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Development of various forms of security in the Arctic under different future socio-economic scenarios

Polar (In)Securities: The Future of Global Affairs in the Circumpolar North.
The Arctic Institute's academic conference, 8 June 2022

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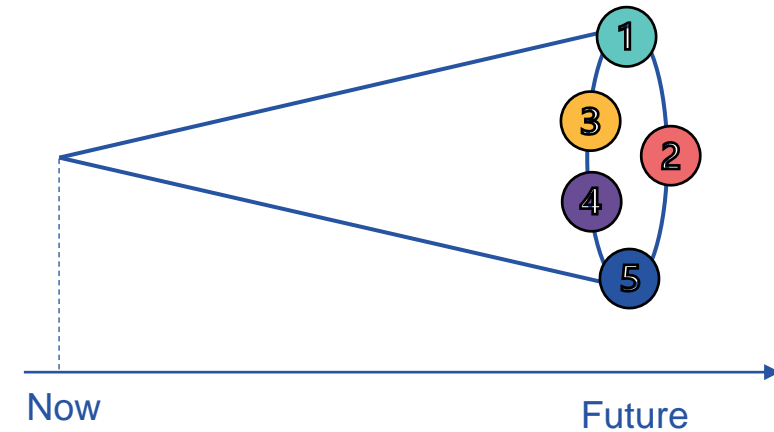
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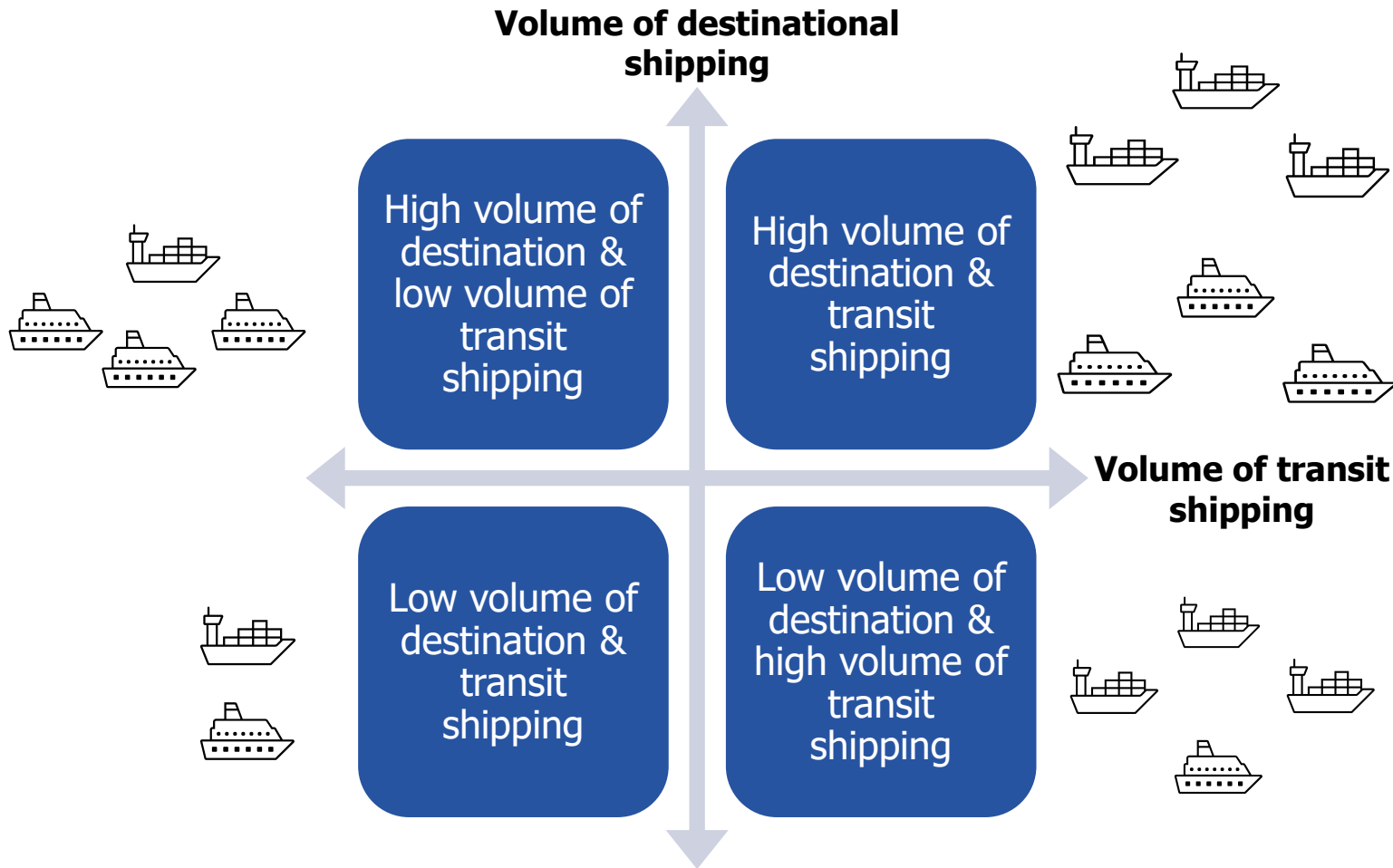
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Foresight for the Euro-Asian Arctic: Socio-economic scenarios

- **Deeply uncertain** system
- Describe various **plausible socio-economic futures of the Euro-Asian Arctic until 2050** in the form of short **narratives**
- Account for both **Arctic** (endogenous) and **global** (exogeneous) factors – political, economic, social, technological, environmental, legal (PESTEL)
- Developed based on extensive literature research and input from various experts from academia and industry using the **morphological analysis** method
- Original focus on emerging trade routes between Europe and Asia, i.e., shipping in the **Euro-Asian Arctic**



Plausible visions of shipping in the Euro-Asian Arctic



- **Destination** shipping :
 - From outside the Arctic to the Arctic or from the Arctic to outside the Arctic
 - Ships going to the Arctic to load, unload, or perform an economic activity there
- AND
- **Transit** shipping

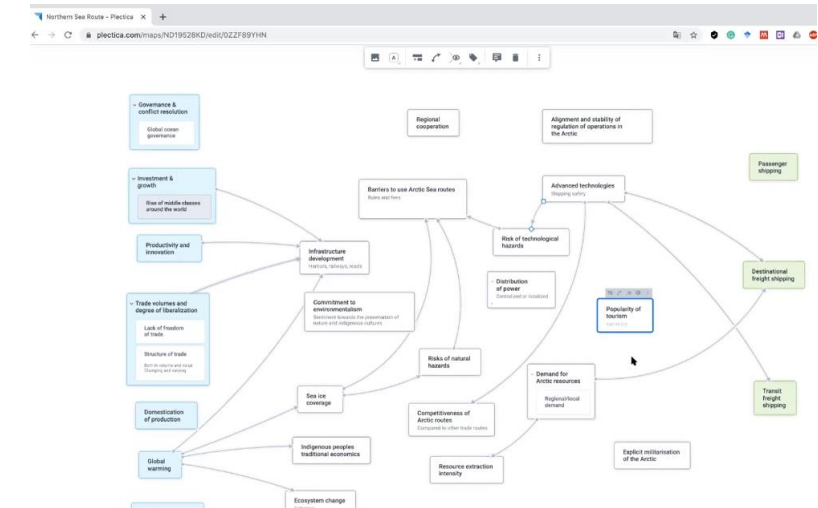
Foresight exercise



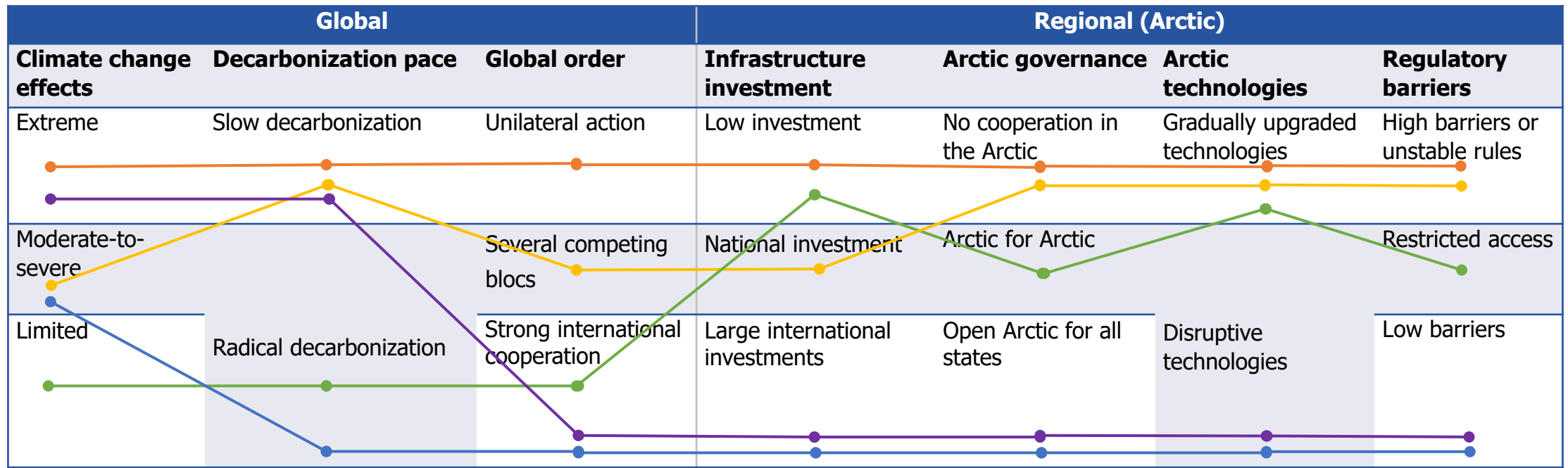
Low volume of destination & high volume of transit shipping

- Feasible?
- Transpolar route?

Navigation conditions (sea ice, weather, etc.)
Regulatory and financial barriers to use Arctic Sea routes
Global governance, cooperation & ease of international trade
Infrastructure development in the Arctic
Governance of the Arctic
Advanced technologies for shipping and safety
Demand for Arctic transit of cargo
Economic growth & consumption
Disruptive technologies
Extraction of renewable and non-renewable Arctic resources
Non-fossil fuel-based energy
Commitment to preserve untouched nature and indigenous cultures



Morphological matrix



Legend

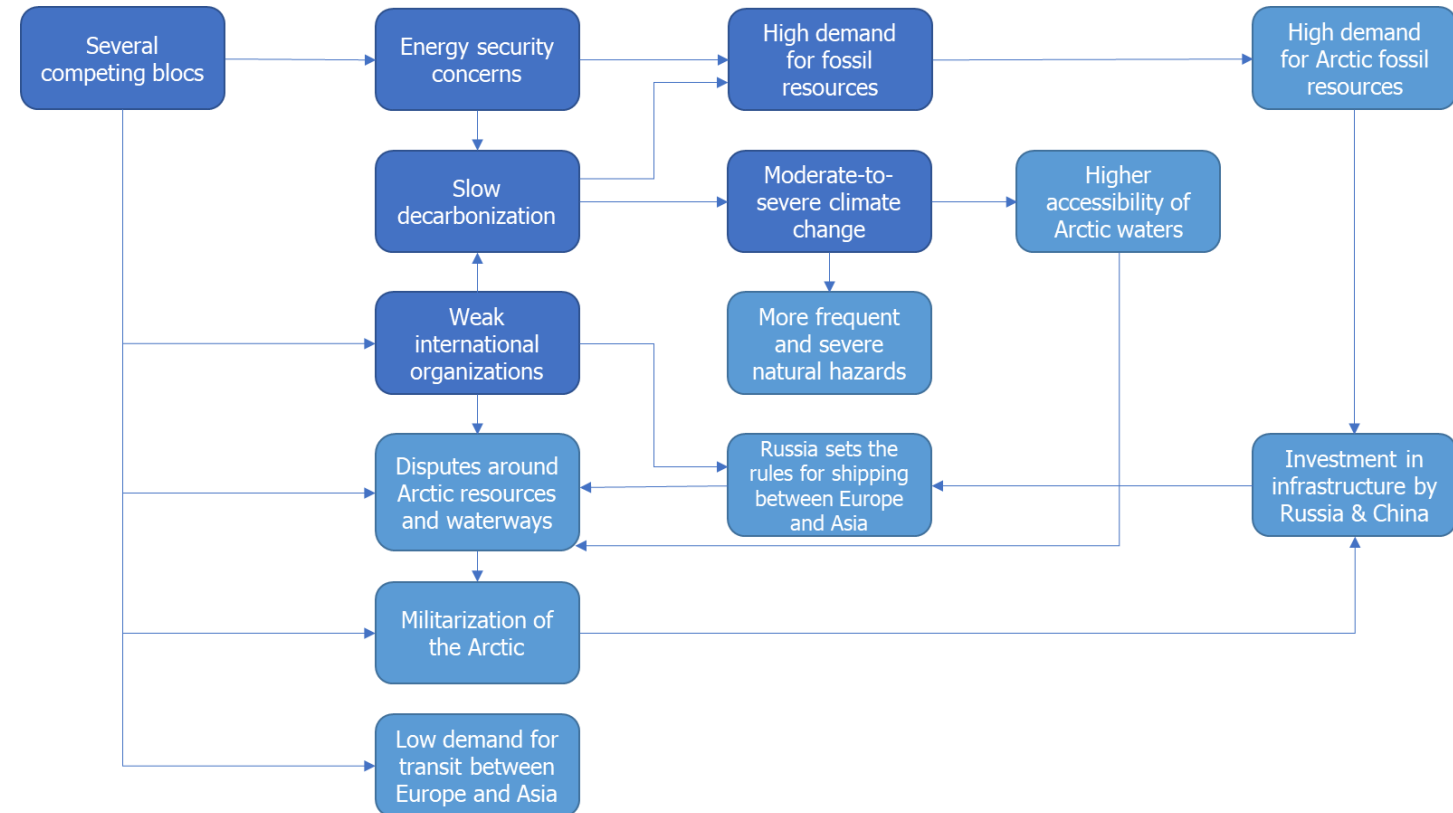
Scenarios

- Global Resource Base
- Global Route
- Abandoned Land
- Sanctuary
- Transpolar Shortcut

Scenarios of Euro-Asian Arctic development until 2050

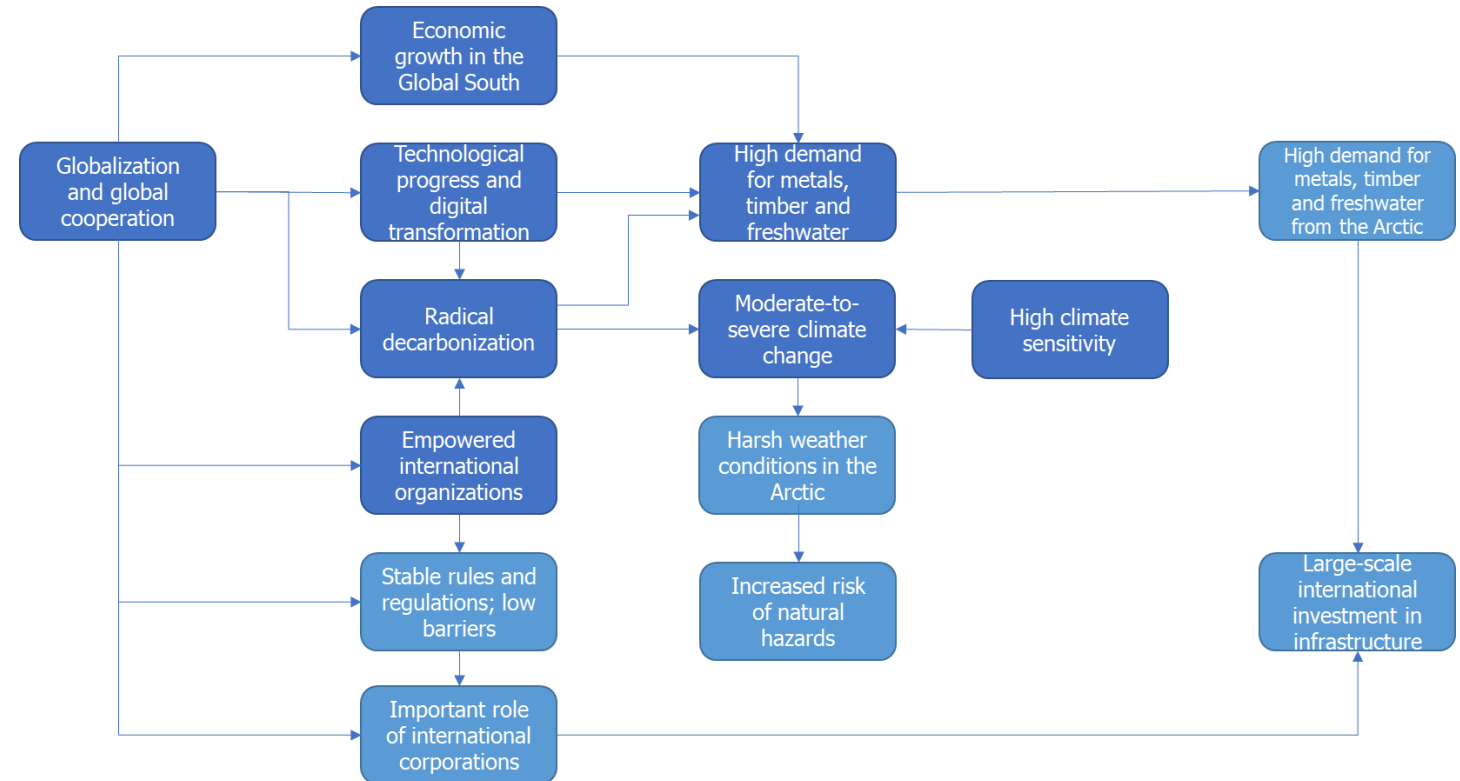
Scenario “Global Resource Base”

The world is divided into several geopolitical and geoeconomic blocs. The global trade shifts from Asia-to-Europe to other regions. Technological progress and decarbonization are slow. The demand for Arctic fossil resources rises. Climate change brings about moderate-to-severe effects including more frequent and dangerous natural hazards such as drifting ice and icebergs, as well as stronger winds and higher waves. Marine infrastructure develops gradually and is often of dual purpose. Militarization of the Arctic increases, however, it does not lead to an armed conflict. Investment in large-scale land-based transport infrastructure proves infeasible due to climate risks and an unstable geopolitical landscape.



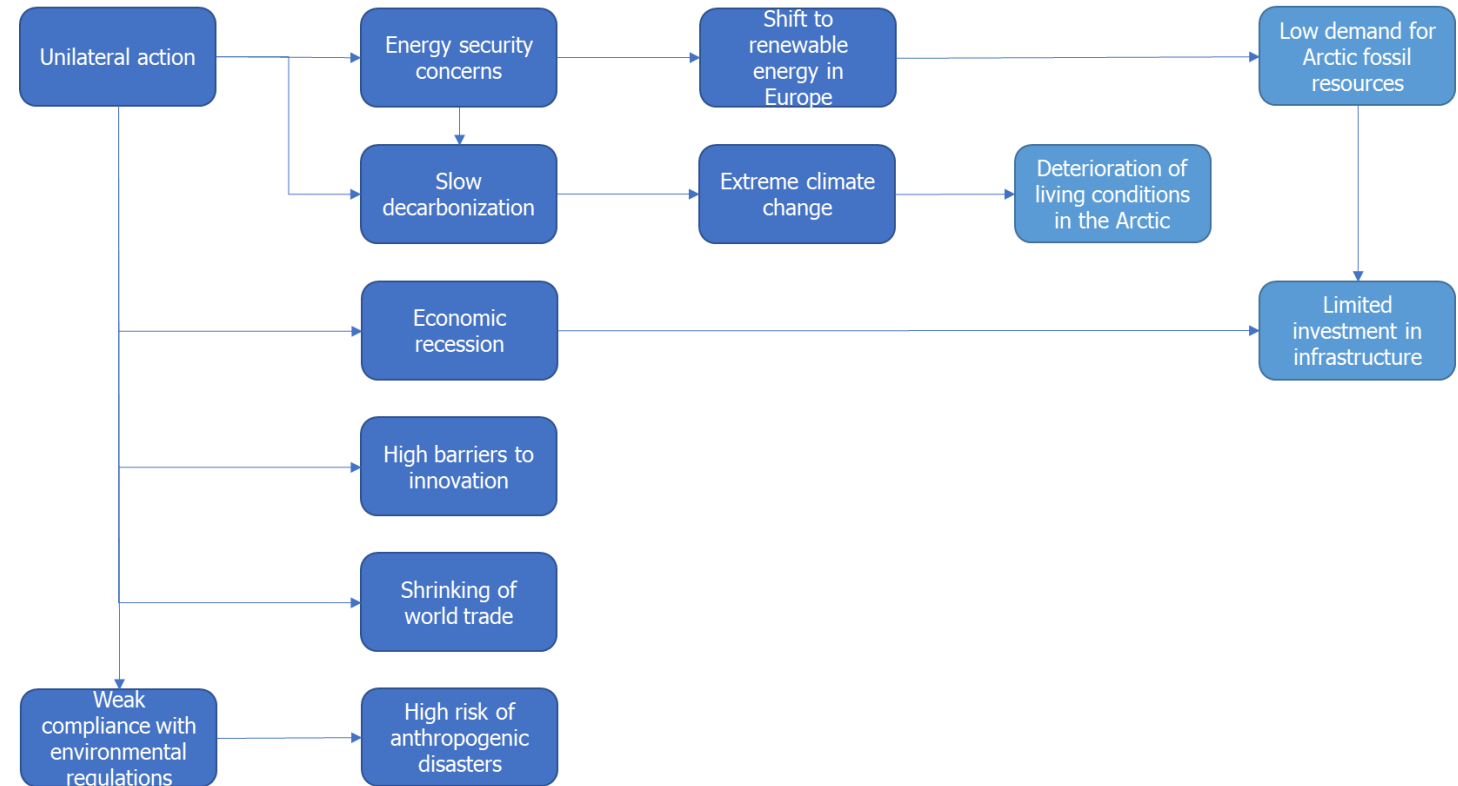
Scenario “Global Transportation Route”

Global cooperation facilitates rapid technological progress. International organizations lead the collective action of countries to combat climate change. The Arctic acts as a key source of indispensable metals for the low-carbon economy. However, high climate sensitivity hampers reaching the Paris agreement goals. As a result, the warming of the Arctic continues. Modern infrastructure supported by large-scale international investment is deployed to support destination shipping which develops rapidly.



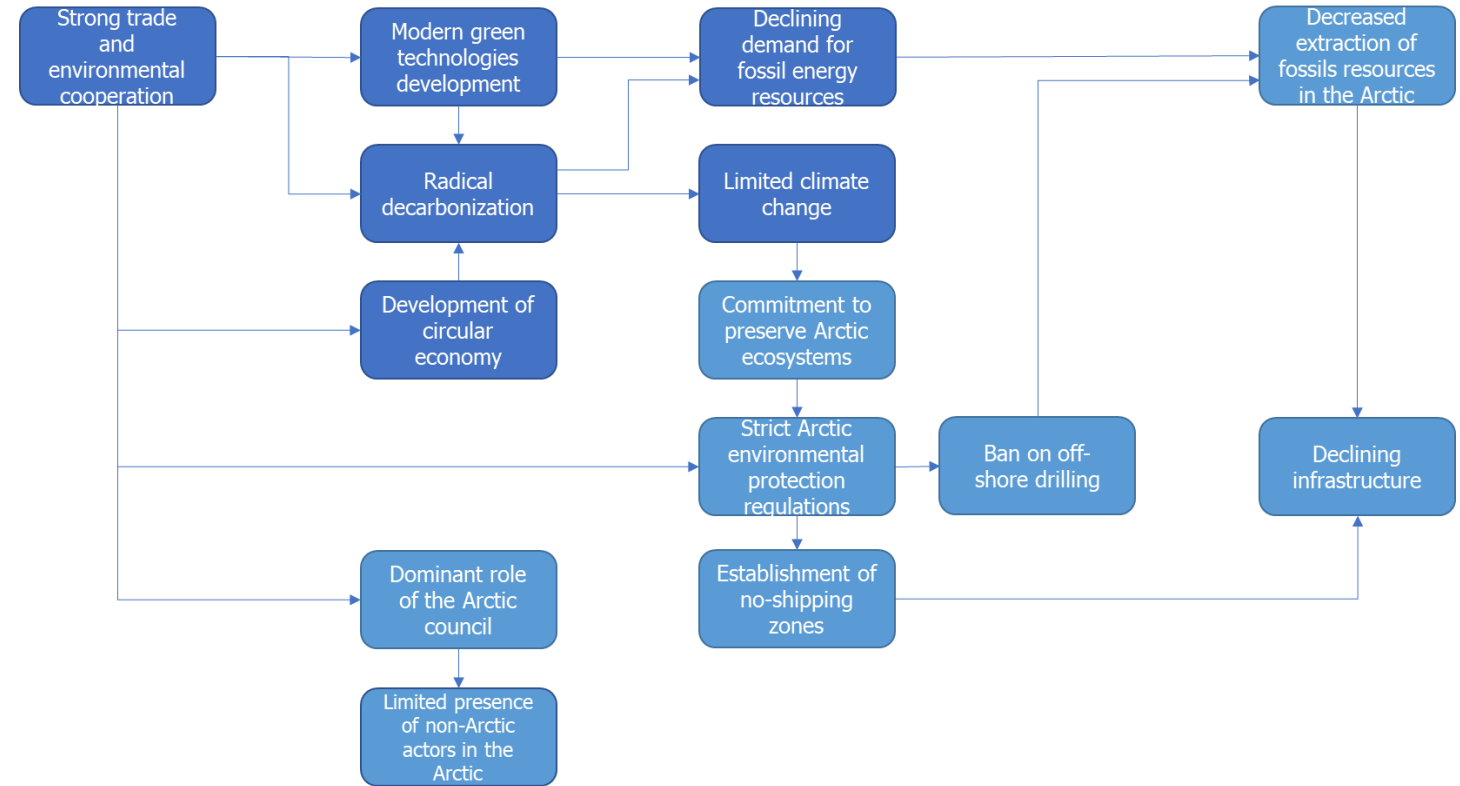
Scenario "Abandoned Land"

Countries act on a unilateral basis. The global economic recession continues. Energy security concerns slow down decarbonization worldwide. Innovation is lacking. Extreme climate change effects manifest. Activities and investments in the Arctic are limited and focus on extracting fossils which are mostly used domestically.



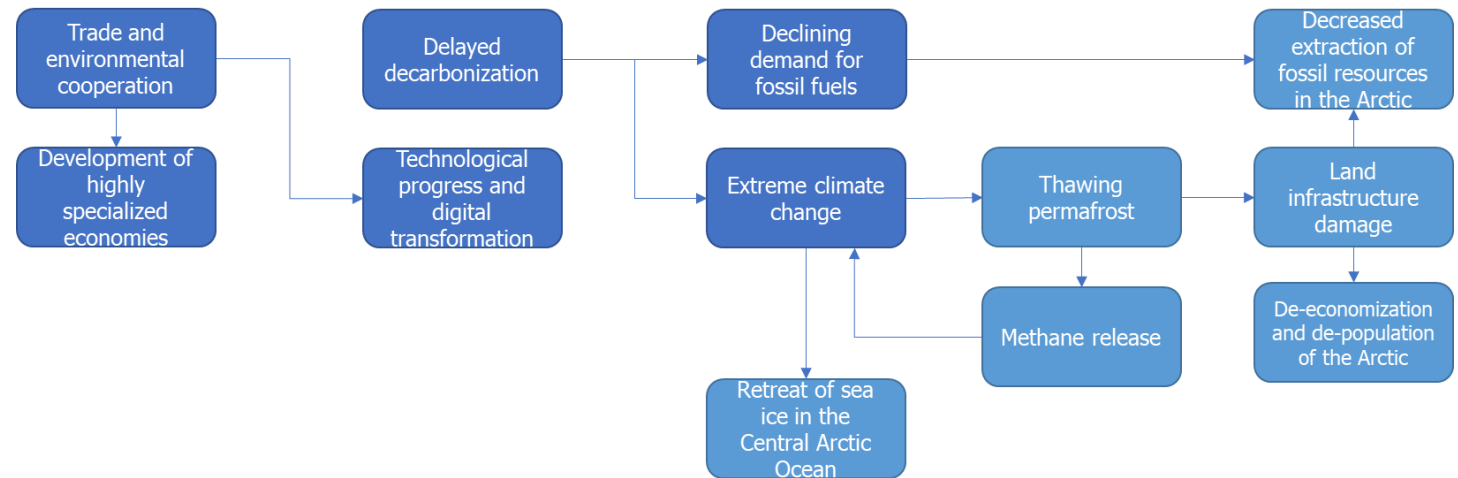
Scenario "Sanctuary"

Strong political and economic cooperation among all countries develops. Growing national and citizen aspirations for modern green technologies facilitate rapid decarbonization. The climate change effects in the Arctic are relatively limited. The Arctic Council plays a prominent role in the governance of the Arctic. The Arctic states ban economic activity of non-Arctic actors in the Arctic and stop any new fossil extraction projects to conserve the unique nature. The Arctic economies diversify. Infrastructure development is limited.



Scenario “Transpolar Shortcut”

Countries cooperate in the economic and technological spheres. The Earth continues to get warmer following suboptimal decarbonization paths undertaken by the international community. Melting permafrost destroys the existing onshore infrastructure. Mining in the Arctic becomes impossible. Economic activities decline. The population leaves the Arctic. Significant retreat of the sea ice in the Central Arctic Ocean is observed.

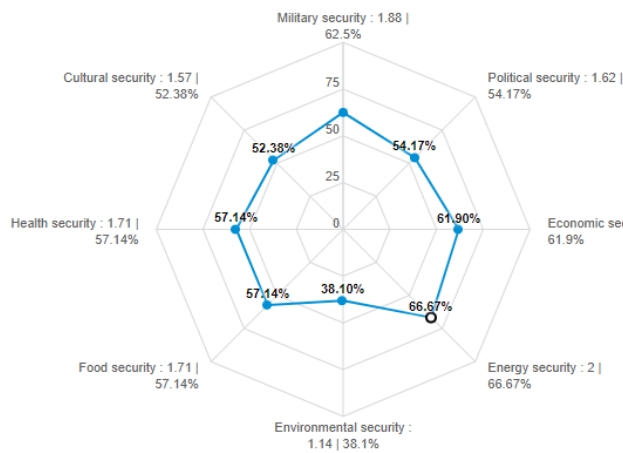


Security in the Euro-Asian Arctic under different future scenarios

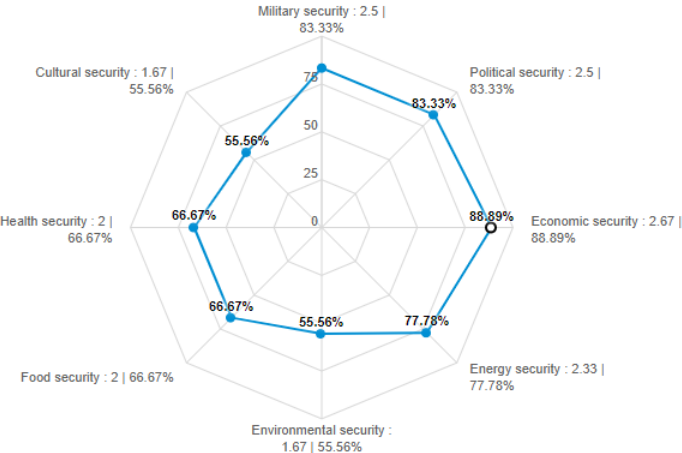
Various types of security in the Euro-Asian Arctic

- **Military security.** Capability of a nation-state to defend itself.
- **Political security.** Defense against any form of political oppression.
- **Economic security.** Ability of people to consistently meet their needs.
- **Energy security.** Uninterrupted availability of energy sources at an affordable price.
- **Environmental security.** Relative public safety from environmental dangers.
- **Food security.** Ability to access food that is nutritious and sufficient in quantity.
- **Health security.** Existence of strong and resilient public health systems that can prevent, detect, and respond to disease threats.
- **Cultural security.** Treatment of all individuals and groups with regard to their unique cultural needs and differences.

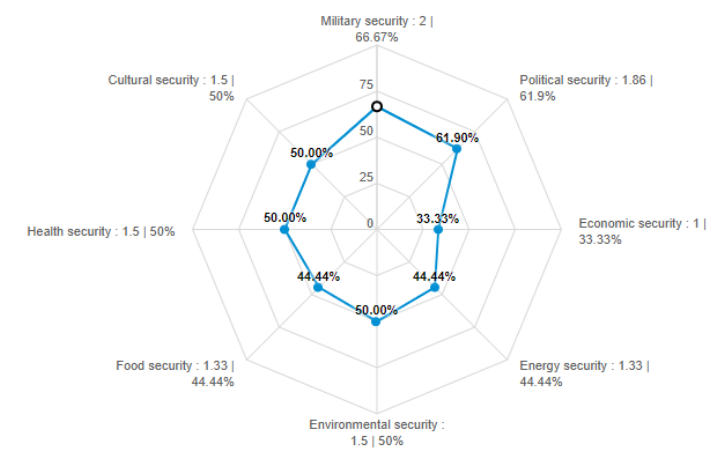
Expert-assessed levels of security under different scenarios



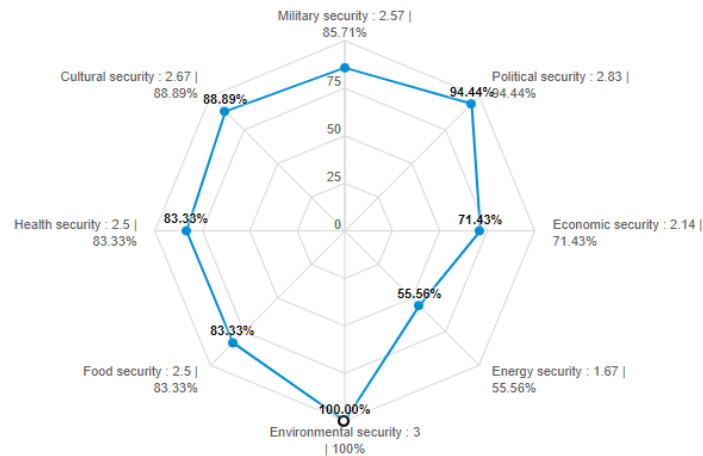
Global Resource Base



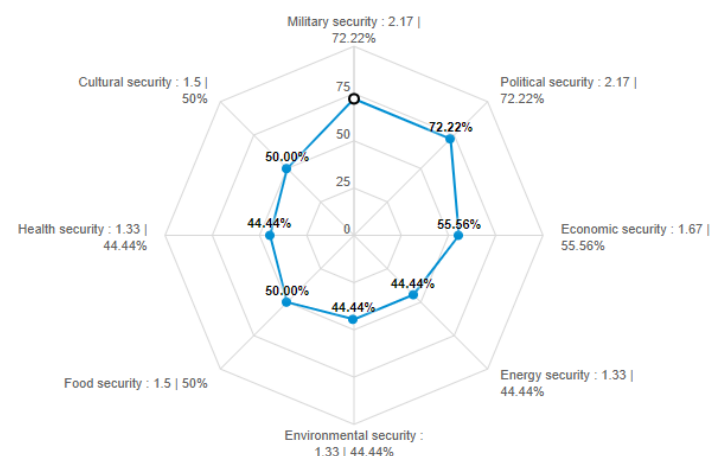
Global Transportation Route



Abandoned Land



Sanctuary



Transpolar Shortcut

Discussion of results

	Global Resource Base	Global Trade Route	Abandoned Land	Sanctuary	Transpolar shortcut	Mean
Military	1,88	2,5	2	2,57	2,17	2,22
Political	1,62	2,5	1,86	2,83	2,17	2,20
Economic	1,86	2,67	1	2,14	1,67	1,87
Energy	2	2,33	1,33	1,67	1,33	1,73
Environmental	1,14	1,67	1,5	3	1,33	1,73
Food	1,71	2	1,33	2,5	1,5	1,81
Health	1,71	2	1,5	2,5	1,33	1,81
Cultural	1,57	1,67	1,5	2,67	1,5	1,78
Mean	1,69	2,17	1,50	2,49	1,63	

- The **“Sanctuary”** scenario ensures medium-to-high levels of all security types, except for energy
- The **“Global Trade Route”** scenario is expected to warrant the levels of all security types except for environmental and cultural above medium
- The levels of all types of security are anticipated to be low to medium in **“Global Resource Base”** and **“Abandoned Land”** scenarios
- Only **military** and **political** security levels score above medium in the **“Transpolar shortcut”** scenario

- **Military** and **political** security in the Euro-Asian Arctic is considered on average as above medium. However, the **“Global Resource Base”** scenario bears some risks
- The most concerns raised are about **energy** and **environmental** security. Only the **“Sanctuary”** scenario warrants high environmental (but not energy) security, while in all others it is below medium. In the scenarios **“Global Resource Base”** and **“Global Trade Route”** the level of energy security is perceived as medium and higher but trading off for environmental security
- **Cultural** security is also assessed to be at risk in all scenarios except for the **“Sanctuary”** scenario
- The anticipated levels of **economic**, **food**, and **health** security vary highly across scenarios

Conclusions

- The Euro-Asian Arctic continues to be perceived as a region of peace
- However, international and regional collaboration are prerequisites for political security
- Food and health security in the region can be severely disrupted by climate change
- Environmental and cultural security is at risk in case of extensive economic activities, especially extractive
- Conservation of the Arctic brings high levels of security, however, the energy supply problem should be solved
- There can be a peaceful and stable Arctic, however with too hostile conditions for living there

Thank you for your time! Questions?

