Renewable energy in the arctic

This book explores various facets of the transition to renewable energy in the Arctic region. It critically examines the adverse effects of fossil fuel extraction and use, environmental and social impacts of climate change, and the possibility of a low carbon energy system through innovation and technology.

Renewable energy technologies have been successfully tested and put in operation in the Arctic. Large-scale hydropower accounts for up to 75 per cent of electricity in ...

National Strategy for the Arctic Region (NSAR) - 10-Year Renewable Energy Plan Author: Denali Daniels and Associates Keywords: u.s. department of energy, doe, office of indian energy policy and programs, indian energy, national strategy for the arctic region, nsar, 10-year renewable energy plan Created Date: 20150411204731Z

The UN is launching a year of "Energy Action", kicking off substantive preparations for a Heads of State and Government High-level Dialogue on Energy in September 2021. Midnight sun - darkness at noon. When it comes to solar energy there can hardly ever be too much of it, but since Grímsey is right on the Arctic Circle it enjoys midnight ...

Sino-Icelandic cooperation in geothermal energy utilization has deepened since Arctic Green Energy Corporation in Iceland and China Petroleum & Chemical Corporation"s Star Petroleum (Sinopec Star) 40) Sinopec Star Co., Ltd. is a company specialized in renewable energy within Sinopec Group, with "geothermal +" as its main business.

This has important implications for Arctic societies and Arctic businesses wishing to secure sustainability in a low carbon future. More focus on the transition roadmap of the energy industry should be included at the 2019 Arctic Energy Summit. The successful transition to renewable energy is an element that affects all energy and political ...

During the Arctic Circle Assembly from October 7 to 9 in Reykjavik, Iceland, Havåg discussed renewable energies in the Arctic with Angus MacNeil, a U.K. MP and former chair of the British government"s Select Committee on Energy and Climate Change; Ragnheiður Elín Árnadóttir, Iceland"s minister of industry and commerce; and Bogi Bech ...

Five projects in Alaska have been selected under the Energy Improvements in Rural or Remote Areas (ERA) Program, announced today by Secretary Jennifer Granholm from the 2024 Clean Energy Tribal Summit in Temecula, California. The ERA program aims to improve the resilience, reliability, and affordability of energy systems in communities across the country ...

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Renewable sources seem to be a straightforward way to provide "sustainable energy for all" in the Arctic. The Arctic has vast reserves of renewable energy, including hydro-, bio-, wind and geothermal power. Renewable energy technologies have been successfully tested and put in operation in the Arctic.

In the Arctic, where the reliable supply of energy can mean the difference between life and death, one community is leading the way in one of the planet"s most unique renewable energy transitions.

The National Renewable Energy Laboratory published an 80% Renewable Portfolio Standard (RPS) analysis for Alaska"s "Railbelt," the term used to refer to Alaska"s largest electrical grid which stretches from Fairbanks in the interior to Homer on the southern tip of the Kenai Peninsula and serves the majority of the state"s population. This report arrives at a time ...

Arctic Renewable Energy Working Group. Energy efficiency and well-maintained diesel power generation are essential to sta-ble heat and electric energy use on isolated grids in remote communities. However, dependence on fossil fuels can be minimized through both efficiency and conser-

The working group"s mission is to benefit Arctic communities by identifying and addressing critical renewable energy and energy efficiency research needs. Integration of renewable resources and supporting technologies into a community"s current power generation capacity has the potential to decrease cost to consumers, air pollution, and ...

Arctic marine renewable energy resources. The Arctic is referred to as the test bed for renewable energy utilization because alternative energy sources are often necessary due to its remote location and lack of grid power. Solar panels can be useful in summer if the problem of frosting can be overcome; however, the solar resources in winter are ...

renewable energy that could foster greater cooperation in the Arctic to reduce barriers, increase opportunities, and even develop a global export market driven by the collective experience of ...

Arctic Renewable Energy Working Group. To benefit Arctic communities by identifying and addressing critical renewable energy and energy efficiency research needs. Learn More. Alaska Rural Water and Sanitation Working Group. To maximize the health benefits of in-home running water and sanitation services in rural Alaska.

In 2020, the Cold Climate Housing Research Center in Fairbanks, Alaska, joined NREL to advance energy efficiency and renewable energy in extreme climates, address Arctic and climate-threatened communities, and expand NREL"s wealth of experience in building technologies.

The Arctic Energy Office worked to ensure that we supported the Arctic data gathering efforts for the recently released DOE National Transmission Needs Study. ... would help accommodate higher levels of renewable capacity and help supply cost-effective generation in areas that rely on higher-cost, imported diesel fuel. ...

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The transition to renewable energy sources is a critical aspect of sustainable development in the Arctic. One notable example is the partnership between DOE and its partners with the Mission Innovation (MI) Zero Emission Shipping Challenge.Working with the co-chairs Denmark and Norway and the other partners, MI announced the start of development of a ...

February 7, 2020 | Eye on the Arctic Renewable energy must be community tailored, Arctic conference hears. 2018. November 13, 2018 | The Arctic Institute Breaking free: Alaska"s path forward for renewable Arctic energy. 2017. December 20, 2017 | CBC

The U.S. Department of Energy (DOE) is proud to welcome 25 new communities into the Energy Transitions Initiative Partnership Project (ETIPP), managed by the Office of Energy Efficiency and Renewable Energy. From the Caribbean Sea to the Arctic Circle, ETIPP connects remote, coastal, and island communities with national laboratory researchers and ...

Summer Arctic sea ice extent is shrinking by 13% per decade and the sea ice cover continues to be younger and thinner. The declines in sea ice thickness and extent, along with changes in the timing of ice melt, are putting animals that are particularly ice-dependent--such as narwhals, polar bears and walrus--at risk.

Research shows that several renewable energy sources are currently in use across the Arctic, with the percentage of renewable energy sources being slightly higher in the studied area than the global average (see Section 3.1). For successful integration of renewables, further development will contribute to realizing more cost-competitive technology.

In September, we went in search of successful Arctic renewable energy projects and visited two remote Arctic communities in Alaska, and one in Canada"s Northwest Territories. Kotzebue, Alaska is a remote community above the Arctic Circle, with a unique and difficult environment that consists of low, flat tundra terrain marked by permafrost ...

How feasible does this make a swift transition to more renewable energy sources? The Chairs of the Arctic Contaminants Action Program (ACAP) and the Expert Group on Black Carbon and Methane (EGBCM) share their thoughts and insights.

US Arctic Research Commission"s Arctic Renewable Energy Working Group held a workshop, in January 2016, to iden-tify data gaps and research needs regarding how heat is used in villages. In December 2016, a follow-up workshop was held to assess and identify progress, prioritize unmet

With a region made up of diverse energy needs, DOE seeks to ensure underserved communities have a voice in the Arctic"s future. In July 2021, DOE announced $12 million for 3.5 megawatts of clean power generation and 3.5 megawatt-hours of battery storage for 13 American Indian and Alaska Native communities, serving over 1,300 tribal buildings and ...

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