

The Arctic Cooperation Webinars Series

Regional Development & Food Security in the Arctic: The Role of Geothermal Energy

Summary Report, Webinar October 20th, 2020

Opening Remarks:

Guðlaugur Þór Þórðarson, Minister for Foreign Affairs, Iceland

Chair:

Jennifer Spence, Executive Secretary, SDWG, Arctic Council

Speakers:

Bjarni Herrera, CEO, CIRCULAR Solutions

Alicja Wiktoria Stoklosa, Project Manager, GEORG Geothermal Research Cluster

Martin van der Hout, Former Secretary General, Dutch Association of Geothermal Operators

Heiðar Guðjónsson, Chairman, Arctic Economic Council

David Try, Board Chair and Board Director, Kitselas Geothermal Inc.

Dirk Janssen, Lead Researcher and Virologist, Instituto de Investigación y Formación Agraria y Pesquera de Andalucía IFAPA

Marten Ahlm, Application Expert, Alfa Laval

Arctic Challenges

Understanding the nature of each challenge as viewed through the lens of the UN Sustainable Development Goals, and as reflected in the Arctic region, provides the foundation to address each of them and highlight their interconnection.



Food Security: UN SDGs n° 2 & 3, Greenhouse Agriculture & its Role in Human Security, Health & Wellbeing.



Energy Production & Security: UN SDGs n°7 & 13, Geothermal Energy & Sustainability.



Regional Development: UN SDGs n°8 & 11, Social, Economic, Sustainability & Policymaking.



“Compared to fossil fuels & talking about direct use, the components for geothermal are only pipes, pumps & heat exchanger, a very simple equipment.”

Sigurður H. Markússon, Business Development Manager, Landsvirkjun

Core Concepts

The speakers identified the following concepts and ideas that are at the core of future solutions for a sustainable development in the Arctic.



Food Security
For remote communities with an extreme climate, food is a matter of survival.



Food Safety
Greenhouse agriculture can be scalable, but plagues, virus and fungus may be a threat.



Food Sovereignty
Crucial aspect for remote communities to buffer against external fluctuations.



Arctic Investment Protocol
Entails promotion of sustainable & equitable economic growth & resilience.



ESG: Environment, Social & Corporate Governance
May provide a better framework than CSR for sustainability.



CSR: Corporate Social Responsibility
While important, CSR may lack the ability to achieve long-term sustainability.



Scalability
For profitable regional development it's important to think broad, big & long term.



Sustainability
Preservation of nature & development of sustainable human activities.

“Virtually any vegetable that would fit in greenhouses would be interesting (for the Arctic). Nowadays I think mostly tomatoes & cucumbers are grown so if that's what people want...?”

Dirk Janssen, Lead Researcher and Virologist, IFAPA Almería

Key Elements for Consideration

Geothermal energy has a wide range of applications: agriculture, heating, electricity production, balneology. Key elements for consideration when developing geothermal projects emerged.

01

Identification, Potential & Feasibility

Geothermal energy comes from the ground, but not every region may have naturally geothermal sources. The temperature gradient and accessibility will determine the feasibility & initial profitability for the project. A first goal should consider the enhancement of local living conditions.

Geothermal is long-term based & reaching profitability may be difficult (high running costs & tech development). A cross-sectoral cooperation (public, governmental & private) may provide strength to secure long-term vision & development.

02

Stakeholders, Communities & Development

03

Investment & Frameworks

Local investment is ideal to secure control over the project & define priorities in the use of geothermal energy. Legal & project frameworks are crucial in the environmental & social approaches: CSR and/or ESG may provide grounds for a sustainable future, project resilience & capacity to adapt to future needs.

The participation of local stakeholders (community representatives, local government or municipal representatives, local companies) can ensure that local needs are addressed & provide support for engaging with larger institutions (national governments & companies) to assist with further development.

04

Implementation & Monitoring

05

Diversification, Scalability & Profitability

Geothermal is unlimited & does not suffer from market fluctuations like LNG or fuel. It is the perfect tool for diversification & scalability as it provides stability in terms of price & supply. These features are key for driving the project to a national and/or international level.

“Tomatoes are made of 99% water. So if you use clean, fresh Arctic water, it makes the product more attractive. It is a distinction if you sell tomatoes from the Arctic.”

Heiðar Guðjónsson, Chairman, Arctic Economic Council

Strategic Actions

The following actions can be part of a broader solution that addresses specific UN SDGs and challenges in the Arctic. They are tested methods & can be a way to secure a project's viability, sustainability & profitability.

Cooperation

The Arctic has one of the harshest climates in the world. Without cooperation, individuals would not be able to survive & maintain community viability.

1



Transfer of Knowledge

A successful local experience may be extrapolated to other municipalities & regions, avoiding extra investment & reducing risk.

2



Unlimited Potential

Geothermal is a stable source of energy with unlimited potential to lead the transformation of cities, communities, industries & production, towards sustainability.

3



Product Attractiveness

In a growing and globalized market, it is important to capitalize on municipal & regional unique features, to promote your products internationally.

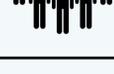
4



Community Involvement

The involvement of local communities and knowledge secures long-term interest & commitment. Further, it ensures that community needs are addressed.

5



Cross-Sectoral Partnerships

An approach to include participation from all sectors the project will operate in. It is a way to secure knowledge & expertise, supporting the project's scalability & internationalization.

6



“It's such an important point that this isn't necessarily always an economic or business decision, but a quality of life & resilience decision.”

Jennifer Spence, Executive Secretary Sustainable Development Working Group, Arctic Council

Author: Thomas Viguier, Project Manager