

Uncertain futures in the Arctic: Strategic options for Yamal business actors

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Photo credit: Kathryn Hansen /NASA



Brief Introduction

Yamal 2040 is a case study within the international Blue-Action research project

Goals

- Build, use, and assess scenarios for the future of the Yamal region in the Russian Arctic in collaboration with stakeholders

In order to

- Develop greater capacity among stakeholders to adapt to multiple changes and
- proactively prepare for alternative and uncertain futures of the Yamal region

The Yamal region

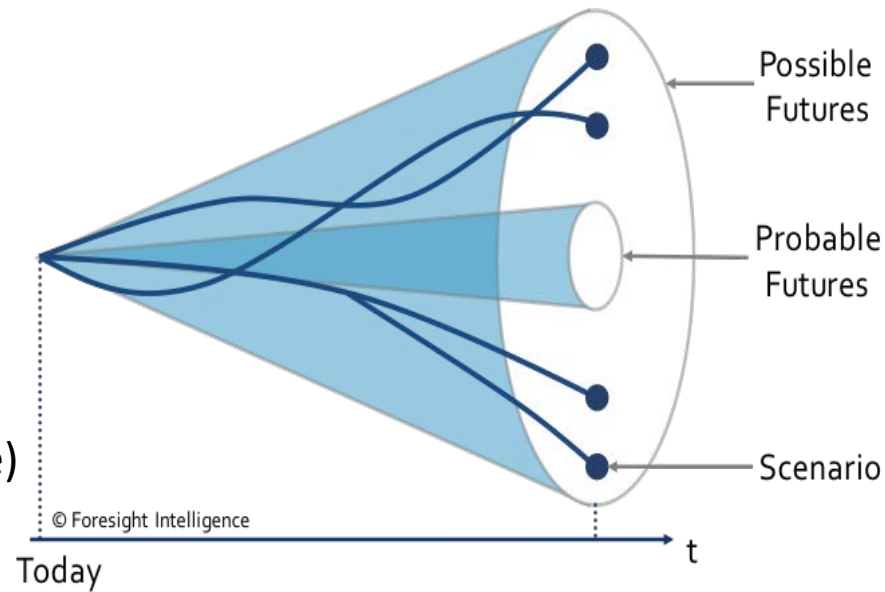
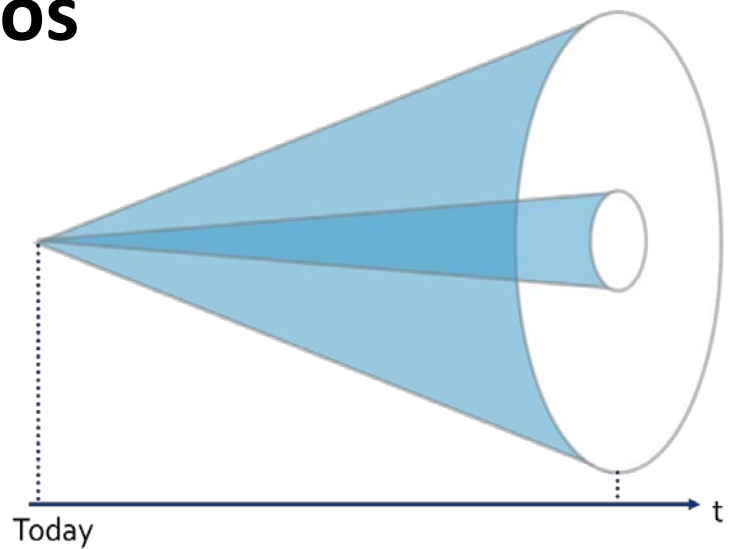
- Yamal is considerably affected by climate change
- Yamal region is at the core of petroleum development in Arctic Russia and produces more than 80% of Russia's natural gas
- Population of the Yamal region is 534.000 people. 8% of them are indigenous (Nenets, Khanty, Selkup)
- The future of Yamal is highly uncertain due to substantial climatic, environmental, economic, social, political, and legal changes in the years and decades to come



Map by Stasyan117/Wikipedia

Scenario methodology: On Foresight, Strategic Foresight, and Scenarios

- Foresight is systematic thinking about uncertain futures.
- Strategic foresight is action-oriented foresight.
- Scenarios are (strategic) foresight tools.
- A scenario is a comprehensive description of:
 - a possible future situation, composed of consistent parts.
 - a plausible trajectory that leads to a certain situation.



Credits: Johannes Gabriel (Foresight Intelligence)

Creating scenarios is a structured group process



Credits: Kathrin Stephen (IASS)

Participants

- Environmental NGOs
- Indigenous peoples rights NGOs
- Oil and gas business
- Consulting
- Local community
- Scientific community
- Media

Methodological steps: 3 workshops

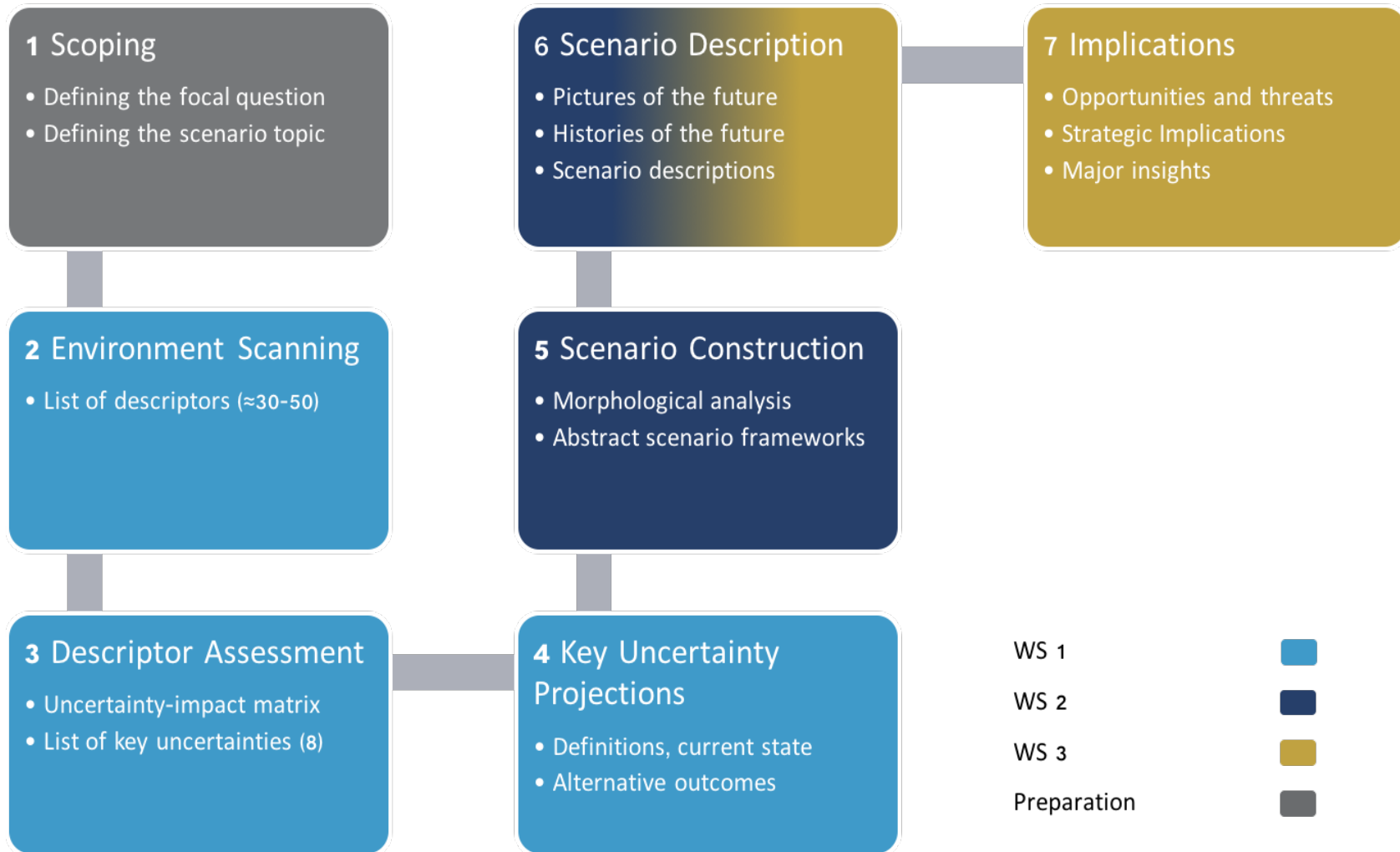


Illustration by Johannes Gabriel (Foresight Intelligence)

1st Scenario “Yamal 2040: Reinventing itself”

- Breakthroughs in energy storage technologies changed the global energy market. The demand for Yamal gas sharply declined.
- Due to shrinking job opportunities, Yamal’s population dropped.
- The impacts of climate change have taken their toll and Yamal is doubly affected.
- Yamal’s reindeer population almost died out in the early 2020s because of climate change impacts and overgrazing. Reindeer herders had to introduce new innovative models of herding.
- Yamal succeeded to develop business models alongside the ever-present gas production.
- Yamal’s new focus is on IT, alternative tourism and local production of fish, reindeer meat, and Arctic herbs.

2nd scenario: “Yamal 2040: Gas Boom”

- Increased international efforts in climate change mitigation.
- Demand for LNG is steadily on the rise until 2040.
- Sanctions are lifted
- The effects of climate change in Yamal have not been as severe as many expected.
- Mercury releases create problems for reindeer herders
- New technologies allow consumers to monitor the way Yamal gas is produced
- Yamal businesses are under pressure to reduce environmental impacts of Yamal’s petroleum development and to increase Corporate Social Responsibility programs

3rd scenario: “Yamal 2040: Snow Queen”

- In 2040, the Yamal and European climate is much cooler than expected.
- Prices for oil and gas are high due to a stalemate in the global energy transition and higher global energy consumption rates.
- The continuing sanction regime imposed by Western states has promoted industrial diversification and home-grown innovation in Russia (and Yamal).
- Yamal is a key region for expanding gas production, however, also other sectors such as infrastructure and chemistry flourish.
- With stable international demand for oil and gas in combination with a diversified – yet energy resource based – portfolio, Yamal in 2040 achieves a stable regional economy and development.
- Programs for the economic, social, and ecological improvement of oil and gas extraction are successful.

4rth Scenario: Wild Card

- Breakdown of Gas Infrastructure as a result of a huge gas eruption.
- Commercial disaster: Production stop for several months at least. Additional costs coming from reparation and compensation fees. Reputational costs, fading political support, and dropping share prices.

Strategic options for domestic and international oil and gas companies

- Intensify research on climate and environmental risks
- Invest in research and educational facilities in Yamal
- Oil and gas companies would profit from a business environment with low political risks
- Promote and facilitate dialogue between Russian and international partners



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The Blue-Action project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727852