

Environment



In 2017, the Company completed the first stage of its environmental programme, with Talnakh Concentrator reaching the design processing capacity and recovery rates. According to our estimates, in 2017, given the Nickel Plant shutdown in 2016, the total sulphur dioxide emissions reduced by 5% across Polar Division and by 30–35% within the city of Norilsk. Last year we announced the launch of the second stage of our environmental programme, which includes the Sulphur Project in Norilsk and optimisation of the smelting capacity at Kola MMC. As a result, we plan to cut the sulphur dioxide emissions by 75% in Norilsk by 2023 and by 50% at Kola MMC as soon as in 2019”.

Sergey Dyachenko

First Vice President and Chief Operating Officer of Nornickel



2017 MILESTONES

Nornickel successfully passed an independent recertification audit of its Corporate Integrated Quality and Environmental Management System (CIMS). The auditors of Bureau Veritas Certification confirmed CISM compliance with the ISO 14001:2015 and ISO 9001:2015 requirements and praised its strengths.

Kola MMC completed a project designed to dispose of saline effluent from nickel refining operations in Monchegorsk preventing liquid nickel production waste from polluting the environment.

As 2017 marked the Year of Environment in Russia and 100th Anniversary of the Russian Nature Reserves, Nornickel launched Let's Do It, an environmental marathon organised across the Company's footprint as a corporate volunteering project.

At the end of 2017, Nornickel's Polar Division completed a project to redirect emissions from slag and matte mixers and other aspiration gases from low-height sources to Copper Plant's flue-gas stack DT-1. This created better conditions for the dispersion of emissions and reduced ground-level concentrations of pollutants in the residential area of Norilsk.

Nornickel's management team considers environmental protection an integral part of the production process. The Company complies with the applicable laws and international agreements and is committed to reducing emissions, on a phased basis, and sustainable use of natural resources.

Nornickel's environmental policy focuses on the following priorities:

- phased reduction of pollutant air emissions, primarily sulphur dioxide and solids;
- consistent reduction of wastewater discharges into water bodies;
- development of waste disposal sites to reduce human impact on the environment;
- zero pollution in maritime cargo transportation and vessel operation;
- sustainable use of natural resources and introduction of eco-friendly technologies;
- involvement with environmental public-private partnership projects;
- conserving biodiversity across geographies of our production operations.

Environmental Management System

In 2017, the environmental management system (EMS) continued to operate as part of the Corporate Integrated Quality and Environmental Management System (CIMS). This enabled the Company to harmonise environmental and quality management initiatives with the operations of other functions (such as production management, finance, health and safety). With this approach, the Company is better fit to streamline its environmental efforts and enhance overall performance.

With the EMS, Nornickel benefits from:

- secured priority funding for environmental initiatives;
- higher environmental awareness among employees;
- better public perception;
- stronger competitive edge in the domestic and international markets;
- demonstrating a global standard of environmental compliance to customers and other stakeholders, and winning the trust of customers who require the supplier to have an effective EMS;
- additional opportunities for recognition in the international context and in global markets;
- improved investment case.

Nornickel's management team considers environmental protection an integral part of the production process.

–30%

reduction of sulfur dioxide emissions within the city of Norilsk in 2017

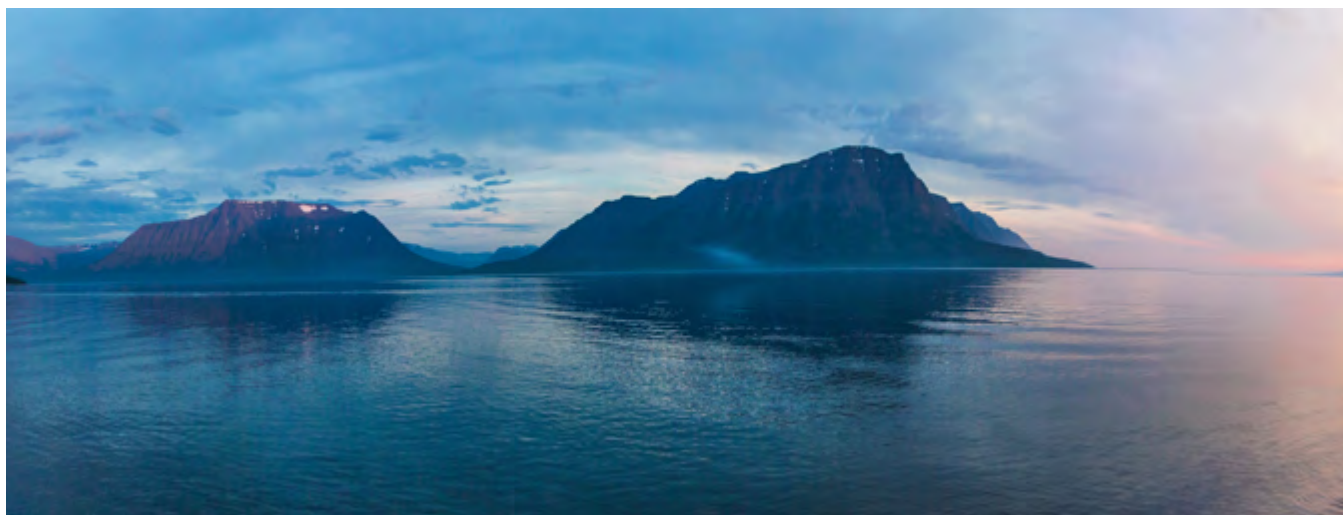
Throughout 2017, the Company carried out internal audits as part of the CIMS. In line with international standards and Norilsk Nickel's by-laws, internal audits were conducted by specially trained and competent personnel:

- 18 EMS internal audits were held at the Company's Head Office (as part of the CIMS internal audits);
- 66 internal audits were held at Polar Division, Polar Transport Division and Murmansk Transport Division (17, 25 and 24 audits, respectively);
- 40 EMS internal audits were held at Kola MMC (as part of the CIMS internal audits).

To confirm compliance of the EMS with ISO 14001, the Company engages Bureau Veritas Certification (BVC) to conduct surveillance audits once a year and recertification audits once every three years. In November 2017, an EMS recertification audit was held as part of the CIMS at the Company's Head Office in Moscow, Polar Division's production sites in Norilsk, Polar Transport Division (Dudinka) and Murmansk Transport Divisions (Murmansk).

18 EMS internal audits

were held at the Company's Head Office in 2017



The audit confirmed that MMC Norilsk Nickel's EMS complies with ISO14001:2015 (Compliance Certificate No. RU228136 QE-U of 4 December 2017). Based on the audit findings, BVC issued recommendations on potential improvement areas and highlighted the overall strengths of the Company's EMS.

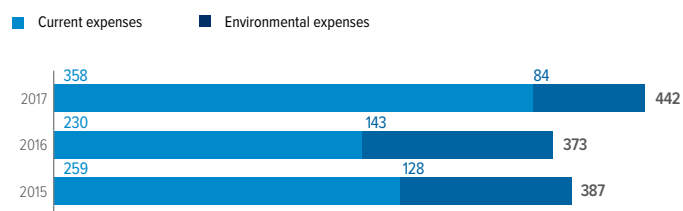
In 2017, the EMS operated in accordance with the new version of ISO 14001:2015. To comply with this international standard, among other things, the Company revised its Environmental Policy approved by MMC Norilsk Nickel's Board of Directors (resolution No. GMK/33-pr-sd of 5 October 2017).

In line with ISO 14001 and principles of environmental openness and transparency, the Company cooperates with the legislative and executive authorities, control and supervision agencies, international and public organisations, mass media, shareholders, investors, local communities and other stakeholders.

Nornickel's environmental projects

High sulphur dioxide emissions resulting from sulphide ore smelting is one of the Company's key environmental issues. Nornickel's strategic plan is to transform the Company into a cleaner and environmentally safe enterprise. To this end, the Company is gradually upgrading its production capacities.

Expenses // USD mln



-5%

reduction of sulphur dioxide emissions across Polar Division in 2017

-75%

reduction of sulphur dioxide emissions in the Polar Division as a result of the Sulphur project by 2023

Key environmental projects:

- Nickel Plant shutdown (completed in 2016);
- Sulphur Project (to be completed by 2023);
- transition to a concentrate briquetting technology (completed in 2017) and retrofit of the Zapolyarny Concentrator (to be completed by 2019).

Nickel Plant shutdown: what does it mean for the environment?

The shutdown of Nickel Plant and transfer of all nickel smelting operations to Nadezhda Metallurgical Plant helped to upgrade the production chain and improve environmental situation in the city as a result of:

- discontinued emissions of air pollutants (approximately 370 ktpa);
- eliminating 600 sources of air pollution, of which 458 had no purification facilities;
- closure of two wastewater discharge points previously discharging approximately 37 kt of pollutants per annum;
- discontinued generation of ca. 1,400 kt of production waste, including coal processing products, metallurgical slag, and ferrous cake;
- transfer of smelting emissions from Nickel Plant to Nadezhda Metallurgical Plant, that is 7 km farther away from the residential area;
- 30% less exposure time as compared to how long the air of Norilsk was exposed to Nickel Plant emissions (approximately 265 hours in the course of 73 days (based on 2015 data)).

Sulphur Project

Sulphur project is an umbrella term of the second stage of Nor Nickel's environmental programme designed to reduce the total volume of sulphur dioxide emissions at Polar Division by 75% down to

337 ktpa by 2023. This will guarantee that Norilsk air meets the air quality requirements regardless of wind speed or direction.

As part of this project, Nadezhda Metallurgical Plant is going to see construction of installations for capturing sulphur-rich gases and production of sulphuric acid (with subsequent neutralisation with natural limestone and production of gypsum), as well as principally new continuous copper matte converting facilities built, whose emissions will also be used for sulphuric acid production.

At Copper Plant, additional capacities for elemental sulphur production are expected to be commissioned, while converting operations are going to be completely discontinued, which will eliminate low-height emissions of low grade converter gases that have a pronounced effect on ground level concentrations of sulphur dioxide during unfavourable weather conditions. The total capacity for recovering sulphur from gases at Copper Plant is expected to reach ca. 280 ktpa of sulphur by 2022. The total CAPEX for the Sulphur Project is estimated in the range of USD 2.5 bn.

Kola MMC

At Kola MMC, a separate action plan has been developed and partially implemented to reduce sulphur dioxide emissions from smelting operations at the Nickel site by upgrading the equipment (reconstruction of feeding and sealing systems of ore-thermal furnaces, gas duct replacement, preparation of furnace charge for smelting, etc.) and lowering smelting shop utilisation while selling part of the concentrate to third parties. This project is expected to reduce sulphur dioxide emissions down to 40 ktpa by 2019.

–9%

reduction of sulphur dioxide emissions across Kola MMC in 2017

–40 ktpa

reduction of sulphur dioxide emissions in the Kola MMC by 2019

Environmental impact across Norilsk Nickel's Russian operations



Air

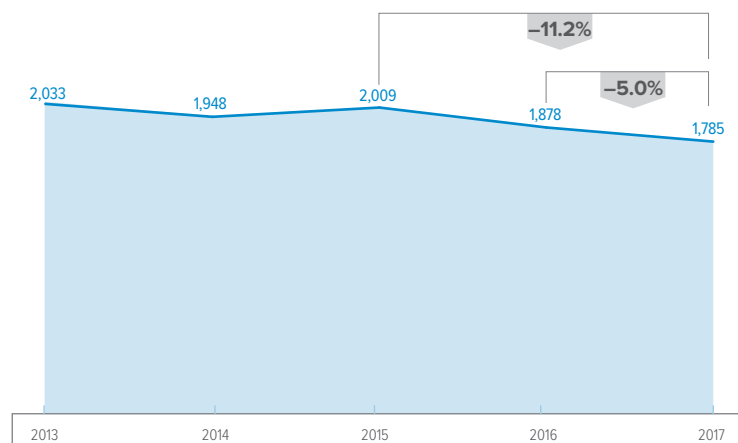
Air pollutant emissions across the Group // kt

Item	2015	2016	2017
Amount of pollutants, across the Group, including:	2,063.5	1,936.4	1,846.8
Sulphur dioxide (SO ₂)	2,009.1	1,878.0	1,785.0
Nitrogen oxide (NO _x)	9.8	10.1	11.5
Solids	20.7	14.3	14.0
Other	23.9	34.1	36.3
Amount of pollutants, total for Polar Division, including:	1,883.2	1,787.6	1,705.0
Sulphur dioxide (SO ₂)	1,853.9	1,758.2	1,675.9
Nitrogen oxide (NO _x)	1.6	1.5	1.6
Solids	9.0	6.2	6.1
Other	18.7	21.7	21.5
Amount of pollutants, total for Kola MMC, including:	169.8	132.9	121.9
Sulphur dioxide (SO ₂)	155.1	119.7	109.1
Nitrogen oxide (NO _x)	1.2	1.1	1.2
Solids	10.6	7.4	6.9
Other	2.9	4.7	4.7
Amount of pollutants, total for other branches and subsidiaries, including:	10.5	16.0	19.9
Sulphur dioxide (SO ₂)	0.1	0.1	0.1
Nitrogen oxide (NO _x)	7.0	7.5	8.7
Solids	1.1	0.7	1.1
Other	2.2	7.7	10.0

In 2017, gross emissions of Norilsk Nickel's Russian operations exceeded 1,847 kt, which is 90 kt lower than in 2016 (−4.6% y-o-y). The reduction was due to lower sulphur dioxide emissions (down 5.0%) primarily resulting from the liquidated emission sources at Nickel Plant and discontinued pellet production at the pelletisation and roasting section of Kola MMC's Zapolyarny site and other initiatives.

With the launch of a unit to produce sulphite/bisulphite reagents in 2017, the Company is now able to produce this reagent at a new facility using state-of-the-art technologies. Besides, recycling of off-gases helped to reduce sulphur dioxide emissions by another 11.5 ktpa.

Sulphur dioxide emissions // kt



In 2017, gross emissions of harmful pollutants in general across Polar Division have dropped by 82.6 kt (down 4.6% y-o-y) mostly as a result of a reduction in sulphur dioxide emissions by 82.3 kt (down 4.7%). Lower sulphur dioxide emissions are attributable to the shutdown of Nickel Plant and migration of smelting operations to modern technologies of Nadezhda Metallurgical Plant.

Analysis of actual emissions for 2017 demonstrated that pollutant emissions at Polar Division as a whole are 160,998 kt (down 8.6%) below the permitted level (with NO rebased to NO₂), including sulphur dioxide emissions that are below the statutory maximum as temporarily approved at 149 kt (down 8.2%).

In 2017, further steps were taken to reduce air emissions with a view to gradually achieving maximum permissible emission rates. The sulphur projects rolled out at Copper Plant and Nadezhda Metallurgical Plant are at different completion stages.

For more details, please see [Key investment projects](#).

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At Kola MMC's Zapolyarny site, a cold briquetting technology was introduced in recent years instead of pellet roasting. Two new briquetting lines are now in operation, and the briquetting technology is being fine-tuned to meet the required quality standards. Sulphur dioxide emissions generated by the production processes reduced from 4.8 kt in 2016 to 1.6 kt in 2017.

In Monchegorsk, we are implementing the project – Electrowinning of Chlorine Dissolved Tube Furnace Nickel Powder for the Production Volume of 145 ktpa of Electrolytic Nickel. The project includes reconstruction of cathode nickel facilities in the tank-house to replace the existing electrorefining technology (using soluble anodes) with electrowinning of nickel from chlorine solutions. The new technology will help to reduce air emissions thanks to elimination of anode smelting.

Nornickel has completed its project to produce 3,000 t of electrolytic cobalt fully replacing flame-synthesised cobalt production at the shut down Nickel Plant in Norilsk.

In 2017, gross pollutant emissions from Kola MMC amounted to 121.9 kt, which is 11 kt lower than in 2016 (down 8.3% y-o-y). Sulphur dioxide emissions also reduced by almost 11 kt (down 8.9%), as well

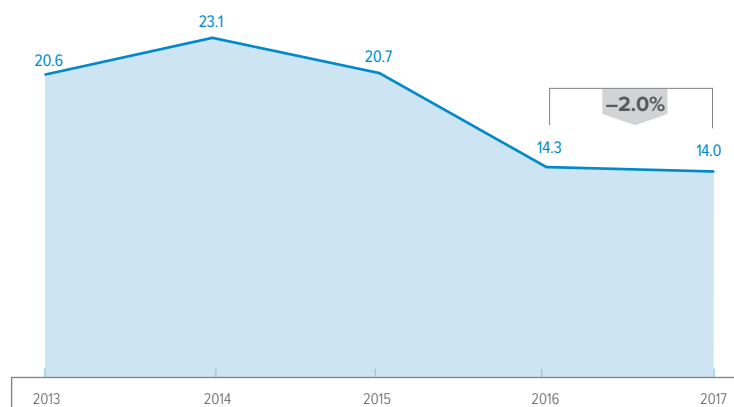
as solid (dust) emissions dropping by 480 t (down 6.5%). Lower pollutant emissions as compared to 2016 are attributable mainly to the discontinued pellet production at the Zapolyarny site, along with increased production of sulphuric acid and decreased content of sulphur in the products used for smelting purposes.

Nornickel controls emissions during unfavourable weather conditions to lower concentration of pollutants in residential areas based on timely weather forecasts. In the reporting period, a total of 182 emission control cases were held at Polar Division's metallurgical operations. To inform the local community of the environmental impact of its metallurgical operations on the quality of air in Norilsk, the Company maintains an automatic toll-free enquiry service line offering environmental forecasts for the city area to anyone dialling 007 or 420 007.

At the moment, Russian legislators are working to introduce statutory requirements for greenhouse gas (GHG) emissions reporting. The Company is monitoring all legislative developments on this front to ensure compliance with the regulations.

In accordance with the applicable guidelines and regulations, Nornickel has assessed its GHG emissions. Based on the current estimates, the Company emits around 10 mtpa of GHG¹ (10,031 kt in 2016). In addition, in 2017, the Company reported, on a voluntary basis, its GHG emissions to the Russian Ministry of Natural Resources and Environment.

Solid emissions // kt



Water

Nornickel uses a closed water circuit at its mining and metals operations. In general, 85% of all water used by the Company is recycled and reused.

All sources of water used by the Company are subject to government-approved surveillance programmes for water and water protection zones.

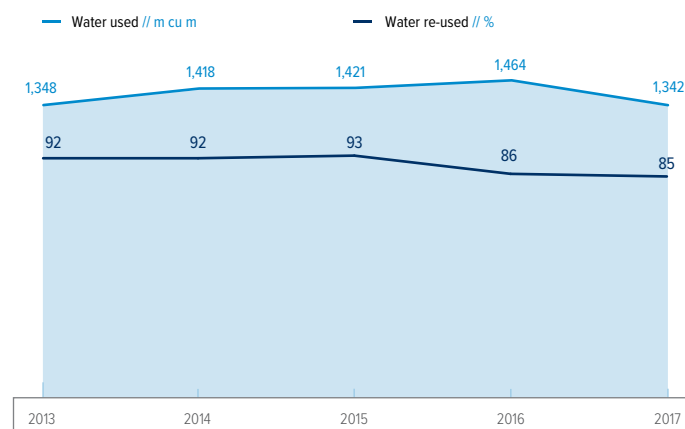
Pollutants discharged in wastewater amounted to 217 kt, which is 24 kt more than in 2016 (up 12%). The increase was caused by a natural inflow of snow melt and rain water, large-scale processing of metal-containing feedstock and ramping up of pyrometallurgical capacities at Nadezhda Metallurgical Plant after the shutdown of Nickel Plant.

In 2017, the Company continued to work on reducing discharges by gradually achieving the approved limits on the back of:

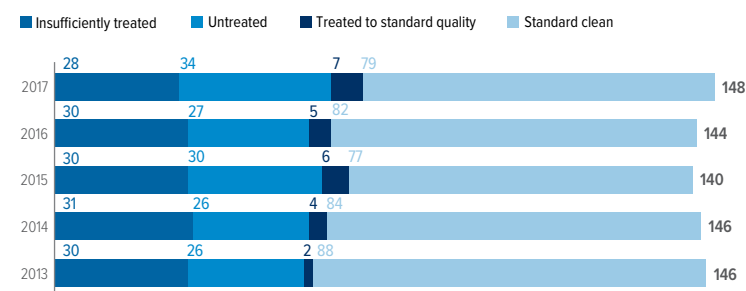
- optimised water cycle at Polar Division's concentration facilities;
- efforts made to purify production wastewater in the combined storm water collector and utility tunnel of Nadezhda Metallurgical Plant, as well as production wastewater from Lebyazhye tailings pit at Norilsk Concentrator;
- technologies developed to treat mine water at some mines;
- completion of pre-commissioning stage at the cement plant to implement a closed water circuit and local treatment facilities.

Monchegorsk site received a treatment facility for saline effluent from nickel refining operations for a more integrated treatment of industrial effluents. This technology is unique for Russia, as chemical agents, specifically boric acid, flow back to the production circuit. So the Company produces sodium sulphate and chloride instead of harmful waste. The resulting steam and condensate are then reused in the nickel tank-house to heat solutions, operate heat exchangers. At Zapolyarny site, work is in progress to design a mining water treatment plant for Severny-Globaly Mine.

Water consumption



Wastewater discharges // mln cubic meters



¹ The Group's direct GHG emissions were stated based on the earlier estimates (ca. 10 mt of CO₂ equivalent) made as part of a project to pilot the Guidelines and Instructions approved by Order of the Russian Ministry of Natural Resources No. 300 dated 30 June 2016. The quantitative estimates include carbon dioxide (CO₂) and methane (CH₄) emissions only. Pursuant to the above guidelines and instructions, reporting of other types of GHG emitted by the Company's facilities is not required. Indirect energy-related GHG emissions were not assessed by the Company. There are currently no binding legal requirements in place on reporting GHG emissions, including the indirect energy-related ones.

In 2017, Kola MMC received a treatment facility for saline effluent.



For more details on the modernization of the Kola MMC



For more details in an interview with the General Director of Kola MMC



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Production waste

Norilsk Nickel's waste management efforts seek to ensure the repeated use of waste in its production cycle along with meeting statutory waste disposal limits. In 2017, the Company generated approximately 32 mt of production and consumption waste, and around 96% of such waste is deemed virtually non-hazardous for the environment and classified as hazard class 5 waste. This is mostly waste from the mining and smelting operations (rock and overburden, tailings, and metallurgical slags). Nearly 65% of all waste generated across the Company's operations in 2017 was reused, with the rest of waste disposed of at special facilities.

For safe waste disposal, the Company completed the construction of a new tailings pit for Talnakh Concentrator, 6 km farther to the north-west of the Talnakh District. The facility was built using the most advanced technologies to reduce environmental impact.

Nornickel has designed a new waste dump for industrial waste generated by Polar Division that leverages environmentally safe technologies to

dispose of waste of hazard classes 3–5. The site selected for the waste dump is located 2 km south of Nadezhda Metallurgical Plant site, at a significant distance from the residential areas of Norilsk.

The Company continues reusing waste for preparation of compounds to fill mined-out spaces (granulated slag from melting of non-ferrous metals, overburden and hard rocks, mill tailings) and as flux for melting of metal in smelting furnaces.

In 2017, the Company's waste disposal did not exceed the limits. Waste is mostly reused in the processes related to the extraction of ore mineral resources, including crushing, backfilling of mined-out areas and pits, and construction and strengthening of tailings pits.

The Company's waste management efforts are focused on the following:

- development of waste disposal sites to reduce human impact on the environment;
- waste reuse maximisation;
- reclamation of disturbed areas;
- landscaping and improvement projects.

Waste generation by hazard class // kt

Hazard class	2016	2017
Hazard class 5	32,118.4	30,721.8
Hazard class 4	1,113.5	1,189.9
Hazard class 3	29.9	12.7
Hazard class 2	5.8	2.4
Hazard class 1	0.07	0.06
Total	33,267.7	31,926.9

Environmental impact across Norilsk Nickel's foreign operations

Norilsk Nickel Harjavalta

Norilsk Nickel Harjavalta has all the necessary environmental permits and operates a certified integrated management system that meets the requirements of ISO 9001, ISO 14001 and OHSAS 18001.

Norilsk Nickel Harjavalta's main environmental impact consists in the emissions of ammonia (NH₃) and nickel (Ni), and discharges of nickel, sulphates (SO₄²⁻) and ammonia ions (NH₄⁺). In 2017, Norilsk Nickel Harjavalta met all permit requirements for emissions, discharges and waste disposal volumes. Lower (by 1.5 kt) waste volumes are a result of switching to the Company's feedstock that is less contaminated with impurities as compared to third party materials.

Environmental impact metrics of Norilsk Nickel Harjavalta

Item	2015	2016	2017
Industrial wastewater, '000 cu m	728	771	899
Pollutants in industrial wastewater, t			
Ni	0.4	0.4	0.5
SO ₄ ²⁻	20,051	22,457	25,853
NH ₄ ⁺ (rebased to nitrogen)	36.0	49.5	60.3
Total water consumption, mln cubic meters	10.4	10	11.1
Total air pollutant emissions, t			
Ni	1.7	1.6	1.7
NH ₃	70	70	69
Waste generation, kt	16.5	7.0	5.5
Waste disposal, kt	15.7	0.8	0.8

Norilsk Nickel Nkomati

The company is required to comply with both national environmental regulations and Norilsk Nickel Group's corporate standards. Norilsk Nickel Nkomati pays close attention to environmental safety, is certified and regularly audited for compliance with ISO 14001.

The main reasons behind significantly lower consumption of fresh water in 2017 was the use of collected rain water. Waste generation reduced due to the disposal of industrial rubber items and scrap metals.

Environmental impact metrics of Norilsk Nickel Nkomati

Item	2015	2016	2017
Total water consumption, mln cubic meters	0.088	0.3327	0.0636
Waste generation, t	1,386	921	431
Waste disposal, t	634	1,611	845
Environmental expenditures, USD mln	0.57	0.42	0.27

Biodiversity conservation



2017 MILESTONES

Nornickel acquired 235,000 salmon fingerlings and released them into the Umba River together with the Basin Authority for Fisheries and Conservation of Aquatic Biological Resources (Glavrybvod). By helping to recover the population of the Atlantic salmon, the Company makes up for its environmental impact. In addition to that, Nornickel provided assistance in releasing 316,000 sturgeon fingerlings into the Yenisei River. This was the largest project on releasing valuable fish species in the Company's history.

As part of the Year of the Environment, Nornickel has signed the Cooperation Agreement with the Murmansk Region to support a number of projects in the nature park of the Rybachy and Sredny Peninsulas. The Company will allocate over RUB 7.5 mln to create nature trails and buy security equipment.

Zabaykalsky Krai Government and Nornickel signed the Cooperation Agreement to develop the Relict Oaks State Reserve located in the region. The amount of funding for the project stands at RUB 10 mln.



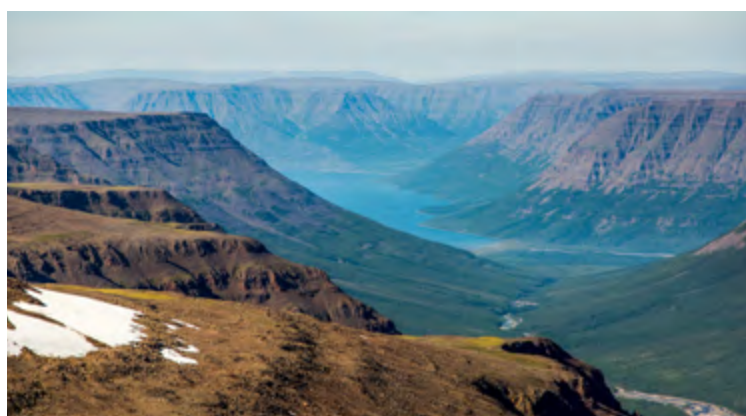
Cooperation with nature reserves

For over a decade now, Nornickel annually provided hundreds of millions of roubles to the nature reserves adjacent to the Company's production facilities on the Taimyr and Kola Peninsulas for the purpose of preserving the unique Arctic environment.

This is in line with Nornickel's strategy set to embrace green technologies in the next five years through a new investment cycle to secure sustainable development.

Kola MMC's sites are only 10–15 km away from the Pasvik and the Lapland Nature Reserves (Murmansk Region). The Company's Polar Division is located some 80–100 km away from the buffer zone of the Putoransky Reserve (Krasnoyarsk Territory).

Experts keep monitoring the environmental impact of Nornickel's production sites on the nature reserves' ecosystems. Long-term observation results show that environmental conditions are improving each year. "Scientists report growing populations of plants and animals along with the emergence of new species," said Alexander Tyukin, head of Kola MMC's R&D and Environmental Safety Department. – We have just discovered a rare plant species, a northern orchid that has not been seen since 2005. It speaks for itself."



Nornickel annually provided hundreds of millions of roubles to the nature reserves.



In 2017, the Putoransky State Nature Reserve kept implementing projects selected under Nor Nickel's World of New Opportunities charitable programme.

Save the Bighorn Together

An ambitious programme to protect the endangered species of the bighorn found in the Putorana Plateau only and listed on Russia's Red Data Book. The Company provides funding for volunteer training at the Surveillance School, ground research to collect data on the bighorn population, and Putorany. Bighorn. People festival of friends. The project's funding totals some USD 86,000 (RUB 4.99 mln).

Norilsk Lakes to Norilsk People

Norilsk Lakes to Norilsk People project implemented since 2013 seeks to preserve the Big Norilsk Lakes, a unique ecosystem of subarctic mountains. During that time, Nor Nickel provided funding for the recreational fisheries in the upper part of the Pyasina River basin, tourist and trekking infrastructure, construction of a camping station at Lama Lake and a base station at Sobachye Lake. In 2017, as part of the project, the Company allocated over USD 17,000 (around RUB 1 mln) to finance an environmental and educational summer camp at Lake Lama for students of the volunteer school.



The Pasvik Nature Reserve is home to rare species listed on the international and Russia's Red Data Books. Since 2006, as part of the contract signed with Kola MMC, the Pasvik Nature Reserve has been carrying out an ecological assessment of the natural environment in the area of Pechenganickel Plant (Zapolyarny, Nickel and their suburbs, including the Pasvik State Nature Reserve), and developing a long-term environmental monitoring programme.

Nornickel supports scientific research carried out by the nature reserve, its efforts to protect natural and cultural heritage, promote tourism and environmental education. The Company helps establish an international natural historical open-air museum on the Varlam island. Nornickel sponsored the book called The Varlam Island – the Pearl of Pasvik.

Key projects of the Paskvik Nature Reserve supported by Nornickel

Visitor centre for tourists and researchers

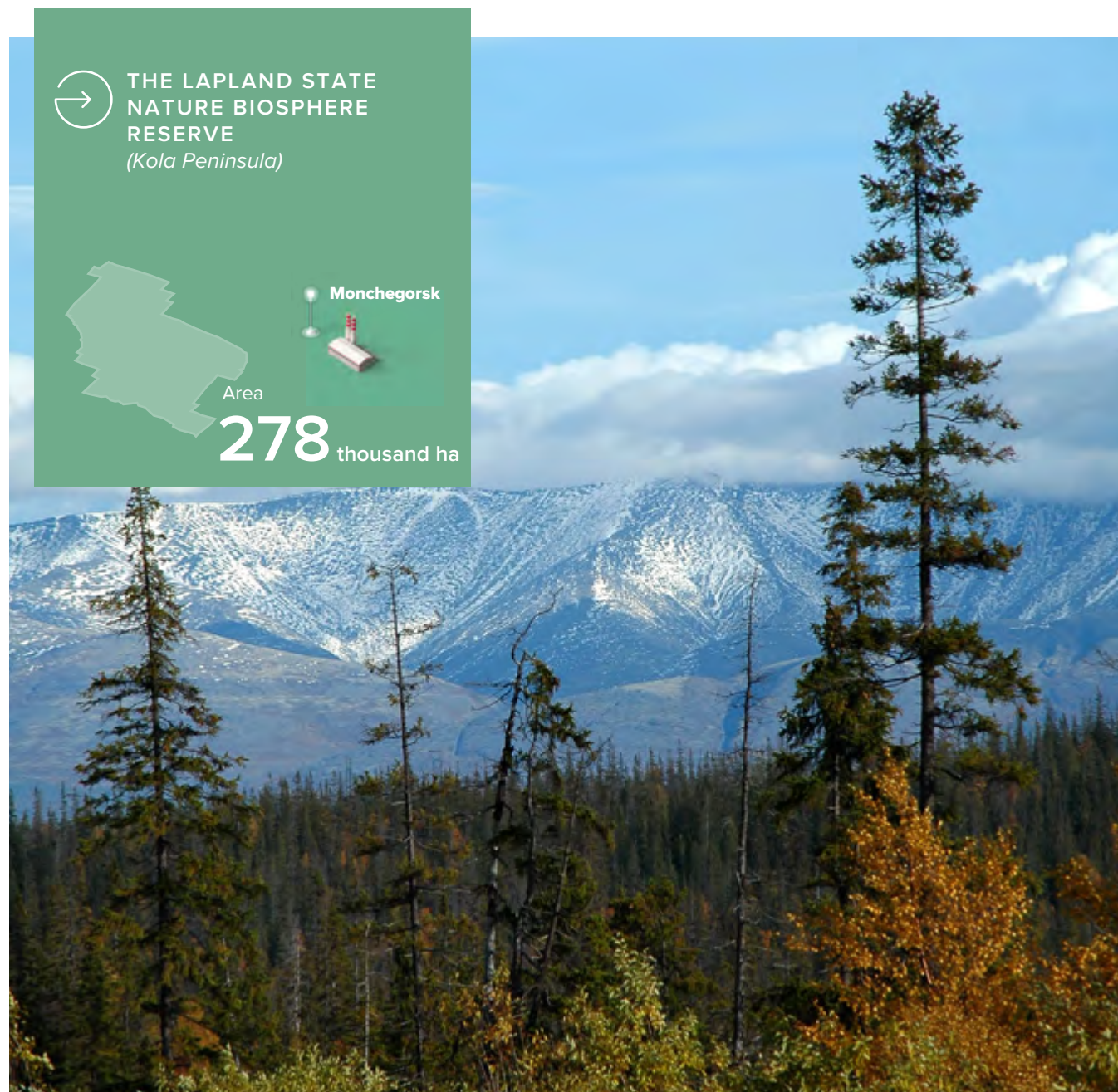
The visitor centre of the Pasvik Reserve featuring a permanent environmental exposition was officially opened in January 2017 in the settlement of Nickel, Pechengsky District. The visitor centre hosts ecological seminars and conferences, serving as a modern platform for discussing international cooperation issues. In 2011–2016, the Company allocated over USD 1.3 mln (RUB 77 mln) to the project. The visitor centre currently hosts ecological lessons for schoolchildren, exhibitions, lectures, discussions, and forums of various international organisations.

Young scientist training course

Over the last ten years, the reserve serves as a base for a summer camp for schoolchildren involved in various research projects (study of soil and water composition, bird ringing, etc.). The project's annual funding is over USD 17,000 (some RUB 1 mln).

[For more details on other projects of World of New Opportunities programme](#)

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The Lapland State Nature Biosphere Reserve is one of the largest protected areas in Europe covering 278,000 ha. Established to save the wild reindeer from extinction, it now boasts over 1,000 reindeer, the largest reindeer herd in the Northern Europe. The European beaver population has also been successfully restored. Since 2002, the Lapland Biosphere Reserve has entered into contracts to reclaim disturbed natural environment in the areas affected by multi-year emissions from Severonickel Plant, and monitor areas adjacent to Monchegorsk

site and the Lapland Biosphere Reserve. The data obtained during a scientific research provided a basis for the subsequent contractual work to reclaim disturbed lands, and bring about sanitary and fire protection improvements in the forest areas. The Company also provided financial aid for the Lapland Biosphere Reserve to make a new nature trail and publish books about Oleg Semyonov-Tyan-Shansky and Herman Kreps, the reserve founders. In 2017, the total funding of the nature reserve projects exceeded USD 195,000 (RUB 11.4 mln).

Environmental recovery programmes

Aquatic bioresources

In 2017, to compensate for the damage done to water bodies of the Yenisey River during the implementation of the Talnakh Concentrator upgrade and retrofit project and sand production at the Seredysh Island deposit, the Company grew and released over 316,000 Siberian sturgeon fingerlings into the Yenisey River. To compensate for damage to water bodies during the construction of a transfer terminal in Murmansk, in 2017, Nor Nickel released over 235,000 salmon fingerlings into the Northern Fishery Basin.

Landscaping

In 2017, Nor Nickel launched a pilot project utilising new landscaping technologies to establish sustainable grass cover in the disturbed areas. Perennial grasses and mixed grass crops were planted on the experimental 1 ha land plot close to Nadezhda Metallurgical Plant using a hydroseeding technology and complex additives adapted to northern conditions. The project's financing amounted to some USD 43,000 (RUB 2.5 mln).

Hydroseeding has a number of advantages over traditional planting method, namely quick landscaping and the possibility to cover remote locations, which is especially useful for slopes and hard-to-reach areas. Grass can be sown on virtually any surface featuring a difficult terrain. Experiments proved successful even for such technogenic surfaces as slag and concrete.

The Company regularly allocates funds for landscaping in the regions of operation. Since 2003, Kola MMC, upon recommendation from the nature reserves, has rehabilitated 100 ha of area in Monchegorsk, Zapolyarny towns and Nickel settlement. Kola MMC has had approximately one million trees and bushes planted, including

a pilot project to restore damaged land adjacent to the Company's site together with the Kola Science Centre of the Russian Academy of Sciences. In 2017, the value of the contract signed with the Lapland Biosphere Reserve was some USD 60,000 (RUB 3.5 mln).

In summer 2017, the Company joined in the Norilsk municipal authorities' effort to revamp the city's public spaces doing some urban greening and sanitary improvements. The Company also contributed to the roadside clean-up, water body protection, waterfront landscaping and facelift of several camping sites.

Sanitary clean-up

In 2017, Nor Nickel carried out a clean-up, land improvement, revamp of warehouses, and improvement of territories assigned to the Company by the order of the Dudinka Administration. Nor Nickel also carried out post-flooding recovery to clean the coasts and water protection zones along the water bodies.

Environmental education

Other environmental developments in 2016 included the Ecological Marathon launched by the Company in Norilsk as part of its Plant of Goodness corporate volunteer programme.

In 2017, Norilsk Nickel's total expenditure in this area exceeded USD 7,000. The Company's volunteer teams polled over 900 respondents about their ecological habits, produced about 50 items from recycled materials, designed 26 environmental education posters, implemented clean-up initiatives in the tundra and Dolgoye Lake, and ran a campaign to care about trees planted in 2016 at the Zapolyarnik stadium. Twelve nest boxes were put up on trees during the trip to Lake Lama.

Intermediate energy consumption by the Group

Indicator	2015	2015, %	2016	2016, %	2017	2017, %
Electric power, TJ, including:	42,943	56	32,530	50	32,355	52
<i>Electric power generated by the Company's enterprises from renewable energy sources (HPPs), TJ</i>	<i>17,027</i>	<i>40</i>	<i>11,856</i>	<i>36</i>	<i>12,175</i>	<i>38</i>
Heating and cooling energy, TJ	25,721	33	29,888	46	24,101	39
Steam, low-grade heat, TJ	8,692	11	2,803	4	5,507	9
Total	77,356	100	65,221	100	61,963	100

In October 2017, Nor Nickel initiated a seminar for citizens on environmental volunteering under the Plant of Goodness programme. The seminar provided valuable ideas on how to plan an environmental campaign, gain investor support and join volunteering events.

Energy efficiency

Nor Nickel's major production assets are located beyond the Arctic Circle where the winter lasts eight months a year. It is therefore critical for the Group to ensure reliable and high-quality power supply to its enterprises and population in the regions where it operates.

In 2017, the Company implemented a number of organisational arrangements and upgrades of its key power equipment as part of the Energy Saving and Energy Efficiency Programme.

These initiatives helped achieve savings of 100,116 tonnes of reference fuel (units) for CHPPs, 44.867 mln kWh of electricity for internal needs and 177,732 Gcal of heat against the targets.

In 2017, per unit fuel consumption at CHPPs decreased to 281.4 g/kWh, down by 13.9 g/kWh against the annual budget targets, 27.7 g/kWh vs 2016 and 9.7 g/kWh vs 2015.

Gas producers saved 17.574 mln cubic meters of natural gas in 2017 by cutting gas consumption for own technological needs and reducing technological losses during transportation.

The Company also generates electric power from renewable energy sources at NTEK's Ust-Khantayskaya and Kureyskaya HPPs (installed capacity of 441 MW and 600 MW, respectively).

In 2017, the share of renewable energy stood at 38% for Nor Nickel and 44% for its Polar Division.

In 2018–2020, the Company will continue to renovate and upgrade the main power equipment and transmission devices along with waste water treatment systems.

38%

the share of renewable energy
in 2017

Energy consumption by Norilsk Nickel¹

Type of energy resource	2016		2017	
	Consumption in volume terms	Consumption, RUB '000	Consumption in volume terms	Consumption, RUB '000
Heat power, Gcal	5,587,849	4,702,584	4,737,249	4,393,019
Electric power, thousand kWh	5,158,974	5,272,779	4,489,188	4,854,566
Motor fuel, t	344	17,797	268	15,348
Diesel fuel, t	58,671	2,657,599	52,684	2,730,795
Heating oil, t	40,479	582,489	40,360	566,985
Natural gas, thousand cubic meters	545,712	1,363,718	497,141	1,458,756
Coal, t	49,760	20,612	17,359	4,204
Kerosene and aviation fuel, t	115	5,008	124	6,122

¹ No other types of energy resources were used besides those specified in the table

Financial overview (MD&A)



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In 2017, Nornickel delivered excellent financial results, with revenue increasing by 11% to USD 9 bn and EBITDA margin holding at 44%, one of the best results among global mining peers. On top of that, we succeeded in significantly improving the Company's debt profile and raising debt financing at record low interest rates, which will help us save over USD 150 mln per annum in interest expenses.

In 2017, we launched highly ambitious programmes to improve labour productivity. Furthermore, automation of our IT and production processes continues at a fast pace, while all the support functions are currently being transferred to and consolidated under the Shared Services Centre in Saratov. Also, we commissioned a fibre optic communication line in Norilsk, which will enable us to smoothly implement SAP ERP systems, while also providing the city's residents with access to high-speed internet.

In 2018, we plan to release over USD 1 bn of our working capital and reduce our leverage (net debt to EBITDA ratio) to below 1.5x by the year-end. We also confirm our CAPEX guidance at ca. RUB 2 bn, including USD 200 mln of investments to complete the construction of Bystrinsky GOK.”

Sergey Malyshev

The Company's Senior Vice President and Chief Financial Officer



2017 Highlights

- **Consolidated revenue** increased 11% y-o-y to USD 9.1 billion on the back of higher realized metal prices;
- **EBITDA** was up 2% y-o-y to a robust USD 4 billion owing to higher metal revenue that was partly negatively offset by RUB appreciation against USD, one-off increase in social-related expenses and accumulation of palladium stock to deliver under the 2018 contracts;
- **EBITDA margin** amounted to an industry-leading level of 44%;
- **CAPEX** increased by 17% y-o-y to USD 2 billion as Bystrinsky copper project (Chita) was in its final construction stage and the Bystrinsky concentrator was launched into hot commissioning at the end of 2017, while the upgrade of nickel refining facilities at Kola entered into active construction;
- Reported **net debt/EBITDA ratio** increased to 2.1x as of the end of 2017 driven mostly by the payment of dividend for 2016 and interim dividend for 2017 and one-off increase of working capital;
- **Net debt/EBITDA ratio** for the purposes of calculating final dividend for 2017 amounted to 1.88x;
- **Major refinancing activities** were completed in 2017, with new funding raised at record low interest rates, enabling a reduction of interest cost by over USD 150 million;
- In October 2017, **the Company paid interim dividend** for 1H2017 in the amount of RUB 224.2 per ordinary share (approximately USD 3.8 per ADR);
- In December 2017, **Nornickel signed a 5-year USD 2.5 billion syndicated facility agreement** with a group of international banks at Libor +1.5%.



Recent Developments

On January 30, 2018 Moody's rating agency has raised Nornickel credit rating to the investment grade level “Baa3” and changed the outlook from “Stable” to “Positive”. Therefore, Nornickel currently has investment grade credit ratings from all three international rating agencies Fitch, Moody's and S&P Global.