

# Yamal 2040: Scenarios for the Russian Arctic

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Photo credit: DMI chb

# Main Goals

- Develop greater capacity among stakeholders to adapt to climate change and
- To proactively prepare for alternative and uncertain futures of the Yamal region



Source: IASS/Olga Lukianova, adapted from: <https://en.wikipedia.org>

# Key features

- Strategic Foresight method
- Three workshops
- Participants: Indigenous peoples and environmental NGOs, local communities, Yamal business, media, scientists etc.)
- Three complex scenarios and strategic options



Photo: Julia Baronina, IMEMO

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**Yamal 2040: Scenario "Gas Boom"**  
Part of the Blue-Action Research Project

Foresight  
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**The Yamal region in 2040: Gas Boom**

- In the early 2020s, several large-scale climatic disasters shook the world and motivated the international community to increase efforts in climate change mitigation.
- Demand for LNG in general and Yamal LNG in particular is steadily on the rise until 2040. LNG is promoted as a transition fuel and is widely used for shipping.
- In a gradual process starting in 2030, a consensus on Crimea

**Impact of climate change**

- By 2040, the effects of climate change in Yamal have not been as severe as many expected. However, the mean temperature still has increased by 3°C.
- Precipitation has increased slightly.
- Coastal erosion is at a steady 1-2 meters per year.
- Yamal is still subjected to extreme weather events and

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**Yamal 2040: Scenario "Reinventing itself"**  
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**The Yamal region in 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. Only about 200,000 people are left in the region.
- The impacts of man-made climate change have taken their toll and Yamal is doubly affected.

**Impact of climate change**

- By 2040, the mean temperature in Yamal is reaching a level of 4°C warmer in comparison to pre-industrial times. In summer, temperatures are frequently higher than 30°C.
- This rise in mean temperature leads to an increase in precipitation. But the distribution is uneven throughout the year: most of the region gets an increased amount of precipitation in winter and autumn but sees less rain during

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**Yamal 2040: Scenario "Snow Queen"**  
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**The Yamal region in 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 prompted industrial diversification and home-grown innovation in Russia (and Yamal).
- Russia has enjoyed high growth rates originating from the

**Impact of climate change**

- Regional climate impacts have been rather unexpected.
- Starting in 2018, a series of extremely cold winters in particular in Europe put demand for Yamal gas and its

Thank you!



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