

How three key factors are driving and challenging implementation of renewable energy systems in remote Arctic communities

Challenges related to access and supply of fossil fuel generated energy in Arctic communities, together with a global agenda to fight the climate change, including through promoting renewable energy systems as alternatives to fossil fuels, are motivating implementation of renewables in the Arctic Region, as in the rest of the world. Various benefits are anticipated in relation to implementation of renewables in Arctic communities, a fact that is driving interest in an appraisal of the state of energy production in the Arctic toward a transition from fossil fuel generated electricity and heating, to an Arctic energy system based on renewable energy sources. To understand and promote the potential for increased implementation of renewable energy solutions, it is important to investigate the role of key factors such as the economy, infrastructure and technology for the transition process. This article is based on an explorative study and analysis of how these three key factors are driving and challenging implementation of renewables. It aims at contributing to the debate on how to promote renewables in the four Arctic areas: Alaska, Canadian Arctic, Greenland and Russian Arctic. Key findings are discussed and recommendations to tackle some of the identified challenges are provided.

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