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ELIGIBLE FOR THE
ARCTIC FRONTIERS-APECS EARLY CAREER SCIENTIST AWARD

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A Nordic country perspective on the interrelations between security and energy transition in the Arctic

Background

The Arctic region is regarded as a low-conflict area. Governance is built on trust between the inhabitants, nation states, multi- and non-governmental organisations. Despite strong military enforcements, conflict has not concretised. The Arctic Council, a leading intergovernmental forum promoting cooperation in the area, and member states are committed to cooperate to pursue sustainable development.

The Arctic area operates in functional cooperation and the negative effects of climate change are well known to have cascading global effects. Still, military presence in the area increases and oil and gas exploration accelerate. This creates a major discrepancy between values of security and sustainability.

The sustainability transitions research field is interested in how socio-technical change towards environmental sustainability happens and can be advanced. It provides concepts and frameworks to study how institutions, actor-networks and practices change around technological transitions. Energy systems, as part of critical infrastructure, are an example of such socio-technical systems including, technology and infrastructure, regulations, professional practices, markets and cultural meanings gradually formed around certain mainstream energy production forms, in particular fossil fuels.

The zero-carbon energy transition means a shift from fossil fuel-based energy systems to systems characterised by renewable energy and other non-fossil fuels, increasing electrification of the energy system, to some degree more decentralised production as well as power structures of energy, and increasing digitalisation. It requires not only major technological changes but also changes in institutional arrangements practices and associated socio-technical systems that use energy.

The interlinkages between the unfolding energy transition and security are highly relevant as they both are at the core of functioning societies.

Goal

We aim to understand what kind of security, and security for whom, is meant in the Arctic context, when the global energy transition is advancing.

The research questions are:

RQ1: How are the zero-carbon energy transition and security considerations intertwined and perceived in the Arctic?

RQ2: How do Finnish and Norwegian energy and security policies address the linkages between the energy transition and security?

Research approach

Qualitative case study analysis of:

a) 13 expert interviews (civil servants, government officials, politicians, representatives of NGOs and multinational institutions, researchers)

b) Arctic strategies from Finland and Norway.

Data in a table:

STRATEGIES	N=11
2010	Finland's Arctic Strategy
2013	Finland's Strategy for the Arctic Region
2016	Update to Finland's Arctic Strategy
2017	Action Plan for the Update of the Arctic Strategy
2021	Finland's Strategy for Arctic Policy
2006	The Norwegian Government's High North Strategy
2009	New Building Blocks in the North: The next Step in the Government's High North Strategy
2011	The High North: Vision and policy instrument (White Paper)
2014	Norway's Arctic Policy
2017	Norway's Arctic Strategy – between geopolitics and social development
2020	The Norwegian Government's Arctic Policy

INTERVIEWS	N=13
State officials	N=7
Researchers	N=4
Public Sector	N=1
Politicians	N=1

Conceptual framework combining sustainability transitions literature (concepts of socio-technical regime decline and acceleration of niche development) and the concepts of negative and positive security (Fig.1).

Tentative Results

Research is on-going, with tentative results in Fig. 1. We can identify policy processes directing towards zero-carbon energy transitions in the interview data, yet the strategic importance of oil and gas production in the area is a matter of national security. This indicates negative security as principal perception, hindering zero-carbon energy aspirations.

Photo: Josh Harrison / Alamy Stock Photo

Zero-carbon energy transitions and security - points of congruence in the Arctic:

- **oil and gas production platforms as strategic centres for claims of sovereignty**
- **established positions of oil and gas companies hard to change**
- **complex system of governance does not support coherence between the sectors**
- **wind turbines preventing clear radar pictures, and causing internal security tensions in land-use**
- **extreme conditions for new technologies**
- **green technologies developed by oil and gas companies as they have the capacity to do so in connection with security and defence sectors**
- **military operations functioning priority (testing of new technologies difficult as cannot jeopardise operations even during peace time)**
- **geopolitics and developments outside Arctic, such as the war in Ukraine.**

Photo: US Navy Photo / Alamy Stock Photo

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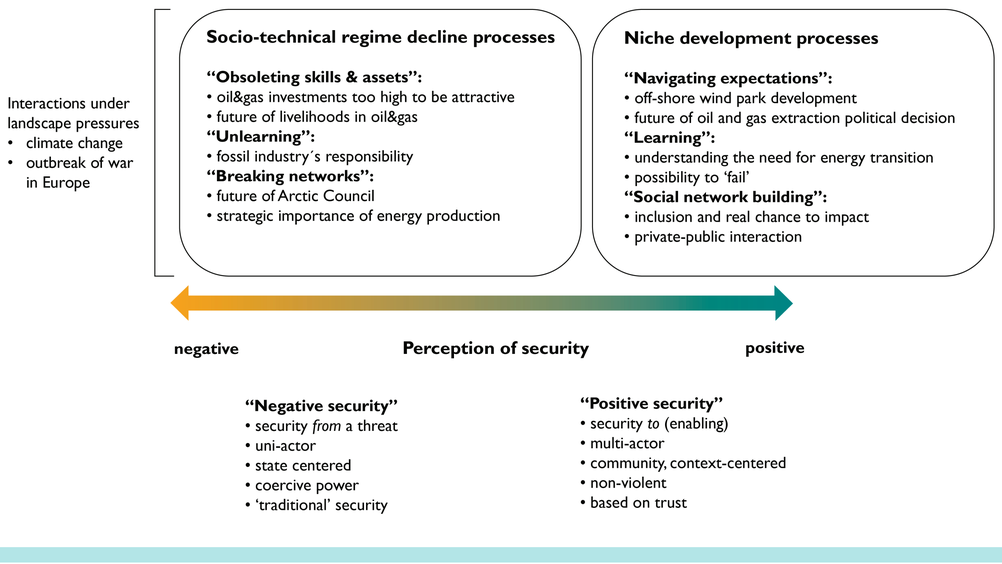
Figure 1. Analytical framework, linked to tentative findings



REFERENCES

Geels, F. W. 2005. "Processes and Patterns in Transitions and System Innovations: Refining the Co-Evolutionary Multi-Level Perspective." Technological Forecasting and Social Change 72 (6 SPEC. ISS.): 681–96.

Gjørv, Gunhild Hoogensen. 2012. "Security by Any Other Name: Negative Security, Positive Security, and a Multi-Actor Security Approach." Review of International Studies 38 (4): 835–59.

Grin, John., Jan Rotmans, and J W Schot. 2010. Transitions to Sustainable Development New Directions in the Study of Long Term Transformative Change. Routledge Studies in Sustainability Transitions. New York: Routledge.

Kivimaa, P., Sivonen, M.H. 2022. How Will Renewables Expansion and Hydrocarbon Decline Impact Security? Analysis from a Socio-Technical Transitions Perspective. Manuscript under review.

Young, Oran R. 2005. "Governing the Arctic: From Cold War Theater to Mosaic of Cooperation." Global Governance 11: 9–15.

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