Yamal case study design:

“resource nationalism versus patterns of cooperation” (Marlene Laruelle)

- Introduction
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1. Oil and Gas in Yamal
   a. Introduction

   Map source: google maps and Stratfor Worldview

   i. The Yamal-Nenets autonomous district or Okrug, is part of the Tyumen region and the Ural Federal District with a population of about 536,000 (2015) and encompassing 769,250 square kilometers,1 which is roughly twice the size of Norway. The district became autonomous in 1930.2

   ii. Most of the Yamal-Nenets district is located on the northern part of the West Siberian Plain, with a small part on the eastern side of the Ural

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Mountains. The north borders the Kara Sea. The district is considered the Far North with more than half of its territory located within the Arctic Circle.\(^3\)

iii. Yamal-Nenets is located in three climatic zones: arctic, subarctic and the West Siberian lowland. The climate is determined by the presence of permafrost, the Kara Sea, bays, marshes and lakes. The region is characterized by a long winter (up to 8 months) and a short summer, with strong winds.\(^4\) Most of the geography is flat, with extensive marshes and rolling tundra.\(^5\) In the Nenets language, Yamal means ‘the edge of the Earth.’

iv. The ethnic composition of the population according to the 2010 census is a Russian majority (61.7%), followed by Ukrainian (9.7%), indigenous Nenets (5.9%), Tatar (5.6%), and Khanty (1.9%).\(^6\)

v. Reindeer herding and fishing were the only occupations until the early 1970s, when exploitation of natural-gas deposits began. The oil and natural gas fields in the district are some of the world’s largest.\(^7\)

vi. Yamal-Nenets is essential to Russian energy and economic security. The region supplies approximately 90% of Russian domestic gas.\(^8\) In addition, gas and oil represents 30% of Russia’s GDP and 50% of the state’s budget as of 2018.\(^9\) Russia’s economy is still dependent on hydrocarbon production and GDP growth or decline is affected by prices on the world market.

vii. The Russian Federation has an ambitious plan for increased hydrocarbon development in Yamal. President Putin expects all the liquefied natural gas (LNG) plants to produce a combined 60 million tons each year by 2030.\(^10\) The projects involve substantial infrastructure on land and offshore to support the plants. The Northern Sea Route (NSR) is the preferred exportation route.

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\(^3\) The Northern Forum, “Yamalo-Nenets Autonomous Okrug, Russia.”

\(^4\) The Northern Forum, “Yamalo-Nenets Autonomous Okrug, Russia.”

\(^5\) Encyclopedia Britannica, “Yamalo-Nenets District, Russia.”

\(^6\) The Northern Forum, “Yamalo-Nenets Autonomous Okrug, Russia.”

\(^7\) Encyclopedia Britannica, “Yamalo-Nenets District, Russia.”


viii. The oil and LNG market in Russia is controlled by state oil companies. The three companies (Rosneft, Novatek, Gazprom) have a protected monopoly supported by legal requirements for companies to have at least five years of experience operating in the Arctic. Foreign firms are invited to invest in projects and can enter into partnerships with the Russian corporations, but holdings cannot exceed 50% as stated in the 2008 Foreign Investment on Strategic Sectors Legislation.

ix. The relationship between the major Russian oil companies and the government is mutually reinforcing. In 2013, Rosneft and Novatek secured Putin’s support for LNG export reforms to open offshore natural gas fields.

b. Current projects:
   i. Oil and natural gas fields in Yamal Peninsula

![Map of Yamal Peninsula](https://example.com/map.png)

Map source: *The Barents Observer*

ii. There are 32 oil and gas fields in the Yamal Peninsula holding an estimated 26.5 trillion cubic meters of gas, 1.6 billion tons of gas condensate, and 300 million tons of oil. The 2017 production total from Yamal was 82.8 billion cubic meters of gas.

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12 Devyatkin.


14 Russian translation by Elena Efimenko, at the *George C. Marshall European Center for Security Studies*.

iii. The Novoportovskoye oil, gas and condensate field is located in the southeastern part of the Yamal Peninsula, 250 kilometers north of Nadym and 30 kilometers from the Ob Bay coast. The loading terminal is located 3.5 kilometers offshore. Novoportovskoye is part of the southern production zone which includes nine fields: Novoportovskoye (the license is held by the Gazprom Group), Nurminskoye, Malo-Yamalskoye, Rostovtsevskoye, Arkticheskoye, Sredne-Yamalskoye, Khambateyskoye, Neytinskoye, and Kamennomysskoye. The zone is considered a priority oil production asset with a maximum annual output of 7 million tons.\textsuperscript{16} Year-round shipments from the Arctic Gate (Vorota Arktiki) started in 2016 when President Putin gave the command via video call.\textsuperscript{17} Gazprom is the responsible developer.

iv. Nory Port Oil developed by Gazprom started regular shipments with shuttle tankers in 2016.\textsuperscript{18}

v. Bovanenko (LNG) is the first major project on the Yamal Peninsula.\textsuperscript{19} It has the largest extraction potential and includes three fields, Bovanenkovskoye, Kharasaveyskoye, and Kruzenshternskoye (the licenses are held by the Gazprom Group). The overall production potential is projected to reach 217 billion cubic meters of gas and 4 million tons of stabilized condensate per year.\textsuperscript{20} Located on the southwest side of Yamal, Novatek is building a terminal (Sabetta port) in the east to liquify gas and export it via tanker on the NSR. The project involved building a 355-mile railroad to transport workers, a community for workers, a deep-water port, an airport and a power plant. In December 2018, Total announced the early completion of a third train from Bovenenkovo to export LNG.\textsuperscript{21}

vi. The Tambey production zone comprises of four fields: Tambeyskoye, Malyginskoye (licenses are held by Gazprom), Yuzhno-Tambeyskoye, and Syadorskoye.\textsuperscript{22}

vii. In 2017, BP and Rosneft struck a joint venture to extract gas in the Yamal-Nenets region.\textsuperscript{23} The two companies agreed to jointly develop the

\textsuperscript{16} Gazprom, “Projects.”


\textsuperscript{18} Claes, Arild, and Rottem, 27.


\textsuperscript{20} Gazprom, “Projects.”

\textsuperscript{21} Bourne, 2019.

\textsuperscript{22} Gazprom, “Projects.”

\textsuperscript{23} Devyatkin
reserves of two license blocks in Kharampursky and Festivalny, which have a combined 880 billion cubic meters of natural gas.24

viii. In 2018, Novatek finished building Yamal LNG in the northeast of Yamal next to Sabetta Port. Construction finished a year ahead of schedule with added infrastructure support from the Russian government. The Yamal plant shipped 7.5 million tons of LNG to five continents in 2018, according to Novatek.25

ix. The Russian Federation is investing in multiple hydrocarbon transport systems. Land based pipelines include Nord Stream and Nord Stream 2 which can supply Europe directly from Yamal. The NSR is another viable route that can also supply Asian clients. The map below shows current and projected pipelines.

Map source: Gazprom

c. Effect of Sanctions:
   i. US and EU economic sanctions limited opportunities for foreign investment and drilling technology transfer since 2014 following the annexation of Crimea.26 The sanctions halted Russian unconventional energy development plans. Russia needs western technology specifically for shale hydraulic fracturing in order to exploit that resource. Russia also needs foreign technology and capital to drill offshore in the Arctic,


26 Sidortsov, 132.
and sanctions imposed have temporarily shelved such projects specifically, the Exxon Mobile and Rosneft partnership.27

ii. Just before the sanctions took effect, Exxon Mobil and Rosneft drilled the world's northernmost well in the Kara Sea finding an estimated 700 million barrels. Since the partnership was suspended they have capped the well.28

iii. Eastern investment in technologies cannot replace western because Chinese and other eastern companies do not have the necessary experience and competencies for remote, deep water drilling and are not willing to take the risk.29

iv. British Petroleum (BP) and Norwegian Statoil have managed to get around sanctions and continue to partner with Rosneft for Arctic projects. BP and Statoil have joint ventures to explore unconventional gas deposits not directly specified in the sanctions. Sanctions targeted exclusively shale deposits, while in Russia there are also other types of unconventional mineral resources.30 Limestone fracking likewise requires western technologies and are not explicitly included in EU and US sanctions.

v. Statoil amended the wording in its contract after sanctions were imposed in 2014. Sanctions specified shale drilling and did not mention limestone. The company amended all the releases on its website to replace “shale” with “limestone” to continue its partnership with Rosneft without contradicting international sanctions in place.31

vi. Japan also participated in sanctions against Russia, although not to the same extent as the US. In March 2014, Japan’s Foreign Ministry suspended consultations on certain visas and froze the talks on investment cooperation, cooperation in space, and with the military. In September, Japan escalated sanctions blacklisting five Russian banks to include Gazprombank. Yet Tokyo refrained from imposing sanctions on the Russian energy sector. Like the EU, Japan avoided escalating sanctions against Russia beyond “the Ukraine package.”32

vii. Following the meeting between Japanese Prime Minister Shinzo Abe and Russian president Vladimir Putin, on the margin of the Group of Twenty (G20) summit in Osaka, Japan 28-29 June Russian and Japanese companies Mitsui & Co. and Japan Oil, Gas and Metals National

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27 Bourne, 2016.
28 Bourne, 2016.
29 Claes, Moe and Rottem, 31.
Corporation (JOGMEC) agreed to invest $3 billion in the Arctic 2 LNG Project by Novatek of Russia for a 10 percent stake and 2 million metric tons per year (mtpa) of LNG supply.\(^{33}\)

viii. The Japanese companies join Total of France, China National Petroleum Corporation (CNPC), and China National Offshore Oil Corporation (CNOOC), each of the three having a 10 percent stake.\(^{34}\)

ix. Novatek’s $20 billion LNG project is expected to come online in 2022-2023 with a capacity of 19.8 mtpa if Novatek reaches the final investment decision, which is expected by the end of this year.\(^{35}\)

d. Foreign investors:

i. The Russian government amended the tax code to encourage foreign investment. Russia has a zero percent mineral extraction tax for Arctic offshore fields in development and low rates for undiscovered fields, export-duty exemptions for some offshore assets and lower tax rates on corporate assets on the Arctic shelf as incentives.\(^{36}\)

ii. Yamal LNG foreign investors: Total (France) 20%, Chinese National Petroleum Company (CNPC) 20%, British Petroleum, Exxon Mobile (US-before 2014), Silk Road Fund (China)10%.

iii. BP is a 20% shareholder of Rosneft. BP and Rosneft’s joint venture will explore unconventional gas deposits in Yamal.\(^{37}\)

iv. Norway’s Statoil is working in cooperation with Rosneft to explore unconventional gas deposits.\(^{38}\)

v. Total will again partner with Russian company Novatek for LNG 2. The Arctic LNG 2 project includes three LNG trains transporting 6.6 million tons each per year. Final investment decisions are expected during the second half of 2019, with plans to start up the first liquefaction train in 2023.\(^{39}\)

vi. Despite the existing sanctions, Japan invested $400 million in Yamal LNG with Novatek. There is also the potential for an investment of $170 million in Transneft.\(^{40}\)

e. Yamal gas and oil clients:


\(^{34}\) Nakano.

\(^{35}\) Nakano.

\(^{36}\) Sidortsov, 127.

\(^{37}\) Slav.

\(^{38}\) Slav.


\(^{40}\) Timofeev.
i. In 2014, India made a deal with Russia for 10 million tons of oil per year starting from 2015, and 2.5 million tons/year of natural gas from 2017.\textsuperscript{41}

ii. There is formal cooperation in place since 2010 between Russia and the CNPC for use of the NSR for gas transport. In 2014, the plan broadened to include new icebreakers to supply Russian gas from Yamal to Asian customers. Six vessels are specifically for LNG shipping to China.\textsuperscript{42}

iii. Poland is dependent on Russian gas. It has a long-term contract in place since 1996 for natural gas and a pipeline to service supply. In October 2010, Russia and Poland renegotiated the third contact this time with the European Commission involved, which weighed in on the issue of third-party access to the jointly owned pipeline.\textsuperscript{43} Poland is committed to purchase a set amount of gas based on previous estimates regardless of consumption. Poland is not authorized to resell or return excess LNG.\textsuperscript{44}

iv. In 2018, Gazprom sent 200 billion cubic meters of gas to Europe and Turkey, while its gas market share in the region rose to more than a third. The expectation is that European production will continue to decrease and Russian gas production will increase to fill the void.\textsuperscript{45}

f. Climate Change and Environmental Impact:

i. The Arctic experiences climate change at a more than twice the rate of global average temperatures.\textsuperscript{46}

ii. Arctic infrastructure is unstable because of melting permafrost. The melting causes gases to release and holes to open up unexpectedly. The hydrocarbon plants built on pilings over permafrost. Pipelines and ice roads that currently support thousand-ton oil rigs, are all at risk as permafrost melts and the ground becomes more instable.\textsuperscript{47}

iii. Methane gas released from melting permafrost has the potential to erupt into craters. One of the largest formations is within 4 kilometers of the Bovanenkovo field with a diameter of over 60 meters and a depth of about


\textsuperscript{44} Zeniewski.


\textsuperscript{47} Bourne, 2016.
200 meters. Researchers concluded after an expedition in 2017 that the quick changes in the formations were triggered by the abnormally warm summer in 2016.48

iv. Shuttle tankers used for the Prirazlomnaya oil site greatly increase the risk of oil spills. According to local environmental groups, Russian companies spilt more than three and a half million barrels of oil on the tundra49 (Yamal has wet graminoid tundra50).

v. Constructing the Yamal LNG plant resulted in removing 70 million tons of ground for dredging a channel to Sabetta port between 2014 and 2017, which had an impact on the marine wildlife.51

vi. According to a local YNAO article, the laying of the pipeline on the bottom of the Gulf of Ob threatens to destroy the fish stocks in the Yamal reservoir endangering the communities that rely on fishing. The pipeline is over sixty kilometers and involves a fifty meter passage channel on both sides of the pipeline.52

vii. Experts brought by Gazprom to a hearing with the local population informed them that the damage occurs when the water is disturbed, so at the onset of underwater construction. The fish stocks would eventually replenish but locals fear they will lose their income and food source for a season. Indigenous leaders considered their objections ignored and appealed to the UN, writing an appeal to UN Secretary-General Antonio Guterres.53

viii. Arctic conditions make oil spills more likely. The U.S. Department of the Interior report predicted a 75% chance for a major oil spill which was a deterrent to drilling in Alaska. Spills are also more difficult to clean up. Only 7 percent of oil spilled was recovered after the Exxon Valdez oil spill in the Prince William Sound off Alaska’s coast in 1989.54

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49 Bourne, 2019.


52 Stanislav Gurbin, “Will foreign countries help us!? Natives of Yamal Tundra accuse oil companies of genocide,” YamalPRO News Service, 19 February 2019, translated from Russian to English by Alexander Gurman at the GCMC.

53 Gurbin.

ix. The Figure below shows what to expected following an Arctic oil spill.55

![Figure showing oil spill cleanup procedures](image)

The following diagram shows the cleanup procedures that are standard in warmer climates—containment booms and chemical dispersants—are challenging to deploy in Arctic waters. Government and industry have done tests but have not yet confronted a major offshore spill.

A Winter Spill
Oil spilled in water can get trapped in ice and snow. This can help contain the spill, but the polluted ice must be tracked.

The Following Summer
As the ice begins to melt, the trapped oil migrates upward to the surface, where it can contaminate meltwater pools that attract wildlife.

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g. Russian environmental regulatory framework for the Arctic:
   i. Russian environmental regulations cover the general Arctic environment, land use planning, waste management, aquatic habitats, air quality, wildlife, emergency/gas spill response, industrial safety and health.
   ii. The “Yamal LNG: Environmental and Social Impact Assessment” includes environmental risk assessments and planned protections by the gas companies. The report includes maps of Yamal LNG processing and disposal sites, waterway, map of communities and migratory herding routes, summary table from consultations with impacted communities, coastal vulnerability map (2014).
   iii. In addition, there is the Yamal-Nenets Autonomous Okrug (YNAO) Regional Legislation.
   iv. International Conventions and Regulations that Russia agreed to demand: an environmental impact assessment covering biodiversity, air quality and climate change, and waste management. Social impact requirements include stakeholder engagement, cultural heritage, community and workforce inclusion, human rights and shipping regulations.

h. Social Impact
   i. Industrial development in Yamal-Nenets disrupts traditional reindeer herd migratory routes. Nomadic Nenets reindeer herders have been impacted physically and socially by the Bovanenkovo gas field.

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55 Bourne, 2016.
development since the 1980s, and new projects continue to be built on the peninsula perpetuating the problem.

ii. Reindeer herding is organized into large enterprises termed brigades. Formerly state run, each reindeer herding enterprise is composed of several brigades according to the number of the herds. Herders migrate with their families all year around.

iii. According to official statistics from 2010, the Yamal peninsula has approximately 270,000 reindeer and about 1,000 fully nomadic households, comprising of about 5,000 people.

iv. In the seemingly flat landscape of the Yamal peninsula, even slight differences in terrain can greatly influence drainage, vegetation and snow in winter, both herders and industrial developers look for dryer slightly raised land. Well-drained ground is suitable for construction purposes and is also important to the herders as a travel route and for the availability of dry camp sites.

v. The map below shows 21 migratory herding routes for 36 brigades and the location of industrial infrastructure.

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56 Degteva and Nøllemann, 1.
57 Degteva and Nøllemann, 2.
58 Degteva and Nøllemann, 2.
59 Degteva and Nøllemann, 6.
60 Degteva and Nøllemann, 6.
vi. Narrow corridors or ‘bottlenecks’ can be up to 20 kms long and make the herders particularly sensitive to infrastructure blocking elevated terrain in the otherwise flat wet tundra.  

vii. Around the Bovanenkovo industrial complex the two northernmost migration routes were physically blocked. On the actual Bovanenkovo gas field, several critical passages on elevated land through wet marshes were blocked by pipelines, roads and buildings placed directly on the only possible passages for migration across stretches as long as 21 km. Altogether, 18 camping sites were lost and a Nenets sacred place had been physically made into a quarry pit.  

viii. The map below shows where there is interference of migratory routes and Nenets sites by industrial infrastructure.

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i. Social concerns for migratory workers

i. A regional level concern for YNAO is the lack of sustainability. Although YNAO is relatively wealthy due to the oil and gas industry, it is also the most sensitive to price fluctuations. Gazprom suffered a financial setback (likely due to the effects of sanctions on projects) production fell by nine percent and Gazprom has still not recovered.

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61 Degteva and Nellesmann, 8.

62 Degteva and Nellesmann, 9.
Gazprom is losing its hiring incentive and can no longer offer high wages, resulting in emigration of workers from the YNAO.\footnote{Natalya Zubarevich and Aleksandr Kynev, interview by Irina Lagunina and moderated by Igor Yakovenko, “The Russian Regions: Yamalo-Nenetsk Autonomous Okrug,” \textit{Radio Liberty}, Prague, May 10, 2011, translated from Russian to English by Kevin Kelly at the GCMC.}

ii. A second stress on workers is the still ongoing transition of the economy’s organization. There are still elements of Soviet social policies such as subsidizing, co-financing, housing and public utilities. Now, they are slowly reorganizing and the transition causes some discomfort. The former Soviet influences also have a social element, there are no independent public organizations, neither academic organizations nor free press.\footnote{Zubarevich and Kynev.}

iii. Migrant workers who work at the industrial sites make up the majority of the population. Migrants to YNAO are first and second generation implying weak social ties within the population. A lot of income is sent out of the YNAO as remittances.\footnote{Department of Economics of the Yamal-Nenets Autonomous Okrug, “Report on the socio-economic situation in the Yamal-Nenets Autonomous Okrug for January-June 2017,” 23 October 2017, translated from Russian to English by Kevin Kelly at the GCMC.}

iv. There is very little political turnover in the YNAO. Mr. Neelov’s administration was compared to a Soviet party management asset. Komsomol members and former oil and gas corporation managers would come and go to work in the administration in a ‘revolving door’ scenario.\footnote{Zubarevich and Kynev.}

\begin{itemize}
\item[i.] The oil industry as a strategic political tool
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\item[i.] There is a narrative that predicts Russia will exacerbate political tensions by using energy as leverage. Russia’s historical use of natural gas policies to influence its neighbors and the close ties between the Kremlin and the Russian energy sector.\footnote{Devyatkin, 2018.} The disruption of gas to Ukraine during times of political tension provide some evidence for the claims.
\item[ii.] Poland’s gas contract with Russia presents a security dilemma. Poland is dependent on Russia for energy, yet they have a contract guaranteeing its supply. The arrangement is a source of insecurity for Polish politicians.\footnote{Zeniewski, 2011.}
\item[iii.] Using Nord Stream to supply the EU is another source of controversy. Although the EU is diversifying energy supply, Russian gas is still a necessity as domestic production is decreasing. Nord Stream 2 could further politicize energy and have a greater impact on Western Europe. There is political opposition from Poland, the Baltic States, and the European Commission.\footnote{Koranyi, 2018.}
\end{itemize}
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k. Conclusions
   i. Russia is the strongest Arctic state, with the most at stake in the region economically. There are theories that Russia’s domestic focus on the Arctic is to resurrect its image and posture as a great power.
   ii. Yamal is where Russia is investing for economic growth, betting on oil and gas remaining the fuel of industry and commodity of dependence.
   iii. In Yamal, Russia has the world’s largest gas reserve, and while it is a finite resource, Russia continues economic development plans using hydrocarbons by also exploiting unconventional methods.
   iv. Yamal projects are also making use of the NSR which can open up new potential for commercial shipping to bring in revenue.
   v. Russian economic ventures in Yamal and the region offer an opportunity for Asian partners and China primarily to increase their presence and expand business opportunities for energy and eventually international shipping.
   vi. The strategic importance of Yamal is why Russia builds security infrastructure to support growing activity in the region for SAR and crisis response. It also enhances its defense posture and military capabilities perceived by some to be counter to its otherwise peaceful and cooperative approach in the Arctic.