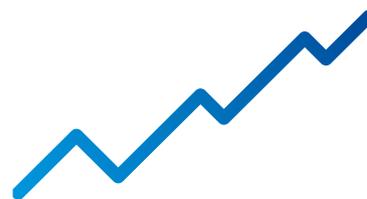
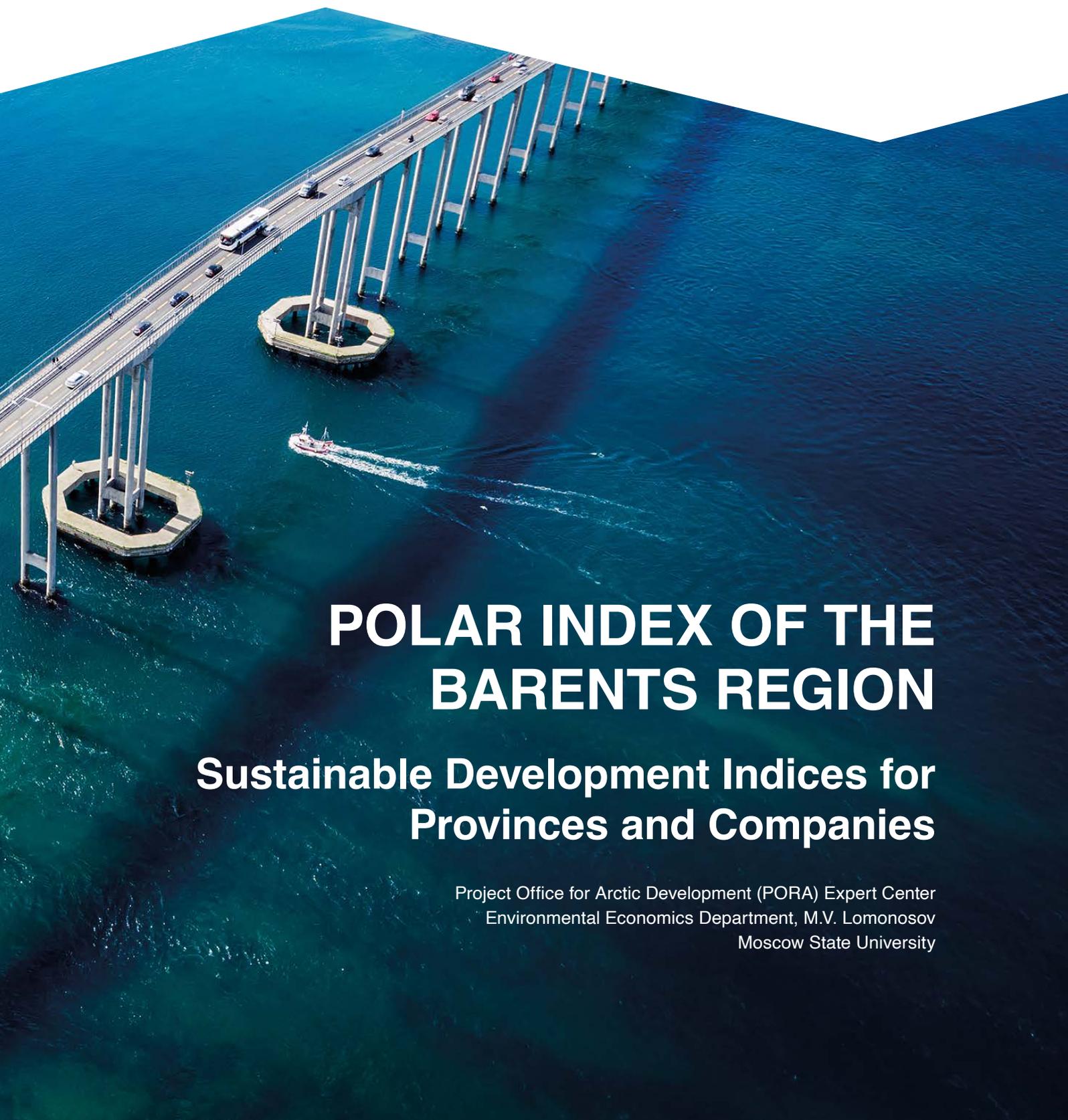


Moscow
2020



Polar Index



POLAR INDEX OF THE BARENTS REGION

Sustainable Development Indices for Provinces and Companies

Project Office for Arctic Development (PORA) Expert Center
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When launching the Polar Index of the Barents Region pilot, our major emphasis was to evaluate provinces and companies of several Arctic countries based on the sustainable development concept.

Its system of values is built upon the idea of improving the quality of life. The latter can only be attained via balanced development equally focusing on its economic, social and environmental aspects.

We are glad that these first steps proved to be successful, with the pilot ratings drawing a lot of interest both in Russia and abroad. Based on the outcomes of the discussion that ensued, we updated the rating methodology and made a decision to calculate and publish them on a yearly basis.

We hope that the rating of the Barents provinces becomes a widely-used tool for assessing sustainability of Arctic territories of our countries, with the corporate rating serving as an important indicator of economic, social and environmental initiatives by the big business operating in the High North.

PORA Director General

Alexander Stotskiy



The Polar Index of the Barents Region project is an attempt to assess the sustainable development of the Arctic in a cross-border paradigm. As part of the project, two ratings were made – one featuring the Barents region provinces and the other targeting companies operating there.

The first one compares Russia's administrative territorial entities with those of its neighbors through a prism of various internationally accepted indicators. The second one ranks big companies doing business in the Barents region.

The idea is to focus on regional administrative and business players as major trendsetters in terms of the territorial development and key providers of technological, environmental and social investments, the latter serving as the base for a positive change towards sustainability.

Ratings stimulate all stakeholders to further their efforts aimed at attaining sustainable development, provide a platform for discussing and harmonizing their policies, and help involve the public in these processes. The purpose of our rating project is not to launch a competition between the mentioned players, but rather to help them promote best practices, set sustainable development objectives, and foster cooperation aimed at meeting them.

D.Sc. (Economics), Professor,
Project team manager, Environmental
Economics Department, Faculty of
Economics, Lomonosov Moscow State University

Sergei Nikonorov

Introduction

In 2018, the PORA Expert Center and the Environmental Economics Department at the Economics Faculty of the Lomonosov Moscow State University (MSU) launched a joint project named Polar Index aiming to promote the principles of sustainable development in the Arctic.

Initially, as part of the project, two independent, although methodologically interconnected sustainable development ratings were designed, one for Russian Arctic provinces, and the other for companies doing business there.

As the next step, the joint PORA-MSU project went international with launching the Polar Index of the Barents Region.

Under this initiative, pilot ratings for the Barents region provinces and companies were calculated. The international scope of the ratings allowed to address the sustainable development of the High North at the macro-scale while taking into account both the common objectives and the contradictions existing between various Arctic nations.

Two Swedish läns, Norrbotten and Västerbotten, Russia's Murmansk oblast and Republic of Karelia, and the Norwegian county of Troms made up the top five of the rating.

Among the top ten companies were Norwegian oil and gas giants Equinor and DEA Norge, Swedish Boliden Group operating in Finland and Sweden, and Canadian-based Agnico Eagle Mines extracting mineral resources in Northern Finland, as well as Russian-based Rosneft and Lukoil (oil and gas), Nor Nickel and Severstal (metal mining and smelting), ALROSA (diamond mining), and PhosAgro (chemicals).

The Barents Region was chosen for this study since Finland, Sweden and Norway border Russia, being its immediate neighbors in the Arctic. All these countries share the same High North cli-

mate and geography and face similar environmental challenges. Both Russian and Scandinavian Arctic provinces have access to the Barents Sea basin, which is known for its considerable economic and geostrategic value.

! *The Barents Euro-Arctic Region (or Barents Region for short) is the Europe's biggest interregional association established on 11 January 1993. It encompasses 13 Norwegian, Russian, Finnish and Swedish administrative provinces located in geographical proximity of the Barents Sea.*

The Barents Region is an important platform for the Euro-Arctic cooperation. It is also a ground for competition over its natural riches. The region is an arena for innovative business solutions and the introduction of cutting-edge methods of the extraction and processing of natural resources.

The purpose of both the Russian and international dimensions of the Polar Index of the Barents Region project is to raise public awareness of the sustainable development as a means of ensuring a responsible and balanced territorial and corporate development, with a special focus on investing into the future. These ratings serve as a stimulus for companies to more actively introduce sustainability into their practices, while motivating territorial governments to adopt and implement sustainable development policies.

In addition, the Polar Index may contribute to the openness of companies and territorial authorities, the advancement of their dialogue with the public, and transparency, thus benefiting all parties concerned, including the government, business, and, first and foremost, those who live in the Arctic.

Barents Euro-Arctic Region

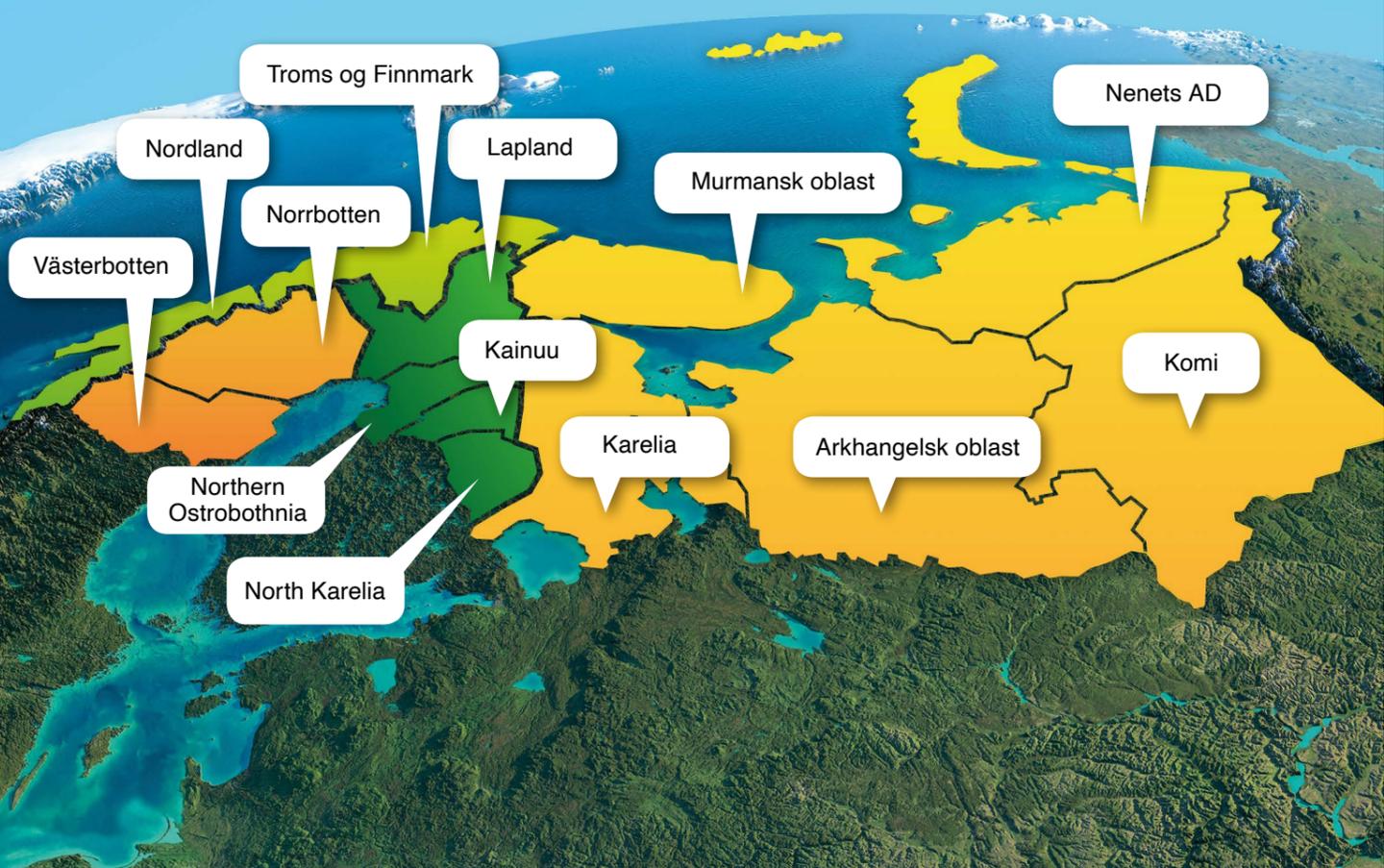
The Barents Euro-Arctic Region (BEAR), or Barents region for short, encompasses 13 administrative provinces alongside the Barents Sea coastline, namely:

 Russian Federation: Murmansk oblast, Arkhangelsk oblast, Nenets Autonomous District, Republic of Karelia, and Republic of Komi

 Norway: Troms og Finnmark and Nordland

 Finland: Lapland, Northern Ostrobothnia, North Karelia, and Kainuu

 Sweden: Norrbotten and Västerbotten



 *The Barents Region covers some 1.9 million square kilometers, and its population numbers 6 million people.*

The Barents Regional Cooperation was predated by the North Calotte Committee, an international regional organization established by Finland, Norway and Sweden in 1962, and joined by the Murmansk and Arkhangelsk regions as observers in 1992.

The present-day Barents Regional Cooperation was launched with the signing of the Declaration of Cooperation on 11 January 1993 in the city of Kirkenes, Norway. The establishment of this platform may be seen in the general context of the all-encompassing process of reformatting the international relations in Europe. In parallel, a range of new international fora emerged in Europe, such as the European Union, the Council of the Baltic Sea States, and other European cooperation and integration mechanisms. Initially, seven provinces became members to the BEAR.

The goal of the organization was to expand horizontal ties between the public, local authorities, institutions and businesses of the countries concerned so as to achieve maximum synergy in pursuit of the sustainable development objectives. The members cooperate in such areas as economy, trade, science and technology, environment, infrastructure, education and cultural exchanges, tourism, as well as the implementation of projects aimed at improving the situation of the indigenous population of the High North.

The member countries alternately preside the organization, which functions in two dimensions, the intergovernmental and the regional ones. At the intergovernmental level, it is managed by the Barents Euro-Arctic Council, which includes foreign ministers of four member countries. At the regional level, the leading role is played by the Barents Regional Council, which unites governors of 13 member provinces and a representative of the indigenous peoples.

The countries of the Barents Region share a long coastline along the Norwegian Sea, the Barents Sea, the White Sea and the Gulf of Bothnia. The Barents sea, being of key importance in transport, military and economic terms, acts as the region's geographical focal point.

The Barents Sea, the southwestern part of which is free of ice, is an integral part of the Northern Sea Route that interconnects Northern Europe with the Far East. The region's major port is that of the city of Murmansk, the fourth largest in Russia by cargo volume. Other important ports in the region are Teriberka, Indiga, Naryan-Mar (Russia), Vardo, Vadso and Kirkenes (Norway). For Russia, the Barents Sea Region is also important in strategic terms, as it is where this country borders the NATO, and where its major military assets including the nuclear and naval ones are deployed.

Economically, the Barents Sea is a ground for competition over the region's natural riches. Its basin is one of the most explored in the High North and is rich in shelf deposits of oil and gas. The region sees the introduction of cutting-edge methods of extraction and processing of oil and gas. The Barents sea is also rich in aquatic resources.

Despite the historical record of conflicts and territorial disputes in the region, it is currently a zone of peace and cooperation. It is noteworthy that the intra-regional relations did not suffer much from the "sanctions war" between Russia and the European Union. Keeping the spirit of circumpolar partnership is especially important in light of the upcoming Russian chairmanship in the Arctic Council in 2021–2023.

RATING METHODOLOGY OVERVIEW

As is the case of the Russian Polar Index, the ratings of the Barents region provinces and companies are methodologically based on the so-called triple score concept: sustainable development is interpreted as a balance of its economic, environmental and social components.

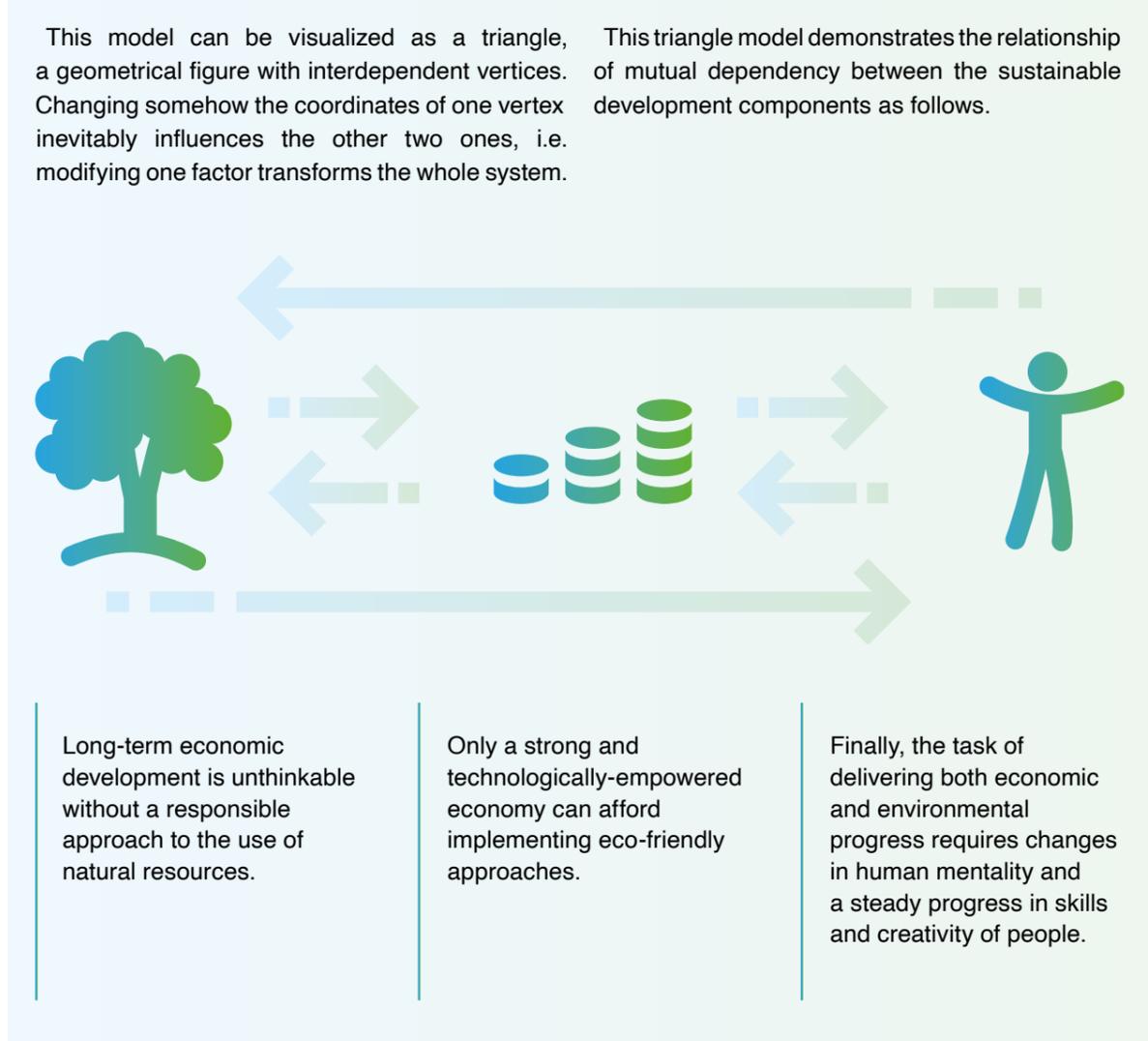
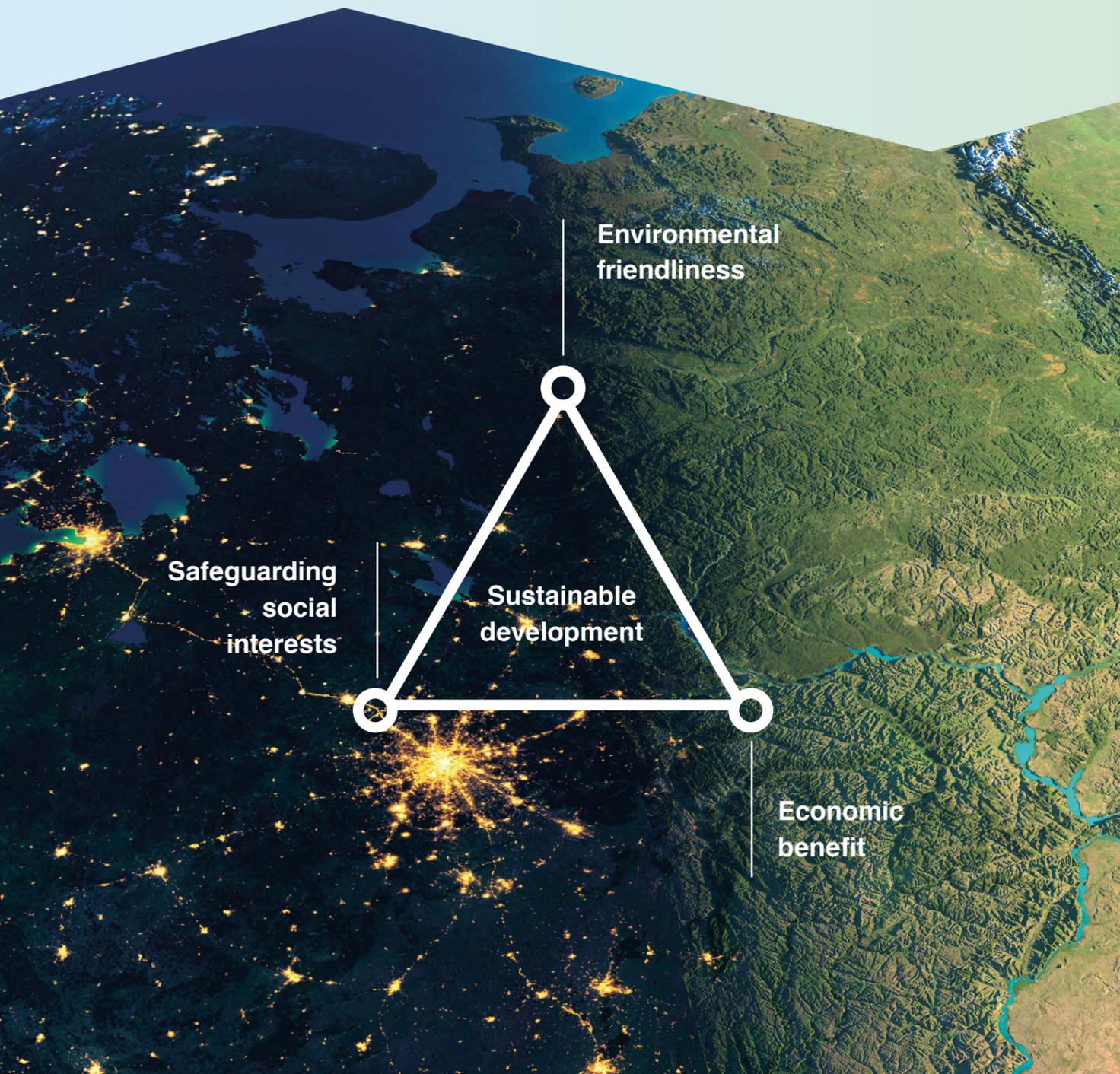


Fig. 1. Components of sustainable development

In terms of this triple score concept implemented under the Polar Index project, the sustainability in the Arctic is seen as a multilevel model based on the nested doll principle.

At the first (basic) level, the sustainability of the companies operating in the Arctic was evaluated in three dimensions, namely in the economic, environmental, and social ones.

On the scheme below companies are represented by a small triangle located inside a larger one

close to the vertex named "Business". Each company contributes its sustainability performance to that of the province. Thus, any company is an important primary player in terms of sustainable development.

In the context of the Barents region, this approach was implemented in terms of the Polar Index of the Barents Region: Companies, which assessed the sustainability of large companies operating in the Barents Region as per the three sets of criteria mentioned above.

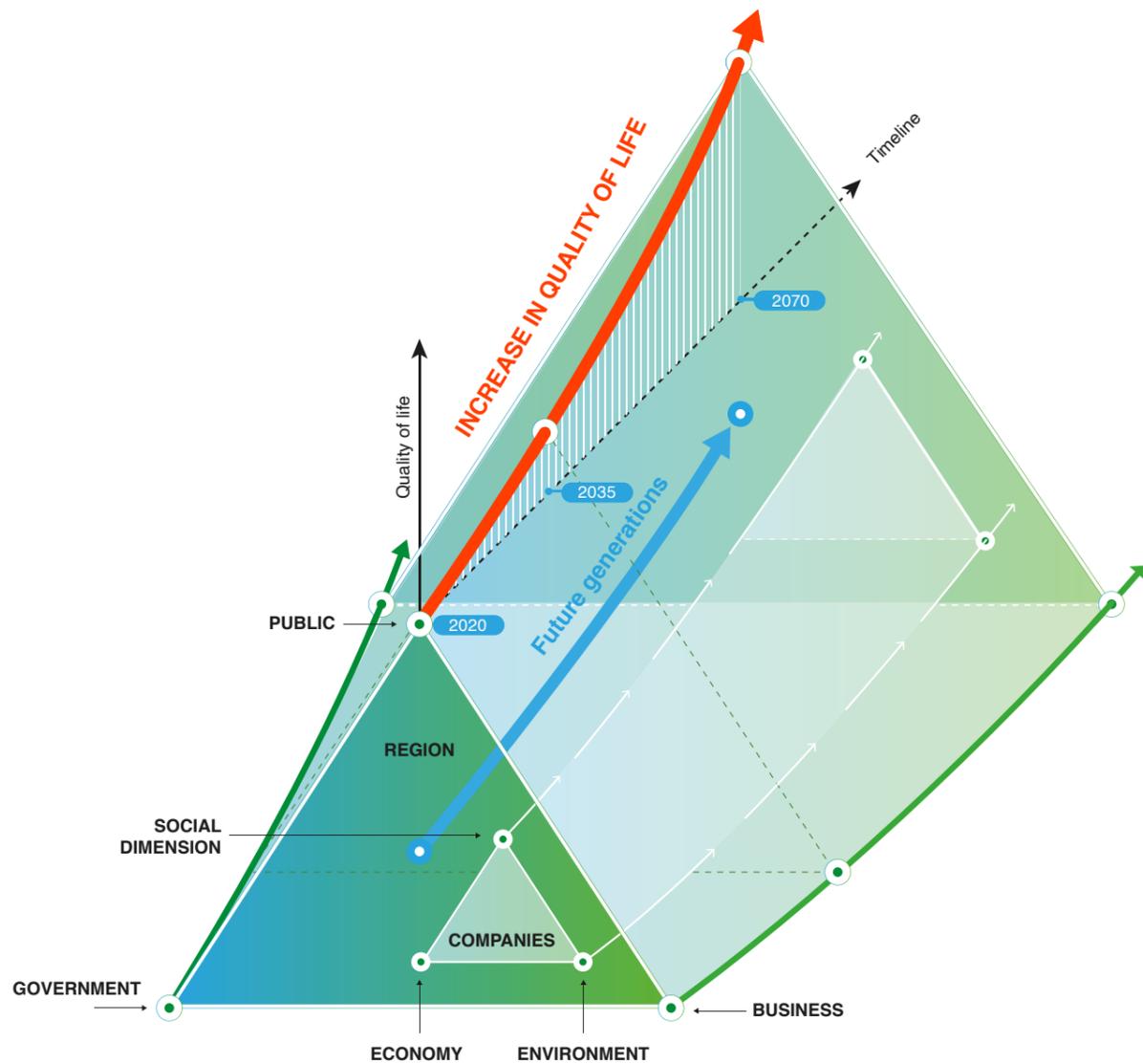


Fig. 2. Model of sustainable development

At the second (broader) level, we evaluated the sustainability of the Arctic regions (provinces) under the three sets of criteria: ecological and economic, social and economic, and social and ecological. On the diagram, these are represented by the vertices of the large outer triangle.

These pairs of criteria represent the relationships between three key players — government, business, and society — and reflect the interdependence of all these players.

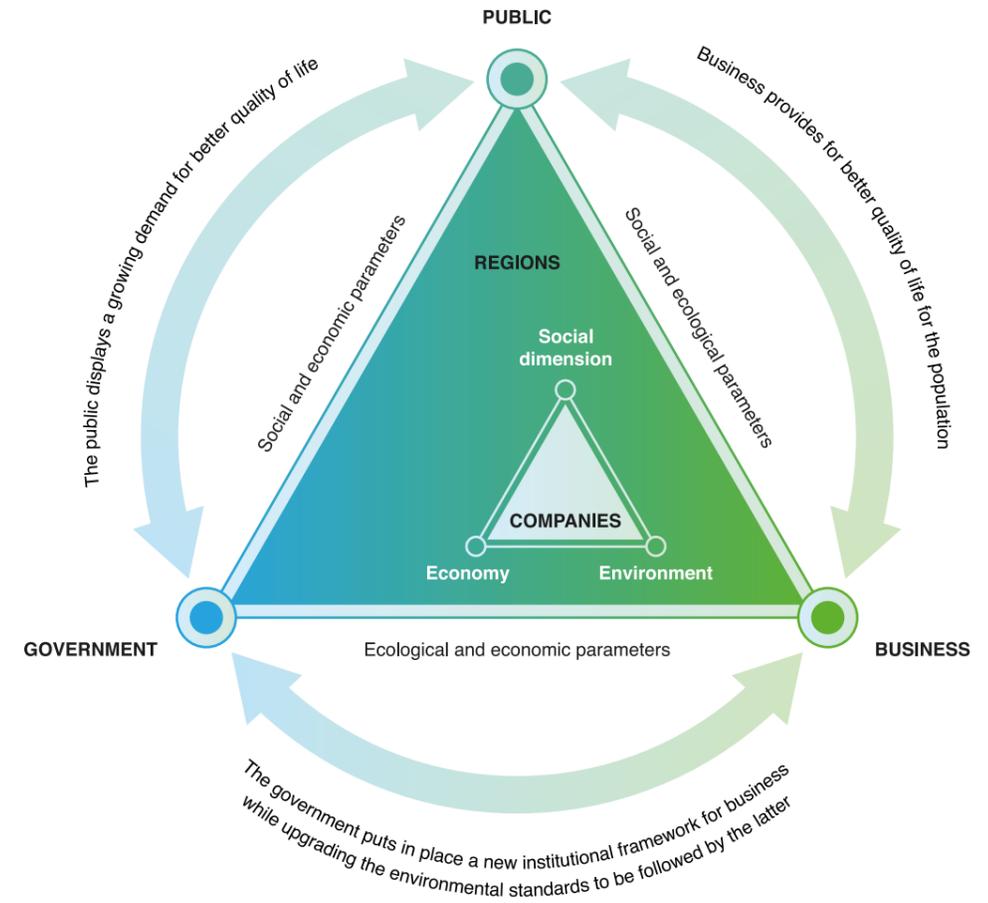


Fig. 3. Interactions between sustainable development players

Social and economic parameters

Synergic interactions of the government and the public. With the societal progress, the public makes the government aware of its growing demand for better quality of life. Such demand displayed by future generations will be higher than the present-day demand.

Ecological and economic parameters

Synergic interactions of the government and the business. The government establishes a new institutional framework for business while upgrading the environmental standards to be observed by corporate players.

Social and ecological parameters

Synergic interactions of the business and the public. The business ensures constant progress in standards of living of the population by creating new jobs, developing social infrastructure, and adopting environment-friendly practices.

Sustainable development balances the mentioned three groups of parameters, thus ensuring a harmonious relationship between the public, the government, and the business.

This relationship is reflected in the rating entitled The Polar Index of the Barents Region: Provinces presented in this report that assesses 13 BEAR provinces under the parameters grouped into three mentioned blocks.

In turn, if such balance shifts, and the sustainable development triangle becomes scalene, the sustainability vector changes its shape, and the progress slows down. As a result, the demand of future generations for a better life quality cannot be met.

Thus, the growing demand of future generations for a better quality of life can be fully met only if the principles of sustainable development are observed.

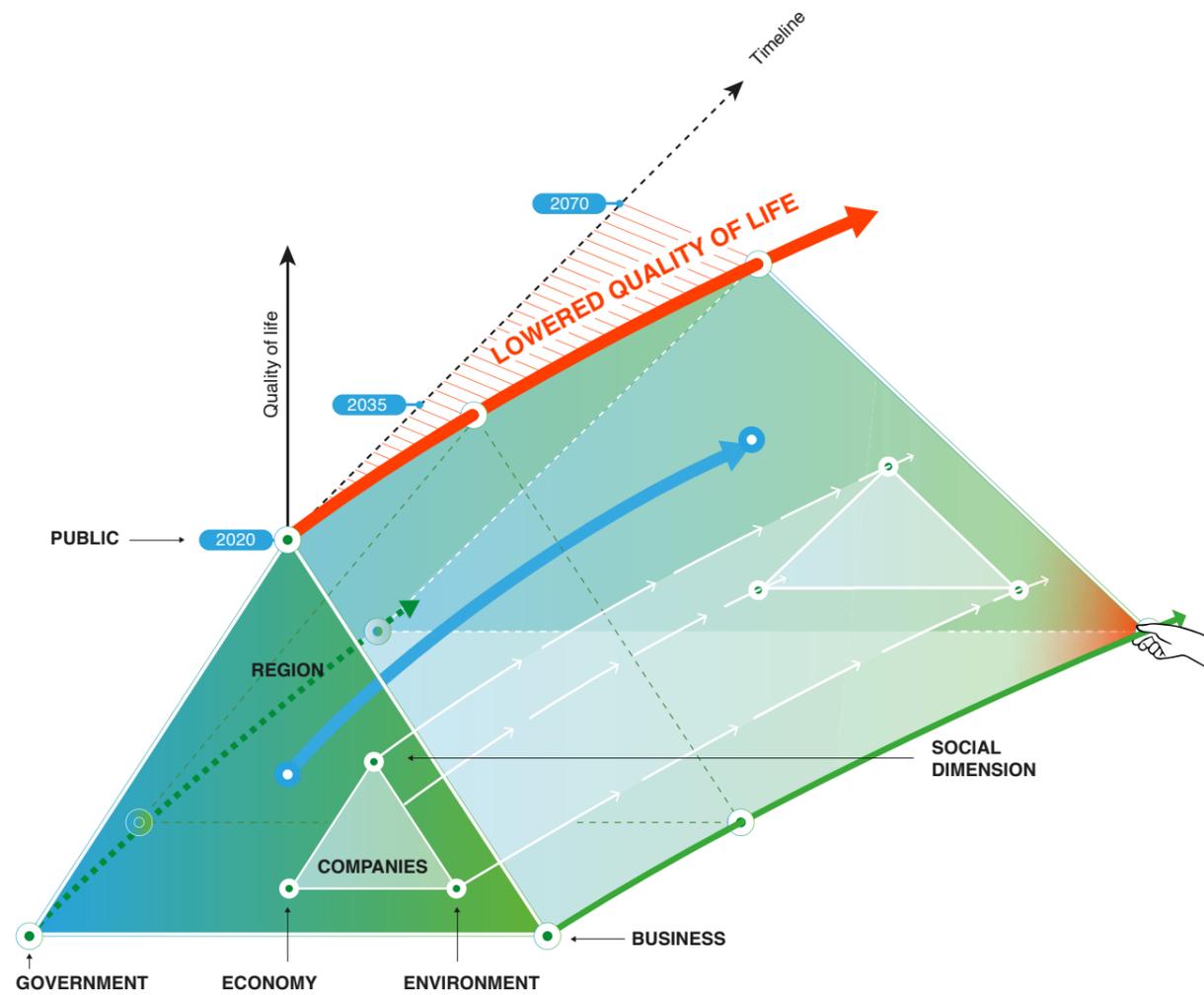


Fig. 4. Unsustainable development



METHODOLOGY FOR CALCULATING BARENTS REGION INDICES

To calculate the Barents region provincial and corporate ratings, we used a range of integral indicators related to basic components of sustainable development. Each of them features a number of specific parameters bearing on various aspects of the economic, social and environmental development of provinces and companies. Based on the feedback provided by the expert and research community, we have considerably improved the methods used to calculate these ratings.

Back in 2018–2019, when calculating the Barents region provincial and corporate pilot ratings, we applied a range of parameters used internationally, including in the BEAR countries.

The methodology for the provincial rating was based on three integral indicators, such as the adjusted Environmental Economics Index, the Happy Planet Index, and the Human Development Index.

To rank companies, we evaluated their financial performance using the International Financial Reporting Standards (IFRS) and assessed the qualitative aspects of their reporting through the prism of corporate social responsibility (CSR) parameters. We also took into consideration their environmental resource management (ERM) performance.

The pilot ratings outcomes drew a lot of attention throughout the region. Both the PORA and the MSU Environmental Management Department received a lot of feedback from the provincial governments, companies, and the expert community, including experts from the BEAR countries. The methodology of the rating was discussed at several expert panels and international conferences.

Based on this feedback, the calculation methods were significantly improved while preserving the general methodological approach.

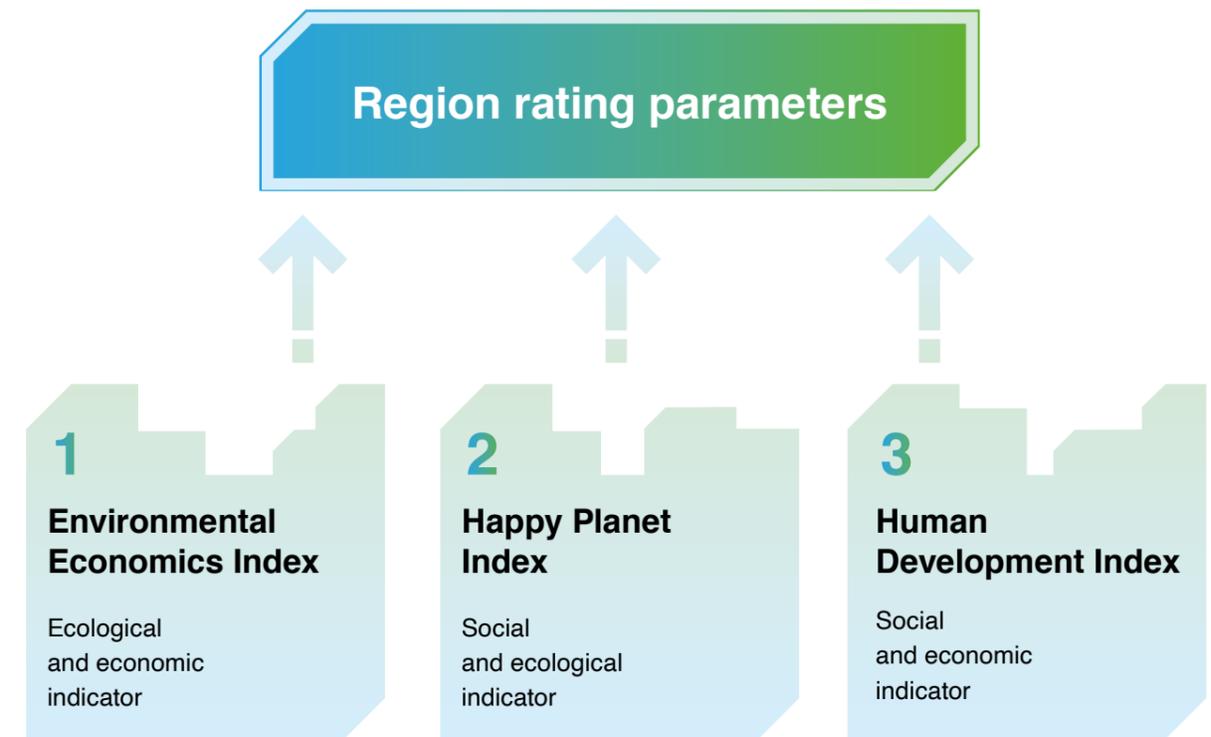


Fig. 5. Parameters for the rating of provinces. The rating calculation method is based upon three integral indicators

While the way the social-economic and the social-ecological indicators are weighted did not see much of a change, the methods used to score the ecological-economic indicator were updated. For instance, the parameters that can be effectively influenced by regional authorities were added. Thus, the indicator was tuned up so as to better represent regional policies implemented in the provinces in question.



2 Social and ecological indicator

This indicator is based on the Happy Planet Index (as improved by Prof. S.M. Nikonorov and Prof. K.V. Papenov).

To calculate this score we multiply the numbers of:

- life expectancy
- inequality (Gini coefficient)
- life satisfaction, which are further divided by the ecological footprint score



3 Social and economic indicator

This indicator is based on the Human Development Index calculated as per the UN methodology as an aggregate of:

- life expectancy
- expected duration of training
- average duration of training
- gross national income per capita



1 Ecological and economic indicator

This indicator is based on the Environmental Economics Index (EEI) that aggregates adjusted environmental and economic indicators such as:

- Environmental footprint (global hectare per person)
- Road length/ground area
- Consumer Price Index (in index points)
- Unemployment rate, %
- Adjusted net savings, including particulate emission damage (% of GNI)
- Adjusted savings: natural resources depletion (% of GNI)
- GDP per unit of energy use (constant PPP \$ per kg of oil equivalent)
- Increase in permafrost temperature

Based on the calculation, each of the provinces concerned is assigned an aggregate sustainable development index ranging from 0 to 1, where

1 = maximum sustainability

0 = minimum sustainability

The corporate ranking methodology was amended to move away from the judgment-based scoring model used under the pilot rating system. A number of quantitative indicators pertaining to various components of sustainable development were added to the scoring model.



Fig. 6. Company rating parameters. The rating calculation method is based on three integral indicators.



1 Economic indicator

- Revenue (billion USD)
- Purchase of goods and services (billion USD)
- Payments to governments (million USD)
- Dividends (billion USD)
- Environmental expenditures (million USD)



2 Social indicator

- Number of employees
- Female employees (%)
- Sickness/absence (% of planned work hours)
- Serious incident frequency (per 100 hours worked)
- Total recordable injury frequency (TRIF) (per million hours worked)
- Employee training (average hours per employee)
- Employee wages and benefits (billion USD)
- Social investments (million USD)



3 Ecological indicator

- CO₂ emissions (thousand tonnes)
- Oil & gas leakages
- Oil and gas production (thousand tonnes)
- Renewable energy production (GWh)
- Energy consumption (TWh)
- Methane intensity
- Number of accidental spills
- Other air pollutant emissions (tonnes)
- Sulphur oxides (SO_x) (thousand tonnes)
- Nitrogen oxides (NO_x) (thousand tonnes)
- Waste generated (thousand tonnes)
- Waste recovered (%)
- Regular waste discharges to water (thousand tonnes)
- Total water withdrawal (million m³)
- Produced water (million m³)



Based on the calculation, each of the companies concerned is assigned an aggregate sustainable development index ranging from 0 to 1, where

1 = maximum sustainability

0 = minimum sustainability

Polar Index of the Barents Region: Provinces

The Polar Index of the Barents Region: Provinces is the first specialized rating targeting the northern territories of the Scandinavian countries and Russia. The rating covers 13 administrative entities of Russia, Finland, Sweden and Norway, which are part of the Barents Region

The rating evaluates the sustainability of five provinces of Russia, two provinces of Norway, four provinces of Finland, and two provinces of Sweden.

The methodology for calculating the rating was designed by the project team of the MSU Environmental Economics Department led by Prof. S.M. Nikonorov (D.Sc. (Economics)) based on the generally accepted triple score concept.

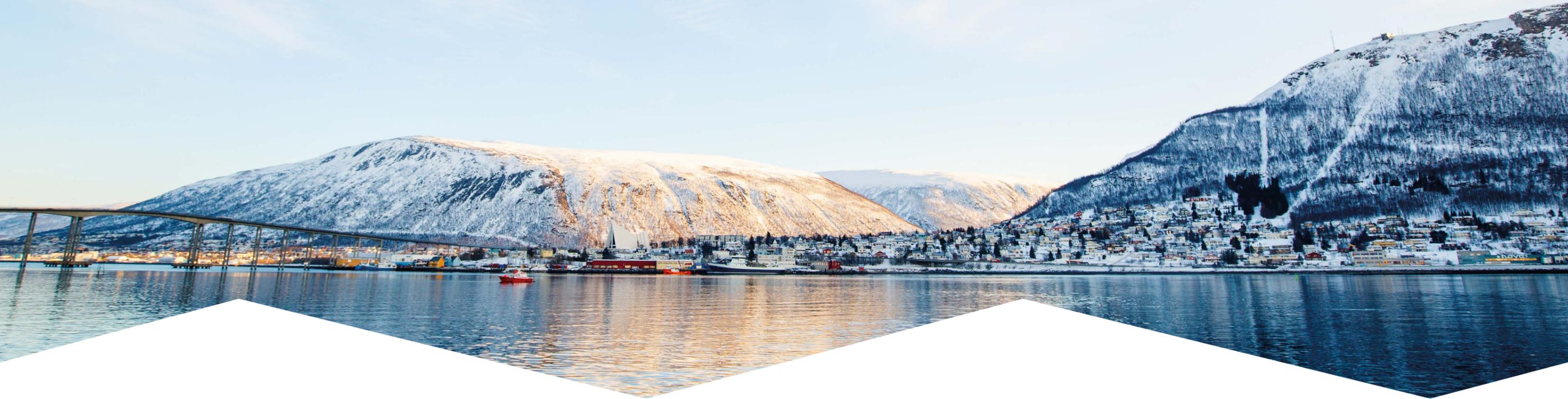
Each province's score (the Province Sustainable Development Index, or PSDI) is calculated using a special method considering a number of sustainability parameters broken down into three blocks: social and economic, social and environmental, and environmental and economic. In terms of weight, all blocks are equal.

The provinces of the Barents Region were ranked as follows:

Rank	Region (province)	Country	Polar Index	Change
1	Norrbottn	Sweden	0.971	0
2	Västerbottn	Sweden	0.970	0
3	Murmansk oblast	Russia	0.966	0
4	Troms og Finnmark	Norway	0.938	
5	Nordland	Norway	0.923	+2
6	Republic of Karelia	Russia	0.918	-2
7	Komi Republic	Russia	0.889	-1
8	Northern Ostrobothnia	Finland	0.853	+2
9	Kainuu	Finland	0.851	+2
10	Lapland	Finland	0.849	+3
11	North Karelia	Finland	0.822	
12	Arkhangelsk oblast	Russia	0.812	-3
13	Nenets Autonomous District	Russia	0.801	0

The top five includes two provinces of Sweden (Norrbottn and Västerbottn), one Russian region (the Murmansk oblast) and two Norwegian provinces, Nordland and Troms og Finnmark (established on 1 January 2020 through merging the Troms province, the Finnmark province, and the community of Tjeldsund, formerly part of Nordland).

The rating of provinces is visually represented at (Fig. 7, p. 22–23)



This year, Norwegian regions considerably improved their position in the rating. This happened mainly owing to a progress made in terms of both their Environmental Economics Index (EEI) and their environmental footprint, as well as better Happy Planet Index (HPI) scores. If the Norwegian regions concerned succeed in keeping the pace, they stand good chances of topping the rating in the coming year.

The Finnish regions still lag behind the Swedish, Norwegian, and some Russian regions, such as the Murmansk oblast, the Republic of Karelia, and the

Komi Republic. However, they were able to improve their ranking due to better EEI performance.

One Russian region, the Murmansk oblast, is still part of the top five of the rating. It is widely regarded as one of the most advanced regions of the Russian Arctic. Both the Arkhangelsk oblast and the Nenets Autonomous District made some progress as compared with the previous year. However, this was not enough for making it into the rating top, as the provinces of the Russia's neighbors were developing at a faster pace.

Among major weaknesses of the Russian regions, which affected their HDI performance, are low life expectancy, insufficient (but still comparable with that of the neighboring countries) expected duration of training, as well as low per capita

income. Nonetheless, the first two indicators saw a considerable improvement.

The HPI-based socio-ecological indicator showed a high level of income inequality. The latter is believed to be owing to, inter alia, the absence of progressive taxation and the lack of a numerous middle class. In turn, their low EEI scores were due to insufficient energy efficiency, depletion of natural resources, and high urban pollution levels, which are decreasing at too slow a rate.

In addition, for the time being, the Russian Barents provinces rely much less on renewables than their Scandinavian counterparts. However, it is noteworthy that the Russian regions concerned widely use natural gas and LNG as fuel. If natural gas was regarded as a "clean" fuel, Russia's green

energy performance would be much higher than it presently is and might be comparable with that of its neighbors in the Barents Region. Apart from that, the use of hydropower, which is widespread in Russia, is not regarded as "green" under the European methodology.

At the same time, the Russian regions are faring better than the neighboring ones in terms of environmental footprint and satisfaction with life. Their score under the Environmental Economics Index was further improved with a decreasing natural resource intensity (including water intensity, energy intensity, and material intensity). The forest cover of the Russian regions is also quite high.



**Professor
S.M. Nikonorov**

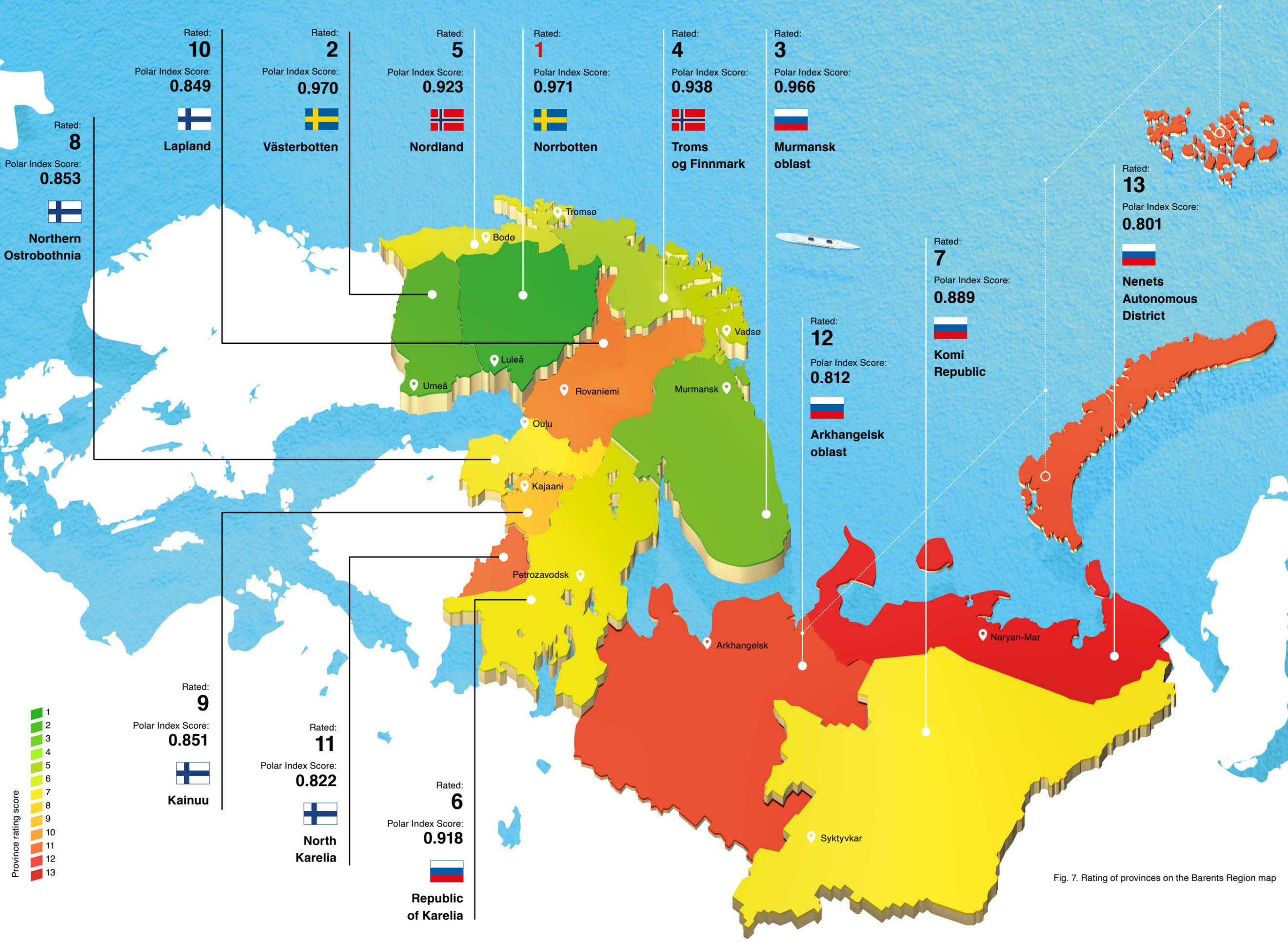


Fig. 7. Rating of provinces on the Barents Region map

Norrbotten



Västerbotten

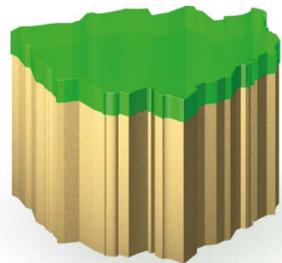


#1

in Polar Index



Sweden



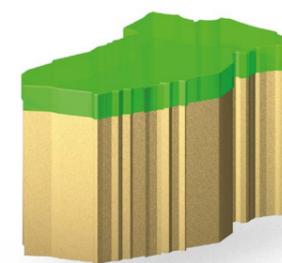
Area: 98,911 km²
Population: 250,093 people
Population density: 2.53 people/km²
GRP: \$ 13.7 billion
GRP per capita: \$ 54.6 thousand¹

#2

in Polar Index



Sweden



Area: 55,186.2 km²
Population: 271,736 people
Population density: 4.9 people/km²
GRP: \$ 12.3 billion
GRP per capita: \$ 45.3 thousand

The northernmost province (län) of Sweden, Norrbottens län, occupies almost a quarter of the country's territory but is relatively sparsely populated, with only 251 thousand people living there. This number includes the Finnish and Sámi minorities who have preserved their culture, customs, and traditional way of life. A significant part of the district lies to the North of the Arctic Circle. From the Gulf of Bothnia coast where the city of Luleå, the regional capital, is located terrain gradually rises to the Scandinavian mountains, which are home to several national parks situated in the vicinity of the Norwegian border. The highest mountain

in Sweden, Kebnekaise, which is 2,106 meters high, is located there. Few floral species can survive there, while forests grow at a slow rate. The region is rich in deposits of iron ore and non-ferrous ores (such as copper, lead, zinc, and silver). Luleå is home to large steelworks and one of three technological universities in the country.



¹ Hereinafter, the data as of 2019 are given if available; in some cases, due to the lack of current data, the data of 2017–2018 are used. GRP and GRP per capita are approximate, since when drafting the report we converted the figures in national currencies into those in US dollars at conversion rates relevant as of March 2020

Just like the neighboring Norrbotten, this Northern Swedish län is sparsely populated, with about 272 thousand people living in the region. Most population is concentrated in the eastern part of Västerbotten along the coast of the Gulf of Bothnia where the largest cities of the region, Umeå and Skellefteå, are located. Since Umeå hosts the largest university in Sweden, about one third of the city population are students. In the north-west of the region are the

Scandinavian Mountains, the source of many rivers flowing through that province to the Gulf of Bothnia. Numerous lakes can also be found in the region. In the mountainous part of the län, there is a number of popular ski resorts. Forests occupy a significant part of Västerbotten, the woodworking being one of top industries in the region. The province is rich in non-ferrous ores and gold.

Murmansk oblast

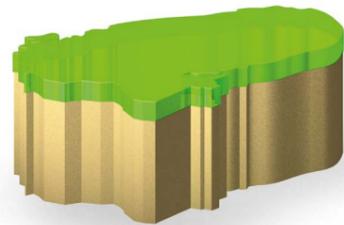


#3

in Polar Index



Russia



Area: 144,902 km²
Population: 741,511 people
Population density: 5.12 people/km²
GRP: \$ 5.63 billion
GRP per capita: \$ 7.4 thousand

The Murmansk oblast (region) borders Finland and Norway and is bound by the White and the Barents Seas. Most of the region lies beyond the Arctic Circle. The province is rich in minerals such as apatite and many others, as well as non-ferrous and rare-earth metals. Many minerals mined there are unique to this region. Rich deposits of oil and gas have been discovered on the shelf of the Barents

Sea, including the Shtokman gas field, one of the largest in the world. Shelf oil is being drilled at the Prirazlomnoye field in the Pechora Sea. The largest port in the Russian part of the Arctic is located in the city of Murmansk. Owing to the warm North Atlantic Current, all-year navigation is carried out in the Arctic seas adjacent to this province.

Troms og Finnmark



#4

in Polar Index



Norway



Area: 74,830 km²
Population: 244,326 people
Population density: 3.3 people/km²
GRP: \$ 6.44 billion²
GRP per capita: \$ 26.3 thousand

This northernmost province of Norway was established on 1 January 2020 through the merger of the Troms province, the Finnmark province, and the community of Tjeldsund, formerly part of the province of Nordland. Its land area accounts for 23.22% of the overall Norwegian territory. The entirety of the region lies beyond the Arctic Circle. Due to its remote location, Troms og Finnmark is one of the least polluted areas in Europe. The province's northern part, which used to be the Finnmark province, is the least populated area in Norway, with just about 75 thousand people living there. In the vicinity of Hammerfest, the northernmost city in the world with more than 10 thousand inhabitants, a large LNG

site is located. The areas that used to be part of the abolished Troms region are more developed than the northern part of the newly established province. Tromsø, the administrative center of the merged province, is home to the northernmost university in the world, known for its research of the aurora borealis phenomenon. The commune of Harstad is the commercial center of the province; it is there that the head office of Equinor, the country's largest energy company, is located.



² The GRP and GRP per capita figures for Troms og Finnmark are estimates based on the data available as of March 2020 on former provinces of Troms og Finnmark before their merger.

Nordland



#5

in Polar Index



Norway



Area: **38,155 km²**

Population: **242,488 people**

Population density: **7 people/km²**

GRP: **\$ 12.4 billion**

GRP per capita: **\$ 51 thousand**

The Nordland province is located along the north-western coast of the Scandinavian peninsula in Northern Norway. It extends for some 500 kilometers alongside the Norwegian Sea, with its coastline being cut up by numerous fjords. In the areas bordering Sweden, its terrain is dominated by the Scandinavian mountains. The highest mountain in Nordland is Oksskolten, which is 1,915 meters high, while the Stetind mountain ("the Anvil of Gods") is regarded as the Norway's national mountain.

These mountains are home to numerous glaciers. Located far away from densely populated areas, Nordland is reputed to be one of the least polluted areas in Norway. Economically, the province relies on fishing and fish farming of salmon, as well as offshore drilling of oil and gas. In 2018, the world's largest gas platform was put into operation at Aasta Hansteen, the northernmost gas field of the Norwegian Sea.



Polar Index of the Barents Region: Companies

The Polar Index of the Barents Region: Companies is the first specialized rating of business entities operating in the Barents Euro-Arctic Region. This year, it ranks 30 large international and local companies.

Numerous large public companies operate in the Barents Region, with their production facilities concentrated in the north of the Scandinavian Peninsula and in the neighboring regions of Russia. While in Finland and Sweden these are mainly gold mining and metallurgical companies, in Russia and Norway the big business invests into oil and gas, metallurgy, chemical industry etc.

In 2019, we rated 26 such entities, while this year we increased the number to 30 so as to include

one more big company from each BEAR country. The mentioned companies are: Gazprom Neft (Russia), Fortum (Finland), SSAB (Sweden), and Statkraft (Norway).

Therefore, the Polar Index of the Barents Region: Companies covers 30 corporate entities operating in the provinces that are part of the Barents region, including ten Russian and ten Norwegian companies, as well as ten Swedish, Finnish and jointly owned Swedish-Finnish corporations.

The companies of the Barents Region were ranked as follows:*

Rank	Company	Country	Polar Index	Change
1	Rosneft	Russia	0.912	+1 ↑
2	Lukoil	Russia	0.906	+2 ↑
3	Equinor	Norway	0.901	-2 ↓
4	Nornickel	Russia	0.787	+3 ↑
5	Boliden Group	Finland/Sweden	0.785	0
6	DEA Norge	Norway	0.783	+2 ↑
7	Agnico Eagle Mines	Finland	0.782	-1 ↓
8	ALROSA	Russia	0.763	-5 ↓
9	PhosAgro	Russia	0.757	0
10	Gazprom	Russia	0.733	+3 ↑
11	Severstal	Russia	0.726	-1 ↓
12	Nordic Mining	Norway	0.723	-1 ↓
13	Nenets Oil Company	Russia	0.706	-1 ↓
14	Gazprom Neft	Russia	0.700	
15	Norge Mineral Resources	Norway	0.680	+3 (+2) ↑

Rank	Company	Country	Polar Index	Change
16	LKAB	Sweden	0.668	-2 (-1) ↓
17	Sydvaranger Gruve	Norway	0.656	-2 (-1) ↓
18	Fortum	Finland	0.648	
19	SSAB	Sweden	0.627	
20	Consedo	Norway	0.588	-4 (-1) ↓
21	Leonhard Nilsen & Sonner	Norway	0.585	-4 (-1) ↓
22	First Quantum Minerals	Finland	0.564	-2 (+1) ↑
23	Statkraft	Norway	0.553	
24	Dragon Mining	Sweden	0.495	-5 (-1) ↓
25	RUSAL	Russia	0.450	+1 (+5) ↑
26	Beowulf Mining	Finland/ Sweden	0.425	-2 (+2) ↑
27	Nussir	Norway	0.417	-5 (-1) ↓
28	Aurion Resources	Finland	0.408	-7 (-3) ↓
29	Sunstone Metals	Sweden	0.392	-4 (0)
30	Skaland Graphite	Norway	0.341	-7 (-3) ↓

The top ten include Equinor and DEA Norge, the Norwegian oil and gas companies operating in Finland and Sweden, mining company Boliden Group, and Canadian-based gold producer Agnico Eagle Mines whose facilities are located in northern Finland. Russia is represented by oil and gas giants Rosneft, Lukoil and Gazprom, metallurgical companies Nornickel and Severstal, diamond mining company ALROSA, and chemical holding PhosAgro.

* The Change column indicates how a company's rank changed since the previous year. The value in brackets reflects the rank change factoring out the 4 companies included this year



This year, many Russian blue chips made it to the top 10 of the corporate rating for the BEAR countries. Russian companies owe their success not only to their good financial performance in 2018–2019, but also to their ongoing effort to adopt best available technologies (BAT) under the Federal Project no. 11 (Environment). Implementing BAT contributes to improving the natural resource intensity of the companies concerned, namely, their energy intensity, water intensity, and material intensity.

Russia's accession to the Paris agreement may also be regarded as a contributing factor, with the amount of greenhouse emissions, primarily CO₂, go-

ing down. This, in turn, played a role in reducing the overall carbon intensity of Russian industries.

All the leading companies performed almost equally well in terms of each of the tree indicators pertaining to the components of sustainable development. However, some of them did better than others in certain areas.

For instance, the top five companies that performed the best economically were Rosneft, Lukoil, Equinor, ALROSA, and Boliden Group. In terms of social indicators, the top five are Rosneft, ALROSA, Equinor, PhosAgro, and Gazprom. In turn, the best environmental performance was demonstrated by Agnico Eagle Mines, Lukoil, Equinor, Nornickel, and Rosneft.

**Professor
S.M. Nikonorov**

Norway



concedo

Concedo

A Norwegian oil company focused on exploration of the Norwegian continental shelf deposits. The company operates offshore blocks, including in the Barents Sea.



Leonhard Nilsen & Sønner

The company's key business is construction of roads and tunnels. The company owns several mines and is a contractor for several mining companies. The company operates in the northern part of Norway.



Sydvaranger Gruve

A Norwegian mining company headquartered in Kirkenes, South Varanger, Finnmark.



Norge Mineral Resources

A Swiss-based mining company operating in the northern areas of Norway.



DEA Norge

A Norwegian oil and gas company, a subsidiary of DEA AG and L1 Energy owned by Russian businessman Mikhail Fridman. The company specializes in exploration, drilling and production of oil and natural gas on the Norwegian continental shelf, including in the Barents Sea.



Nordic Mining

A Norwegian mining company engaged in the exploration, development and marketing of high-quality minerals and metals. The company operates in the northern part of Norway.



Skaland Graphite

A Norway-based supplier of crystalline graphite. The company operates across the Barents region.



Equinor

The largest oil and gas company in Norway accounting for about 60% of offshore hydrocarbon production in the country. In 2012, it launched a joint project with Rosneft.



Statkraft

A hydropower company fully owned by the Norwegian state. The Statkraft Group is a generator of renewable energy, as well as Norway's top and the Northern Europe's third largest energy producer.



Nussir

A mining company that owns the largest copper mine in Norway located in Kvalsund, province of Finnmark.

Russia



ALROSA

A diamond mining corporation operating in North Russia, including in the Arkhangelsk region.



Gazprom Neft

A large Russian vertically integrated oil company. It is the only Russian corporation already engaged in oil drilling on the Arctic shelf, which operates the Prirazlomnaya platform.



Nenets Oil Company

A Russian oil company operating in the Nenets Autonomous District.



Rosneft

The largest Russian-based oil company, it is actively engaged in geological exploration in the Arctic, including on the Arctic shelf of the Barents Sea.



Gazprom

A Russian transnational energy corporation that accounts for 12% of the world's and 69% of Russia's gas production.



Norilsk Nickel

A Russian mining and metallurgy company. One of the two company's major production sites is located in the Murmansk region.



RUSAL

A Russian aluminum company that controls a branch operating in the Murmansk region (RUSAL Kandalaksha).



Lukoil

The largest Russian private oil and gas company. Lukoil operates the Varandey terminal located in the Barents Sea.



PhosAgro

A Russian chemical holding. One of the company's key assets, the Apatit mining and refining facility, is located in Kirovsk, Murmansk region.



Severstal

A mining and metallurgy company. Some of the company's assets are located in the Republic of Karelia, the Republic of Komi, and the Murmansk region.

Finland



Agnico Eagle Mines

A Canadian gold producer operating in Canada, Finland (Lapland), and Mexico.



Fortum

A Finnish state-owned energy company. It owns, entirely or in part, more than 500 energy-related companies in Finland, Sweden, Norway, Russia, and other countries.



Aurion Resources

A Canadian exploration company. Since 2014, the company has been involved in prospecting and developing gold deposits in the Central Lapland Green Belt (CLGB), Northern Finland.



First Quantum Minerals

A Canadian mining company focused on exploration, development and mining of minerals. Pyhäsalmi, one of the company's six mines, is located in the southern part of Northern Ostrobothnia in Finland.

Sweden



Dragon Mining

A Scandinavia-based gold mining company operating in Sweden and Finland. The company's Svartliden mine (Västerbotten län, Sweden) is located in the Barents Region.



LKAB

A Swedish mining company that mines iron ore in Northern Sweden, in the vicinity of the cities of Kiruna and Malmberget.



Sunstone Metals

An Australian mineral exploration company. Viscaria Copper, one of the company's three assets, is located 5 km west of Kiruna, the northernmost city of Sweden.



SSAB

A Swedish-Finnish metallurgy company specialized in producing high-grade durable steel with a yearly output of some 8 million tonnes.

Sweden, Finland



Beowulf Mining

A British mining company. The major company's project is that of developing the Kallak iron ore magnetite deposit in North Sweden. In Finland, the company has a portfolio of graphite projects.



Boliden Group

A Swedish mining and metallurgical company that specializes in production of copper, zinc, lead, gold, and silver. After a series of acquisitions in the 1980s and 1990s, the company acquired the mining and smelting assets of the Finnish company Outokumpu. It operates mines in the northern parts of Sweden and Finland.



#1

in Polar Index



Russia



Established: 1993
Turnover: \$ 135.8 billion
Net profit: \$ 10.9 billion
EBITDA: \$ 32.5 billion³

#2

in Polar Index



Russia



Established: 1991
Turnover: \$ 121.1 billion
Net profit: \$ 9.9 billion
EBITDA: \$ 19.1 billion

Rosneft is one of the world's largest public oil and gas companies. Its controlling stake is owned by the Russian state. A number of the company's production sites are located in the Arctic. In addition, Rosneft owns about 80% of offshore field licenses in the Russian Arctic. Since 2009, Rosneft has been implementing a sustainable development policy enshrined in its corporate strategy. As the strategy defines it, the company's key goals are only achievable if the high standards of environmental and industrial safety, social responsibility and cor-

porate governance are observed. The company is increasing the scale of environmental activities and the amount of investments in environmental protection. For instance, in 2016–2022, the company plans to allocate more than \$ 4 billion to sustainability investments, including capital investments aiming to mitigate negative environmental impact.



³ Hereinafter, the data as of 2019 are given if available; for Equinor, Agnico Eagle Mines, and Gazprom, the data as of the period from 1 October 2018 to 30 September 2019 were used. The figures for turnover, net profit and EBITDA are approximate, as when drafting the report we converted the figures in national currencies into those in US dollars at conversion rates relevant as of March 2020.

Lukoil is the largest private-owned oil and gas company in Russia. In the Arctic, the company operates the Varandey oil terminal located in 22 km off the Barents Sea coast in the vicinity of the township of Varandey (the Nenets Autonomous District). Lukoil publicly adheres to the sustainable development principles. The company took important steps to ensure the environmental safety of the extraction, storage and transportation of petroleum products in the Arctic. Lukoil was the first Russian company

to introduce the zero discharge technology at off-shore projects. The company's spill response capacity relies on a developed infrastructure, a range of technical means, and a pool of highly trained professionals. For example, the Varandey terminal is equipped with oil spill response equipment including oil collectors, oil-spill booms, motor pumps etc. The budget of the company's environmental safety program for 2019–2021 amounts to about \$ 1.5 billion.



#3

in Polar Index



Russia



Established: 1972
Turnover: \$ 64.4 billion
Net profit: \$ 1.9 billion
EBITDA: \$ 26.3 billion

#4

in Polar Index



Russia



Established: 1989
Turnover: \$ 13.6 billion
Net profit: \$ 6 billion
EBITDA: \$ 8 billion

Equinor is an oil and gas company established in 1972 by decision of the Norwegian Parliament under the name of Statoil (rebranded in 2018). Its controlling stake belongs to the Norwegian state. Equinor is not only the Norway's biggest corporation, but also the largest oil company in Northern Europe. The company is one of major crude oil suppliers in the world market and the key natural gas supplier to the EU. Equinor accounts for about 60% of Norway's

offshore hydrocarbon production, including on the Barents Sea shelf. The company formally declares its commitment to the sustainable development principles: the world needs more environmentally efficient oil and gas production and a significant increase in the use of renewables. Equinor says that it is big business that should play a key role in implementing the international agenda for a sustainable future.

Nornickel is the largest Russia's and one of the world's biggest companies engaged in production of precious and non-ferrous metals. It tops as the producer of palladium, and is one of key suppliers of nickel, platinum and copper. The company is keen on the efficient use of energy, reducing emissions, and protecting biodiversity. The closure of the oldest company's processing facility, the Nickel Plant, along with modernization and reconstruction of other facilities, made it possible to reduce

SO₂ (sulfur dioxide) emissions in Norilsk by 30%. On completion of the ongoing company's initiative involving constructing filtering facilities by 2023, SO₂ emissions in the industrial region of Norilsk are expected to drop by 75% as compared to 2015. The company takes steps to introduce the social responsibility principles into corporate practices. In autumn 2016, it joined the United Nations Global Compact, the flagship UN initiative on corporate social responsibility and sustainable development.

Boliden AB



DEA Norge



#5

in Polar Index



Finland



Sweden

! *Established: 1931*
Turnover: \$ 5.3 billion
Net profit: \$ 612 million
EBITDA: \$ 1.3 billion

A Swedish mining and metallurgical company that specializes in production of copper, zinc, lead, gold, and silver. It owns mines in the north of Sweden and Finland, and is expanding its activities in the High North, including through securing licenses for the development of new deposits. The company's priority is conducting business in an environmentally and socially responsible manner. To this end, Boliden invests in modern technology and development of sustainable and environmentally friendly processes for the extraction and processing of raw materials.

As part of this effort, the company has introduced a technology enabling extraction of silver from zinc concentrate that helps reduce waste and minimize emissions. The company processes lead scrap, used electronics, and other waste. With view to contribute to rehabilitating the affected ecosystems, the company has been implementing a program for remediation of disposal areas. As part of this program, the rehabilitated areas are to be monitored for 30 years upon the end of restoration activities.

#6

in Polar Index



Norway

! *Established: 1973*
Turnover: \$ 6.1 billion
Net profit: \$ 545 million
EBITDA: \$ 3.2 billion

A Norwegian oil and gas company, a subsidiary of DEA AG and L1 Energy owned by Russian businessman Mikhail Fridman. The company specializes in exploration, drilling and production of oil and natural gas on the Norwegian continental shelf, including in the Barents Sea. The company owns a large license package, which includes shares in 51 shelf licenses. The company regards as promising the development of sites in the Barents Sea, where

over a half of Norway's undiscovered shelf resources are concentrated. Overall, DEA Norge co-funded drilling 28 prospecting boreholes and accounts for 10 discoveries in the Barents Sea. The company strives to maintain a balance between commercial interests and environmental commitments, while paying attention to a wide range of environmental and occupational safety issues.

Agnico Eagle Mines



ALROSA



#7

in Polar Index



Finland



Established: 1953
Turnover: \$ 2.5 billion
Net profit: \$ 473 million
EBITDA: \$ 311 million

#8

in Polar Index



Russia



Established: 1992
Turnover: \$ 3.7 billion
Net profit: \$ 44 million
EBITDA: \$ 1.7 billion

Agnico Eagle is a Canadian gold producer with operations in Lapland. The Kittilä mine, the largest in Europe, is the company's major gold mining asset with significant expansion potential. Agnico Eagle is committed to economic sustainability, including through active exploration and development of new deposits. The company's strategy being focused on securing control of gold reserves exceeding its annual production by 10–15 times, Agnico Eagle manages to meet these parameters owing to a con-

siderable portfolio of exploration projects. Agnico Eagle puts an emphasis on social sustainability. Through automation and implementation of safety programs, the company has achieved a steady reduction in accidents at mines. In 2016, Agnico Eagle was ranked 14th out of 92 oil, gas and mining companies on the rights of indigenous peoples in the Arctic compiled by the Norwegian Institute of International Relations.

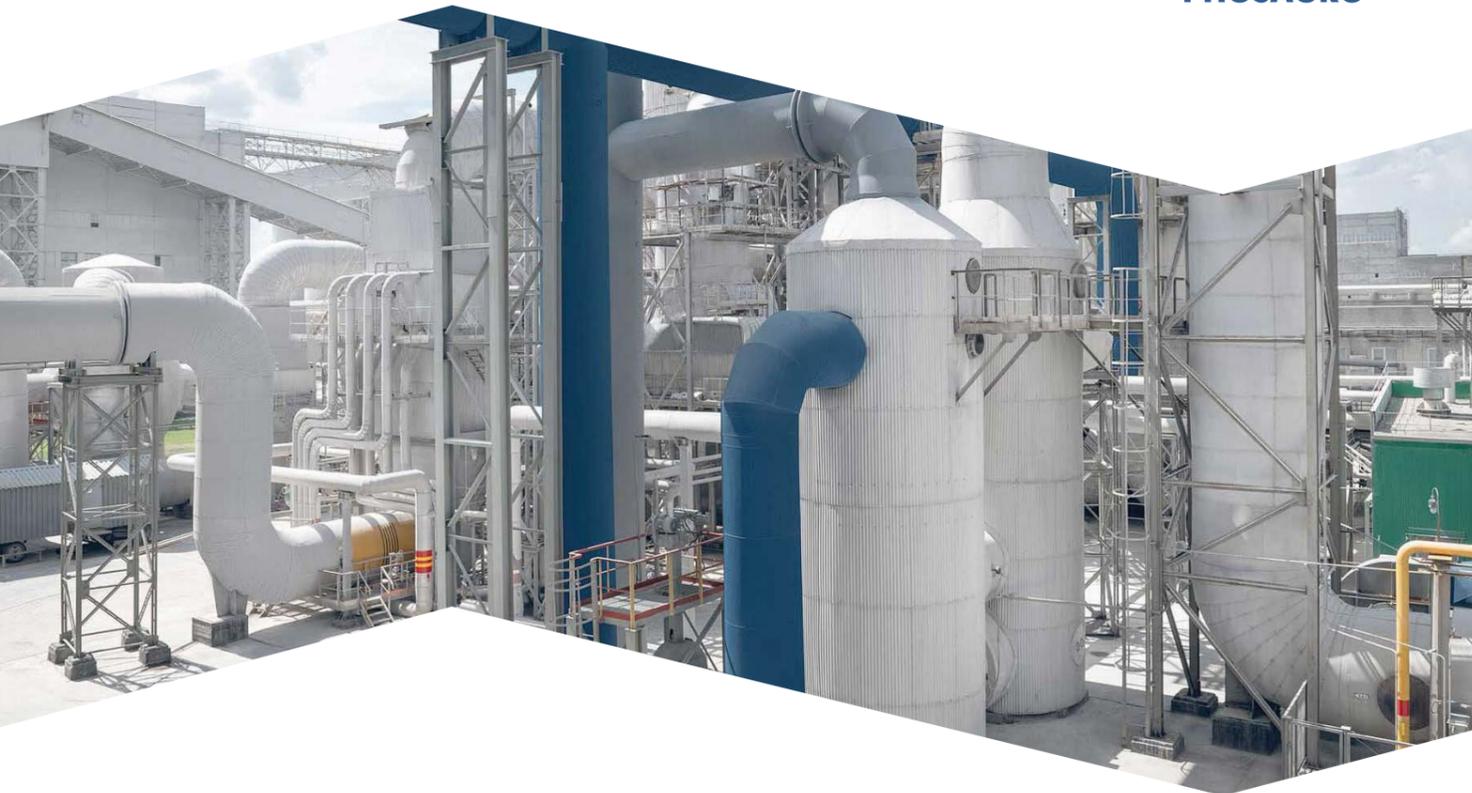
ALROSA is a Russian-based group of diamond mining companies, which is the world leader in the amount of diamond extraction. As of 2016, the share of ALROSA in world diamond production exceeded 29%. The company accounts for 95% of all diamonds mined in Russia. The company's core region being Yakutia, it also has mining assets in the vicinity of the city of Arkhangelsk. In terms of ALROSA's corporate philosophy, the company's sustainability relies on the implementation of corporate social responsibility (CSR) measures. Such key measures aim

at the environmental impact mitigation, the responsible use of mineral resources, and the protection of the environment. The company invests heavily in environmental protection measures. For instance, in 2016, ALROSA spent over \$ 80 million for these purposes. It is the company's practice to provide financial assistance to social institutions, local communities and municipalities. In addition, ALROSA offers various forms of support to the indigenous peoples of the North.

PhosAgro



Gazprom



#9

in Polar Index



Russia



Established: 2001
Turnover: \$ 3.8 billion
Net profit: \$ 763 million
EBITDA: \$ 1.2 billion

#10

in Polar Index



Russia



Established: 1990
Turnover: \$ 126 billion
Net profit: \$ 21.4 billion
EBITDA: \$ 36.5 billion

PhosAgro is a Russian vertically integrated company. It is the largest producer of phosphate fertilizers in Europe, as well as the world's biggest manufacturer of apatite concentrate, a high grade phosphate rock used for the production of phosphate-based fertilizers. One of the company's key assets, the Apatit mining and refining facility, is located in Kirovsk, Murmansk region. The company takes steps to ensure

a high level of environmental and industrial safety. PhosAgro, together with UNESCO and the International Union of Pure and Applied Chemistry (IUPAC), launched Green Chemistry for Life, a project aimed at developing relevant safety technologies. As part of the project, the company funds research in such fields as environment and health, food, energy efficiency, and sustainable use of natural resources.

A Russian-based multinational energy company. It is focused on geological exploration, production, transportation, storage, processing and sales of gas, gas condensate and oil, sales of gas as a vehicle fuel, as well as generation and marketing of heat and electric power. The Company's share in the global and Russian gas reserves amounts to 16% and 71% respectively. Gazprom also accounts for 12% of the global and 69% of domestic gas production. The Company owns the world's largest gas trans-

mission system with a total length of 172.6 thousand kilometers. Some of the key Gazprom's gas sites are located in the Arctic, on the Yamal Peninsula, where the company is launching a new gas production center based on the Bovanenkovskoye gas field with a projected output of some 360 billion m³ per year. The company regards the Arctic shelf as an area of special interest, investing heavily into geological exploration there.

POLAR INDEX TEAM



The Project Office for Arctic Development (PORA) Expert Center is a Russia-wide platform for communication between government, public, and business entities interested in sustainable development in the Arctic. The PORA Expert Center's mission is to raise public awareness of social, economic and environmental aspects of human activities in the Russian North.

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Alexander Stotskiy

PORA Program Coordinator
Andrei Ivanov

PORA expert, Ph.D. (Chemistry)
Alexander Vorotnikov

PORA expert
Andrei Dementiev



The Environmental Economics Department was established in 1979 as part of the Economics Faculty at the Lomonosov Moscow State University to replace the Environmental Economics Laboratory founded in 1971 by T.S. Khachaturov, Member of the Academy. The Department is the Russia's leading think tank in the field of environmental protection and stewardship at the global and regional scale. The research by the Department played a major role in introducing the concept of sustainable development in Russia.

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