energy Ambassadors program on November 22. This webinar guided participants through the expectations and priorities for the program, to inform those interested in applying. Chris Castro, Chief of Staff for the Office of State and ...

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Today, Dr. Erin Whitney, Director of the Arctic Energy Office announced the launch of the Arctic Energy Ambassadors on stage at the annual Alaska Federation of Natives Convention in Anchorage.. The Arctic Energy Ambassadors will provide training and support to develop regional energy leadership in the state for selected, experienced practitioners ...

ArcticX was an InnovationXLab series exploring the Arctic's largely untapped potential to serve as a living laboratory of clean energy innovation. Nov. 17, 2021--Webinar: Arctic Infrastructure and Deployment Opportunities ; Jan. 26, 2022--Webinar: Energy Justice in the Arctic; April 6, 2022--Webinar: Doing Business with DOE in the Arctic

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