

# Corporate responsibility

## HR and social policy



### 2017 MILESTONE

In its rating HeadHunter recognised Nornickel as Russia's top employer in the metals and mining industry. This high ranking came as a result of the Company's efforts to build a strong team of professionals.

On top of that, MMC Norilsk Nickel was named the fourth most popular employer with job seekers.

### Strategic focus

One of the Company's focus areas is to nurture corporate culture aimed at boosting employee performance and commitment to delivering against targets.

We view our people as the Company's key asset and keep investing in their professional and personal development to make sure we are on track with the accomplishment of our mission.

To further increase the efficiency of the corporate culture development programme, we integrated our values into the key HR management processes:

- recruitment (we used values to set targets and train the managers and HR staff in job interviewing);
- assessment (we launched a 360-degree review for top executives involved in value-based management);
- development (we developed an Our values training module, Program of the Workshop on the Application of the White Paper<sup>1</sup> and conducted a number of value assignment business games and a hands-on training session in Value-Based Management);
- succession planning (we aligned the training programme with our values).



Our key value is reliability. Throughout the Company's history, we have delivered on our commitments in production and social areas. Today, Nornickel is working hard to develop social infrastructure and digital economy, provide support to indigenous peoples and national minorities of the North, and markedly improve the environment across its footprint – from Taimyr to the Kola Peninsula and Zabaykalsky Krai. We joined forces with local authorities and communities to support the volunteer movement, provide grants to socially important projects, and aide charitable foundations, sports organisations and artistic associations. Over the last years, the unique expertise and know-how we have acquired have gained wide recognition from the Russian expert community. I hope that this annual report will help us share this experience with the industry and contribute to the enhancement of best domestic practices in corporate social responsibility<sup>1</sup>.

#### Larisa Zelkova

Senior Vice President for HR, Social Policy and Public Relations

<sup>1</sup> The White Paper is a corporate publication that tells us what kind of culture we are building; what our common values are and what do they mean; how we achieve our goals. It is a desk assistant to the Company's management, a basic guide to corporate culture, a collection of techniques and practices, motivating examples.

In 2017, more than 3,500 managers, specialists and workers from the Group's 60 facilities took part in the corporate culture development training sessions and forums designed and organised by the Social Policy Department. The Company established working groups to develop and roll out business initiatives on improving systems and processes. In 2018, the programmes are set to have a wider coverage.

In the reporting year, the Company launched a series of personnel engagement management initiatives, which included:

- providing employees with an opportunity to maintain an ongoing dialogue with the management;
- assessing the staff motivation to achieve targets and approving changes in the business processes and working conditions based on objective data;
- identifying tools to enhance the competitive edge in human resources and boost the Company's appeal as an employer.

Over 73,000 employees from the Company's 32 facilities and Russian subsidiaries took part in the personnel engagement survey.

Our social and HR policy prioritises social stability of the workforce deployed across the Group's companies and geography.

## Staff composition

In 2017, the Norilsk Nickel Group's average headcount totalled 78,000 people in Russia and 1,000 people abroad.

Most of the Russia-based employees (69%) work in Norilsk and the Taimyrsky Dolgano-Nenetsky Municipal District. Another 17% of the Group's Russian headcount work on the Kola Peninsula.

### Evolution of the Norilsk Nickel Group's average headcount

Region/country of operation	2015	2016	2017
Russia	81,637	81,081	77,991
Africa	1 650	586	605
Europe	307	311	326
Asia	14	13	13
North America	10	10	10
Australia	6	5	5
<b>Total</b>	<b>83,624</b>	<b>82,006</b>	<b>78,950</b>

A decrease in the average headcount in 2017 was due to the disposal of non-core assets and implementation of a programme to improve labour productivity and reduce costs.

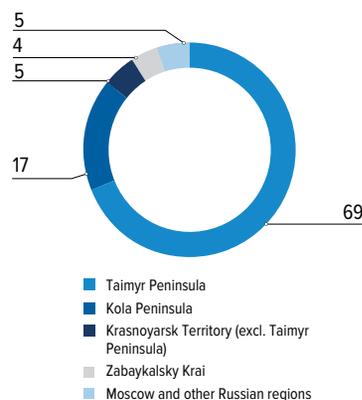
**73**  
thousand of employees

from the Company's 32 facilities and Russian subsidiaries took part in the personnel engagement survey

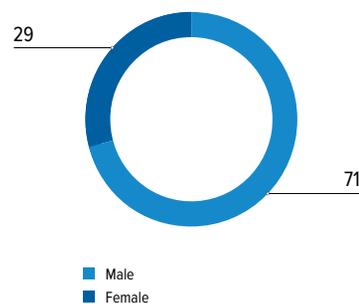


Manifesto of our values

### Headcount breakdown by Russian operations // %



### Gender breakdown across Russian operations // %



## Recruitment

In 2017, the Company focused mainly on increasing its visibility as an employer and staffing GRK Bystrinskoye.

GRK Bystrinskoye, Russia's largest mining and processing facility, successfully completed its ambitious recruitment exercise.

As part of the large-scale recruiting campaign, we informed over 9 million people from 26 Russian regions about the launch of GRK Bystrinskoye providing advice on the working conditions and available jobs. To stay in touch with the job seekers, the Company set up a dedicated toll-free hotline. In nine months, we hired 1,900 highly qualified workers, engineering service officers (ESOs) and managers.

### Partnerships with universities

To make jobs in the metals and mining industry more attractive for young people and help develop skills in personnel, Nornickel pays special attention to collaboration with Russia universities. In 2017, the Company invited 400 students from dedicated universities to take part in its Career Start-Up programme. Nornickel was the first company in the Russian mining industry to engage students and graduates in solving real business tasks.

The students obtained practical skills as part of their apprenticeship at the Company's major facilities along, while also gaining unique knowledge by taking part in the Conquerors of the North business game. In the span of two summer months, the programme participants were offered to take a hands-on training experience and compete in a multi-stage business game with a focus on team work to try and tackle some of the Company' real tasks. The Company engaged 20 of its top experts to provide mentorship support to the participants.

Nornickel places a strong emphasis on engineering education in Russia and partakes in the promotion of relevant professions among school graduates and university students. In 2017, we supported Cup MISIS Case and Cup Technical, case-solving championships among students of Russian technical universities. During the contest, students dealt with cases related to Nornickel's operations gaining insights into the Company's business processes.

### Assistance programme

Due to the remote location of MMC Norilsk Nickel's industrial sites, the Company is actively engaging employees from other Russian regions. To help them settle in faster, we launched a programme called Assistance to New Employees in Adapting to the New Place of Residence in Norilsk and the Taimyrsky Dolgano-Nenetsky Municipal District. The programme does not only target highly qualified specialists and managers, but also focuses on attracting young talents and skilled workers to fill positions on the skills shortage list. Today, the programme covers 1,715 of the Company's employees, including 267 new participants who joined in 2017. With this programme the Company seeks to provide comfortable living conditions for the invited employees and reimburse their relocation and resettlement costs.

In order to identify and recruit the best candidates to fill open vacancies and reduce staff turnover, in 2017, the Company started using the latest methods of employee evaluation and capacity assessment. Those help measure abilities and risk appetite of each individual, which are important in recruiting candidates to positions with a high level of exposure to occupational hazards. They are also helpful in obtaining information about each employee's motivating and demotivating factors. The project was first piloted at GRK Bystrinskoye where 100% of new employees (all the way up from workers to managers) were recruited following successful assessment. The Company selected candidates based on their learning curve, teamwork skills and low risk appetite, which are essential for all staff categories, from top management to workers. Experience shows that this method helps reduce onboarding time for employees and minimise occupational safety risks.

### Financing under the Assistance programme // USD mln



## Personnel development

Respect for employees and their rights lies at the heart of Nornickel's business. The protection of human rights is reflected in a number of the Company's documents, including Business Ethics Code, Personal Data Policy, Anti-Embezzlement Regulation and Human Rights Policy.

### Talent pool

In 2017, the Company continued rolling out its talent pool management system to include the process of recruiting lower and middle line managers. The relevant approaches are set out in the Talent Pool Regulation of MMC Norilsk Nickel. In 2017, the Company primarily focused on designing and implementing training and development programme for the talent pool and their mentors, with 99 mentors fully trained during the year. Also, the Company set up a new programme for the talent pool. The comprehensive training system offers a combination of classroom and online sessions to enable transition from easy-to-follow on-the-job programmes to a free choice of resources for professional development.

In 2017, the Company started assessing the capacity, current performance and development prospects of its middle and top managers, with 81 managers from Kola MMC, Pechengastroy, Norilsknickelremont and Norilsk Support Complex listed as those with a high career growth potential in 2017.

To define priority development areas for its management, at the end of 2017, the Company ran a 360-degree competency review using an updated competency model built around values and management competencies. Based on the review results and relevant feedback, each participant could choose the right path for development and select required tools and methods using a dedicated roadmap for development activities. In 2018, the training programme for the Head Office's managers will be based on their individual development plans.

In 2017, we proceeded with our project to automate talent pool management using SAP HCM. The new system will help standardise talent pool management methods across the Company's operations, consolidate relevant data into a shared database, boost efficiency and streamline approaches to talent pool building. Its other advantages include:

- reduced labour input required to collect and consolidate data and control talent pool building across our key production assets;
- reduced labour input required to timely identify and recruit candidates to fill positions with the highest priority in succession planning;
- standardised talent pool building process at Russian subsidiaries, an option to transfer the process to the shared service centre, procedure compliance control within the system;
- full and reliable information available at every stage of the talent pool building cycle;
- engagement of mentors and unit heads, streamlined talent pool assessment and data collection procedure;
- shared information environment for all stakeholders, additional feedback opportunities for employees;
- timely planning of talent pool development, increased hiring from the talent pool.

The reporting year saw the Company complete its project to assess professional competencies of managers in the Power and Mechanics functional units. As part of the assessment, 250 managers took specially designed tests that helped identify areas for their professional development.

In 2018, Nornickel will partner with Russia's leading universities and institutions to organise training for all unit managers giving them an opportunity to learn more about the cutting-edge technologies and best practices. The training programmes will enable managers to enhance their managerial and professional competencies at the leading business schools.

### The operating efficiency training

In September 2017, 55 managers embarked on the operating efficiency training at Moscow's Skolkovo School of Management. The project seeks to develop key management competencies with a focus on operating efficiency, a new approach to production management, better understanding of business and business environment, wider planning horizon, enhanced vision of the Company's prospects, analysis of the latest technologies, approaches and best practices in production management, and also their possible use and roll-out across the Group. At the end of the session, the trainees will have to come up with target strategic projects to boost operating efficiency of the Company's facilities.

### Enhancing professional excellence

With our reconfigured production cycle, modernised operations, new technologies and approaches, and a rapidly changing operational environment, we need to make sure our employees meet the new expertise, skill and competency requirements. The corporate training framework must provide employees with a quick and easy access to new knowledge, helping them master new professional skills and receive training and development support for horizontal and vertical job rotation.

In 2017, we proceeded with the diagnostics and management of professional skill development across our mining facilities, building a professional competency model for lower and middle line mine managers, defining knowledge and skills requirements for each position, and developing a set of test questions to assess professional competencies of line managers at mining facilities. This year, we will carry on with this work.

In 2017, we completed a large-scale programme to retrain over 94,600 employees of the Group, including more than 24,000 people aged below 30. Over 52,000 employees were trained in corporate training centres.

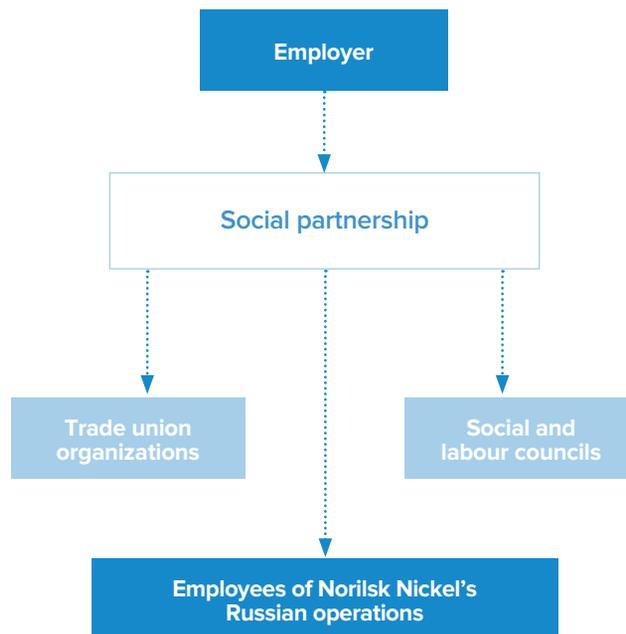
An area of special attention is the introduction of modern technologies to assist in the training of various personnel categories. In 2017, we developed interactive training in occupational safety.

### Social partnership

Russian operations of Norilsk Nickel have established a social partnership framework aimed at reconciling the interests of employees and employers on matters pertaining to the regulation of social and labour relations.

The Company meets all obligations under the Labour Code of the Russian Federation, collective bargaining agreements and joint resolutions.

### Social partnership framework



In regulating labour relations, employee interests are represented by trade unions and social and labour councils.

## Trade union organizations

Trade unions of the companies located in Norilsk and on the Taimyr Peninsula form a single Trade Union Organisation of PJSC MMC Norilsk Nickel, its Subsidiaries and Affiliates. Trade unions of the companies operating in the Murmansk Region are joined under two umbrella trade union organisations – Regional Trade Union Organisation of Kola MMC Employees and Primary Trade Union Organisation of Kola Mining and Metallurgical Company.

As at the end of 2017, 10.9% of employees engaged in Norilsk Nickel's Russian operations were members of trade union organisations.

Trade union organisations of Nornickel and its subsidiaries, Kola MMC and its subsidiaries, GRK Bystrinskoye, NordStar Airlines and Zapolyarye Health Resort are all members of the Trade Union of MMC Norilsk Nickel Employees, an interregional trade union organisation. In the reporting year, the relationship between the employer and the Trade Union was governed by the Social Partnership Agreement signed in 2014 to formalise implementation procedures for joint initiatives ensuring sustainable performance, operating and financial excellence, employee welfare, health and safety, and enhancement of social benefits.

### Membership in trade unions // %

Company	Employees enrolled in trade unions
Gipronickel Institute	15
Group's operations in the Norilsk Industrial District	8
GRK Bystrinskoye	15
Kola MMC and subsidiaries	15
NordStar Airlines	17
Zapolyarye Health Resort	30
Lesosibirsk Port	38
Yenisey River Shipping Company	55
Krasnoyarsk River Port	62

## Social and labour councils

The Group's companies located in the Norilsk Industrial District, Taimyrsky Dolgano-Nenetsky Municipal District and Murmansk Region established social and labour councils back in 2006 to represent the interests of employees who are not members of trade unions. Chairs of the local councils make up the Social and Labour Council of MMC Norilsk Nickel and the Social and Labour Council of Kola MMC. To ensure regulation of social and labour relations, negotiation, drafting and signing of collective bargaining agreements, holding of bilateral consultations, respect of the employees' labour rights and participation of employee and employer representatives in out-of-court settlements, the Russian companies of Nornickel set up the following collective decision-making bodies: collective bargaining commissions, labour dispute commissions, social benefits commissions/committees, social insurance commissions, health and safety commissions/committees, social and labour relations committees, etc.

In 2017, the share of employees represented by social and labour councils across the Norilsk Nickel Group stood at 82%.

### Collective bargaining agreements

The collective bargaining agreements of Nornickel's Russian companies comply with the applicable laws and meet the majority of employee expectations.

# 82%

of employees represented by social and labour councils across the Norilsk Nickel Group

# 11%

of employees engaged in Norilsk Nickel's Russian operations were members of trade union organisations at the end of 2017

In 2017, many of the Group's Russian companies entered into new collective bargaining agreements or extended the expired ones. Collective bargaining commissions also amended some of the agreements during the reporting year. The need to make those amendments was mostly related to adjustments in wage rates arising from legislative changes, organisational structure transformation and introduction of a new automated HR management system. One of the key changes was the review of the payroll system, which led to an increase in the fixed (guaranteed) part of the salary. The payroll adjustments were made in strict compliance with the applicable laws subject to the consent of every given employee. As a result, the Collective Bargaining Commission of MMC Norilsk Nickel reviewed old wage rates and salaries and approved the new ones which came into effect on 1 April 2017.

There were no social or labour disputes during the reporting period.

In 2017, the share of employees covered by collective bargaining agreements stood at 80%.<sup>1</sup>

## Incentive programmes

### Remuneration system

Nornickel's remuneration policy aims to:

- attract and retain employees;
- promote higher labour productivity;
- ensure administrative efficiency and streamlining;
- enforce compliance with legal requirements.

The remuneration package consists of the fixed and variable components (70% and 30%, respectively) paid based on the Company's operating performance and achievement of relevant KPIs.

The underlying principles of the remuneration policy include:

- internal equity – remuneration management based on HAY Group job description and evaluation methodology;
- external competitiveness – remuneration level determined based on the labour market data, with adjustments made for the company's focus area, business location and job grades;
- performance-based incentives – changes in the pay level subject to the annual performance assessment outcome;
- simplicity of the remuneration system – pay level calculation and review procedures are clear for every employee.

In addition to salaries, the Company's employees enjoy a variety of benefits. Reimbursements of vacation travel expenses (round trip travel expenses and baggage fees) for employees living in the Far North and their families, and provision of discounted tours for health resort treatment account for 69% of total employee benefits.

### Average monthly salary across the Group's Russian operations

Currency	2015	2016	2017
USD <sup>2</sup>	1,393	1,405	1,784
RUB '000	84.9	94.2	104.1

### Company's expenses on employee benefits across the Group's Russian operations // USD '000

Indicators	2015	2016	2017
Total expenses on employee benefits across the Group's Russian operations	102,000	103,000	122,539
including the amount spent per employee	1,300	1,300	1,571

**80%**

the share of employees covered by collective bargaining agreements

<sup>1</sup> Including entities that have no collective bargaining agreements in place but have approved local regulations that make MMC Norilsk Nickel's Collective Bargaining Agreement effective at these entities, including foreign assets.

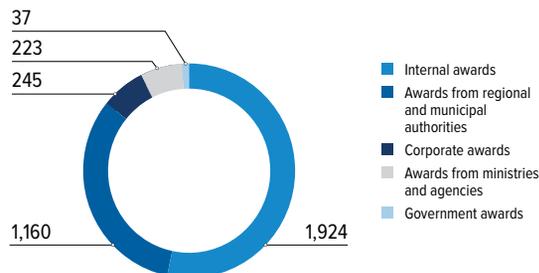
<sup>2</sup> based on the average annual USD/RUB exchange rates of 58.3529 in 2017, 67.0349 in 2016 and 60.9579 in 2015.

## Efficiency improvement programmes

The Company implemented its employee performance management system back in 2014, with assessment relying on a variety of key performance indicators (KPIs), including occupational safety, operating efficiency and capital management. In 2017, some 4,326 people (employees of the Company's Head Office, branches and subsidiaries) took part in the KPI-based assessment. The new system helped develop uniform criteria for the evaluation of employee performance enabling the management and employees to align the current year's priorities with performance indicators of the Company/ branches/subsidiaries and join their forces to find a path for delivering on the tasks in hand. Moreover, this system makes it possible to link an employee's performance to his/her pay level.

In 2018, we will continue the roll-out with a focus on SAP HCM-based performance assessment automation across the Company's operations. In 2017, the automated SAP Human Capital Management system was implemented at Medvezhy Ruchey, Nor Nickel – Shared Services Centre, NORMETIMPEX and Bystrinsky Transport Division of MMC Norilsk Nickel. On top of that, 2017 saw the roll-out of the Talent Pool and Performance Assessment automated management subsystems at Polar Division, Kola MMC, Pechengastroy and GRK Bystrinskoye. The performance assessment results are also used to nominate employees for awards.

## Awards for outstanding operational achievements, long track record and work commitment



## Social programmes for employees

### Health improvement programmes for employees

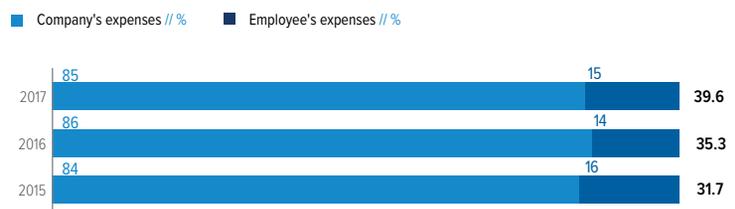
The harsh climate of the Far North and the heavy working conditions of the mining facilities require that the Company make an extra effort to protect its employees' health. Hence, health improvement and health resort treatment programmes for employees and their families are a key priority of the Company's social policy.

In 2017, more than 9,200 employees and their families received recreational treatment in Zapolyarye Health Resort (Sochi) owned by the Company. Some 15,500 people spent their vacations in other health resorts, including approximately 5,000 employees who travelled to Bulgarian resorts and over 2,000 staff members who went to Hainan (China).

The health resort treatment programme is designed to prevent the development of chronic diseases among the employees' children and give them an opportunity to take full advantage of their summer vacations. As part of this programme, some 1,500 children spent their holidays in Anapa and Loutraki (Greece).

Health improvement and health resort treatment programmes for employees and their families are a key priority of the Company's social policy.

## Financing of health resort treatment and vacation programmes for employees and their families // USD mln



## Sports programmes

Sports programmes aim to promote a healthy lifestyle, foster corporate solidarity, and develop corporate culture.

The Company pays special attention to corporate competitions, including in such popular sports as futsal, volleyball, basketball, alpine skiing, snowboarding and swimming. Family sports contests are yet another focus area. In 2017, hockey became the latest addition to that long list.

To ensure further development of amateur hockey across the Company's footprint, the region of Norilsk was included in Conference North of the Night Hockey League in December 2017.

In July 2017, Nornickel staged its first corporate team competition under the Hero Race franchise. Some 4,000 people (76 teams), including residents of the Norilsk Industrial District and Murmansk Region, took part in the race.

Events for local communities include annual Spartakiads. In Norilsk, there are 14 sports on Nornickel's Spartakiad list, with some 4,800 people participating in the competition. In the Murmansk Region, the Spartakiad of Kola MMC includes 16 sports ensuring participation of approximately 3,300 people.

One of Nornickel's social policy highlights is the support of amateur sports. In 2017, over 25,000 employees and local residents took part in Nornickel's corporate mass sports events.

## Housing programmes

In 2017, the Company adopted a Housing Programme Policy putting in place a single pool of principles and approaches to developing, approving and implementing housing programmes for employees with the highest qualifications and most relevant expertise as a way to boost long-term staff retention across the Group's operations.

In the reporting period, the Company continued implementing its Our Home and My Home corporate social programmes launched back in 2010 and 2011, respectively.

Our Home programme is intended for the employees of Polar Division, Polar Transport Division and Kola MMC. My Home programme covers 14 subsidiary-owned facilities operating in Norilsk, the Taimyrsky Dolgano-Nenetsky Municipal District and Murmansk Region. Since the start of the programme, 3,397 apartments have been granted to the Company's employees. In total, the Company has purchased 3,826 ready-for-living housing units, including 422 apartments in 2017.

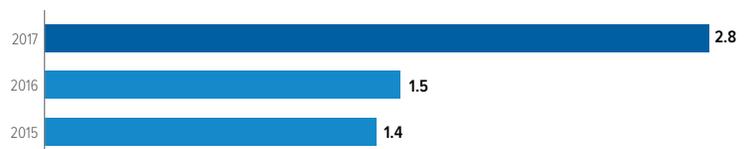
As part of the programmes, the Company purchases ready-for-living apartments in various Russian regions at its own expense, and provides them to eligible employees under co-financing agreements. The Company pays up to half the cost of the apartment (but in any case no more than USD 35,000), with the rest paid by the employee within a certain period of employment with the Norilsk Nickel Group (from five to ten years). The cost of housing remains unchanged for the entire period of the employee's participation in the programmes. Ownership rights are registered at the end of the programmes, but the employee may move in immediately after receiving the apartment.

+87%

**2.8**  
USD mln

financing of sports programmes in 2017

### Financing of sports programmes // USD mln



In 2014–2017, the apartments were purchased in the Moscow and Tver Regions, as well as the Krasnodar Territory, with the Company seeking to buy properties located in close proximity to enhance the employees' living standards by developing additional infrastructure and optimising the scope of maintenance tasks assigned to the property management company.

To boost the appeal of housing programmes for employees and, consequently, increase the Group's retention rate, Nornickel launched a new housing programme based on mortgage subsidies – Temporary Assistance Programme for Employees of Polar Division and Kola MMC in Acquiring Residential Property, in 2016–2017. The programme is designed to provide a wider choice of residential locations, with employees entitled to an interest-free loan to make a down payment and partial reimbursement of the mortgage interest. The programme has proved efficient in retaining highly qualified specialists. Some 200 employees have already taken part in the pilot, with over 110 people tapping into the allocated funds. Hence, a decision was taken to roll out the programme on an ongoing basis and transform it into Corporate Social Subsidised Loan Programme for Employees of Nornickel and its Russian Subsidiaries. The launch of the programme is scheduled for Q1 2018.

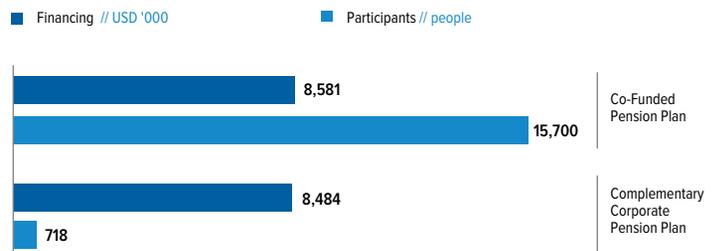
### Pension plans

Nornickel offers its employees non-governmental pension plans.

Under the Co-Funded Pension Plan, the Company and its employees make equal contributions to the plan.

The Complementary Corporate Pension Plan provides incentives for pre-retirement employees with considerable job achievements and an extensive employment record.

### Pension plans in 2017



### Financing of Co-Funded Pension Plan // USD mln



**200**  
employees

have already taken part in the pilot housing programme

In total **3,826** apartments

have been purchased under the housing programme since 2010

## Social investments



### 2017 MILESTONES

In September 2017, Nornickel built a 40 Gbps broadband internet network in Norilsk, with the project costs amounting to USD 43 mln (RUB 2.5 bn). The network is strong enough to support operations of the Norilsk Nickel Group, as well as local mobile operators, government bodies and municipal authorities.

[For more details, please see Infrastructure development](#)

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Nornickel and Zabaykalsky Krai government entered into a cooperation agreement providing for the local government support of Nornickel’s investment projects, including Bystrinsky GOK. On its part, Nornickel undertakes to allocate at least RUB 3.29 bn by 1 January 2027 to finance social projects of Zabaykalsky Krai’s government and municipalities.

Development of social entrepreneurship is among the focus areas of Nornickel’s World of New Opportunities charitable programme. In 2017 alone, the Company allocated some RUB 11.5 mln for five business projects focusing on the regional social issues. The funds were provided in the form of interest-free loans for a period of two years.

[For more details, please see World of New Opportunities](#)

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## Relocation programme

In 2017, the Company and the Government continued joint implementation of a long-term target programme to relocate people living in Norilsk and Dudinka (Krasnoyarsk Territory) to Russian regions with more favourable climatic conditions. Introduced in 2011, this ten-year programme provides for 11,265 families residing in Norilsk and Dudinka to be relocated from these municipalities as entitled to housing subsidies under Federal Law No. 125-FZ On Housing Subsidies for Citizens Migrating from the Far North Regions and Equated Territories dated 25 October 2002. The Company acts as a programme sponsor.

In 2017, the programme budget totalled RUB 8.3 bn. Since the programme launch, the Company has transferred to the local budget a total of USD 169 mln (RUB 6.2 bn), including USD 14.2 mln (RUB 830 mln) in 2017. In 2011–2017, 6,515 families purchased new homes on the “mainland” and moved there, including 5,458 families from Norilsk and 1,057 families from Dudinka.

### Relocation programme results



**6,515**  
families

purchased new homes on the “mainland” and moved there in 2011–2017

**169**  
USD mln

the Company’s contribution to the relocation programme since 2011

In 2017 alone, Krasnoyarsk Territory's Ministry of Construction, Housing and Utilities issued 685 home purchase certificates under the applicable housing quota.

**Local development**

The Company makes a significant contribution to the development of local communities by implementing a series of social programmes targeting current and potential issues in its key regions of operation, including the Krasnoyarsk Territory, Kola Peninsula and Zabaykalsky Krai.

**Support of indigenous peoples.** Nornickel recognises the right of indigenous peoples to preserve their traditional way of life, stick to the age-old environmental management practices and have decent living conditions. The Company adopted the Indigenous Rights Policy that defines Nornickel's key commitments towards the rights of indigenous peoples. In 2017, there was no record of the Company violating the rights of indigenous minorities.

For several years now, the Company has been supporting initiatives to improve living standards of the Taimyr Peninsula's indigenous people.

One of such initiatives is the Comfortable Taimyr project launched in 2017. Under this ambitious programme, the Company will invest USD 1.5 mln to construct 2,500 sq m of housing in the Tukhard settlement, where indigenous people live. A trilateral agreement to this effect was signed between the Company, Taimyr Administration and Yenisey United Bank in April 2017 during the Krasnoyarsk Economic Forum.

In an attempt to preserve national traditions and culture of indigenous Northern minorities, the Company participates in staging annual professional festivals for tundra inhabitants on the occasion of the Reindeer Herder's Day and the Fisherman's Day and provides presents and prizes for the winners

in various competitions. To that end, the Company purchases items that enjoy the greatest popularity among locals, including tents, gasoline power generators, household equipment, outboard motors, inflatable boats, GPS navigators, sleeping bags, binoculars, etc. The Company also offers regular financial help to public Taimyr-based organisations.

To ensure the sustainable development of the Taimyr region, the Company provides assistance to indigenous peoples of the North, including by helping to organise air transportation and supplying construction materials and diesel fuel.

Children of reindeer herders in the Tukhard tundra are provided with comprehensive meals as part of the Food Programme carried out in association with the Dudinka Department of Education. In line with the effective agreements, foods for the local hospital and primary school are supplied by Norilskgazprom's Procurement Unit at below-market prices.

**Infrastructure development.** Nornickel is actively involved in the development and renovation of social infrastructure across its footprint, looking to create accessible and comfortable environments for work and life.

In September 2017, the Company completed the construction of a fibre optic communication line running through a permafrost zone between Novy Urengoy and Norilsk to secure internet connection for local businesses, institutions and individuals. The line is 960 km long, with its most technically challenging section laid under the Yenisey River bed. Along with the Norilsk residents, people living in Dudinka also got access to the broadband internet service. The communication line will run in a pilot mode until Q2 2018 when all the tests are completed and the line is put into commercial operation.

**1.5 USD mln**

will be invested to construct 2,500 sq m of housing in the Tukhard settlement

As part of a public-private partnership, the Company continues its work to upgrade the civil section of Norilsk Airport in accordance with the memorandum of intent signed by MMC Norilsk Nickel and the Federal Air Transport Agency under the Russian Transport Development Federal Programme for 2014–2018. The Company will allocate over USD 50 mln (RUB 3 bn) to finance the project. The works are spread out over three construction seasons to avoid airport closure. In 2016–2017, the focus was on the runway upgrade, which is expected to be completed in 2018. In the same year, we will achieve significant progress in repairs of the apron for civil aircraft. The works will be completed in 2019 and will not affect the flight schedule.

Our support for sports is becoming more consistent. It is not limited to the financing of occasional sports events, as Nornickel strives to develop a more comprehensive approach by investing in sports facilities, new schools, sports grounds and mass events promoting sports and healthy lifestyles.

In 2017, the Company allocated USD 343,000 (RUB 20 mln) to finance the construction of a sports facility in Monchegorsk (a prefab structure with a football pitch). Its commissioning is scheduled for March 2018.

Another project of Nornickel, which is supported by the Krasnoyarsk Territory Government, is to build a unique golf field in the northern city of Krasnoyarsk to drum up people’s interest in the game of golf.

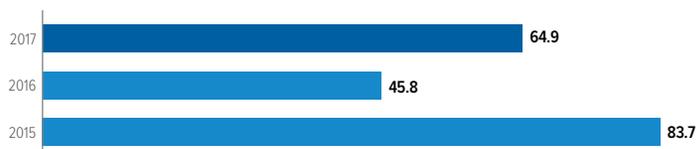
## The Norilsk residents and people living in Dudinka got access to the broadband internet service.

Nornickel is also helping Krasnoyarsk authorities to put in place new smart bus stops. They are planned to be installed in 2018 and will be fitted out with safety and surveillance systems, mobile chargers, wi-fi hotspots and other options. The Company allocated some USD 120,000 (RUB 7 mln) to finance the project.

**World of New Opportunities.** The Company launched its World of New Opportunities charity programme to encourage and promote sustainable development of local communities, with the programme primarily aiming to develop soft skills in local communities, demonstrate and introduce new social technologies, support and promote public initiatives, and encourage cross-sector partnerships. In 2017, after the commissioning of Bystrinsky GOK in Zabaykalsky Krai, the World of New Opportunities footprint expanded to cover local municipalities. In Chita, the Company launched its Socially Responsible Initiatives Competition, Arctic.PRO R&D marathon, and School of Urban Competencies.

The World of New Opportunities programme has three focus areas – Partnership, Innovations and Development.

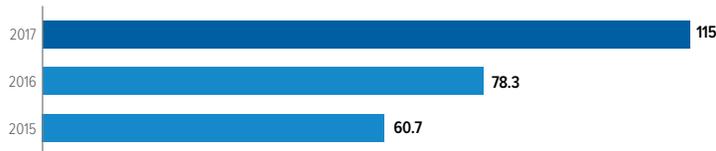
### Financing of Development and Renovation of Social Infrastructure // USD mln



>50 USD mln

allocated to reconstruct the civilian part of Norilsk Airport

### Financing of Charity Programmes // USD mln



the Company completed the construction of

**960 km long**

a fibre optic communication line running through a permafrost zone between Novy Urengoy and Norilsk. The project investments amounting to USD 43 mln.



## PARTNERSHIP

This area focuses on supporting volunteer initiatives of local activists, fostering new skills and developing local expertise.

### Key Partnership initiatives comprise:

- Academy for Social Partnership and Development (a series of workshops on social project development, expertise building, assessment of projects/programmes and monetisation of social projects);
- Socially Responsible Initiatives Competition;
- Social Technologies Forum;
- Social Engineering Workshop;
- We Are the City! PicNick.

In spring 2017, the Company initiated the We Are the City! social technologies forum in Norilsk (Krasnoyarsk Territory) and Zapolyarny (Murmansk Region) to bring together local communities and tell them about new trends and best practices in charity and volunteering, and also share successes in solving social issues. In the lead-up to the forum, locals got a chance to meet a wide range of experts who shared their ideas on upbringing children, finding a way in life, personal development, etc. The forum venues were attended by a total of 1,910 people.

The Company seeks to broaden local knowledge and skills contributing to the build-up of regional expertise. For the third year running, Nornickel organised a three-day 'social engineering' workshop for local activists that combined theoretical and practical aspects of generating and implementing ideas. In three days, 138 participants from Norilsk, Dudinka, Monchegorsk and Zapolyarny developed and staged 12 city events reaching out to over 2,500 local residents.

On the Company Day, Nornickel traditionally stages the We Are the City! PicNick event in Norilsk, Monchegorsk and Zapolyarny. PicNick is a festival "for a good cause" organised by local activists and participants of the World of New Opportunities programme (winners of the Socially Responsible Initiatives Competition and socially minded entrepreneurs) and Plant of Goodness corporate volunteer programme. In 2017, it was staged as a street festival with a projects fair, workshops, training sessions, etc.

All events organised by the Company served to raise charity awareness in local communities and encourage public-private partnerships. In 2017, the Socially Responsible Initiatives Competition, which aims to support public initiatives, received 489 project bids, 116 of which were approved for funding. Grant funding amounted to over USD 2 mln (RUB 125 mln).

**>2 USD mln**

allocated as grant funding of the Socially Responsible Initiatives Competition

**489 bids**

submitted, 116 projects approved for funding



## INNOVATIONS

This area focuses on facilitating the implementation of advanced technologies, fostering R&D potential and encouraging innovation in engineering. Its target audience are schoolchildren, university students and adult activists interested in science and frontier technologies.



In autumn 2017, the Company staged Arctic Wave R&D festivals in Norilsk and Monchegorsk to promote research and development among the youth, support creative engineering and innovative thinking among schoolchildren, and demonstrate the latest scientific achievements. Interactive sessions, contests and scientific experiments of the largest R&D event in the Polar Region were held under the motto "Augment Reality". The festivals were attended by 4,500 children and adults.

For the fourth year in a row, the Company organised the Arctic.PRO R&D marathon aiming to encourage R&D creativity, innovations in engineering and thirst for knowledge among children and young people. 1,300 students aged 12 to 15 took part in the marathon. 20 more children attended the Winter R&D School in Kazan.

For the third year running, the Company was a general partner of the All-Russian Science Festival held by Lomonosov Moscow State University. In Krasnoyarsk, the festival took place in December 2017. It was the first festival to feature the City of Discoveries. City of Professions programme giving Krasnoyarsk high school students an opportunity to take a career guidance test, have their interests and skills analysed, and receive career recommendations.

### Key Innovations initiatives comprise:

- Arctic.PRO R&D marathon;
- Arctic Wave festival of R&D discoveries;
- FabLab R&D creativity laboratory;
- School of Urban Competencies.

The career guidance programme was built around several areas of interest, including Biological Engineering, Medicine and Healthcare, Taiga, Digitalisation in Humanities, IT, Communications and Aerospace Engineering, and Energy, Engineering and Architecture, each featuring interactive presentations made by local universities and businesses and dedicated lectures enabling students to tap into real-life experience, learn more from professionals, and choose a personal development path for the next 5–10 years. About 15,000 students attended the two-day festival.

In 2017, Nornickel's School of Urban Competencies won the first prize as the Best Charity Promotion Programme (Project) at the 2017 Leaders of Corporate Charity contest held by the Association of Sponsoring Organisations. The School of Urban Competencies aims to develop key social competencies in schoolchildren, including in the realms of housing, finance and career. Each year, at least 500 children living in the Polar regions take part in the School's workshops and events.

1<sup>st</sup> prize

as the Best Charity Promotion Programme (Project)



## DEVELOPMENT

This area focuses on engaging active citizens and SMEs to address social issues of local communities using available business technologies.



One of the Company's initiatives was to provide training in Social Entrepreneurship. With assistance and guidance from experienced coaches (active businessmen), trainees are expected to develop business plans and present them at the Investment Session.

In 2017, Norilsk hosted the first Convention of Social Entrepreneurs from the North, which provided a platform to discuss trends, prospects and measures to support social entrepreneurship in the Polar regions and analyse relevant national and international best practices. In the lead-up to the Convention, experts and participants from other regions had an opportunity to take part in the Entrepreneurial Norilsk quest to learn more about social entrepreneurship in Norilsk.

**RUB 11.5 mln**

allocated in 2017 for social business projects

## Government relations

The Company interacts with federal legislative and executive authorities, and civil society institutions. The Company is represented and expresses its interests in 26 committees, councils, commissions, expert teams, and working groups established by government bodies in association with the business community, thus supporting socially important projects. Currently, the Company mainly cooperates with the working groups and councils of the State Commission for Arctic Development and the Government Commission on the Use of Natural Resources and Environmental Protection. The Company also actively participates in the activities of regional authorities' expert boards across its geographies, including the Governor's Council for Strategic Development and Priority Projects of the Krasnoyarsk Territory.

Representatives of the Company take part in parliamentary sessions and round table discussions organised by the Federation Council and State Duma of the Federal Assembly of the Russian Federation, Government of the Russian Federation, Russian Union of Industrialists and Entrepreneurs, Chamber of Commerce and Industry of the Russian Federation, Association of Managers (an interregional public organisation), etc.

The Company's experts participate in draft regulation discussions held by the Open Government and by community councils of the federal executive bodies, as well as in anti-corruption due diligence and regulatory impact assessments. All of that helps maintain a constructive dialogue with the government, cut administrative red tape and improve the nation's business climate.

## Sponsorship

### Financing of Sporting Projects // USD mln



### Rosa Khutor Ski Resort



In 2016–2019, Nornickel is going to invest USD 250.5 mln in the development of Rosa Khutor ski resort as part of Russia’s Mass Sports Support Programme. These funds will be used to transform Olympic facilities into a year-round tourist attraction,

develop new ski pistes and lifts and build new recreational and sports facilities. By way of consideration, Nornickel was granted a minority stake in the Rosa Khutor project.

### Russian Olympic Committee



As a Partner of the Russian Olympic Committee and the Russian Olympic team, Nornickel allocated over RUB 1 bn to support youth and high performance sports, including the implementation of Olympic educational programmes developed by the Russian International Olympic University.

Another area of cooperation between the Company and the Russian Olympic Committee is the inclusion of Nornickel’s regions of operation in the pan-Russian Olympic Patrol project. In 2017, the Olympic Patrol visited Krasnoyarsk and Norilsk, giving local children a chance to meet renowned athletes who shared their personal Olympic experiences, took part in autograph and photo sessions, and held workshops and fitness tests.

### Football Union of Russia and Russia's national football team



In line with the sponsorship agreement, Nornickel remains an official partner of the Football Union of Russia and Russia’s national football team.

The Company is also an exclusive partner of Russia’s Football Union in the metals sector.

### CSKA professional basketball club



Nornickel continues to provide support to Russia’s most successful and well-known basketball club.

In 2017, CSKA came out as a winner in the VTB United League and took part in the EuroLeague’s Final Four.

### International University Sports Federation

The Company will remain a Partner of the International University Sports Federation (FISU) until May 2019 and will continue to support the development of international university sports movement. The first-ever international forum of the Federation – FISU Volunteer Leaders Academy – was organised in July 2017 with the backing from Nor Nickel and was attended by leaders of

volunteering associations from over 90 FISU member states, as well as university sports delegations and officials. The forum was held in the run-up to the 2019 Winter Universiade to facilitate communication between volunteers and national university sports federations, and share knowledge and experience in organising large international sports events.



### XXIX International Winter Universiade in Krasnoyarsk

As a General Partner of the 2019 International Winter Universiade in Krasnoyarsk, the Company keeps on track with preparations for this upcoming international sports event in accordance with the agreement signed in 2015.

Promotion of the XXIX Winter Universiade will bring about improvements in the local sports infrastructure and the international image of the Krasnoyarsk Territory and its capital, increase popularity of

healthy lifestyles and mass sports, and enhance living standards in the region.

According to current estimates, the Company will spend nearly RUB 2 bn on the preparation and holding of the 2019 Winter Universiade.

One of the major commitments made by the Company for the Universiade was to prepare the Bobrovoy Log Fun Park for alpine competitions.



Company overview

Strategy overview

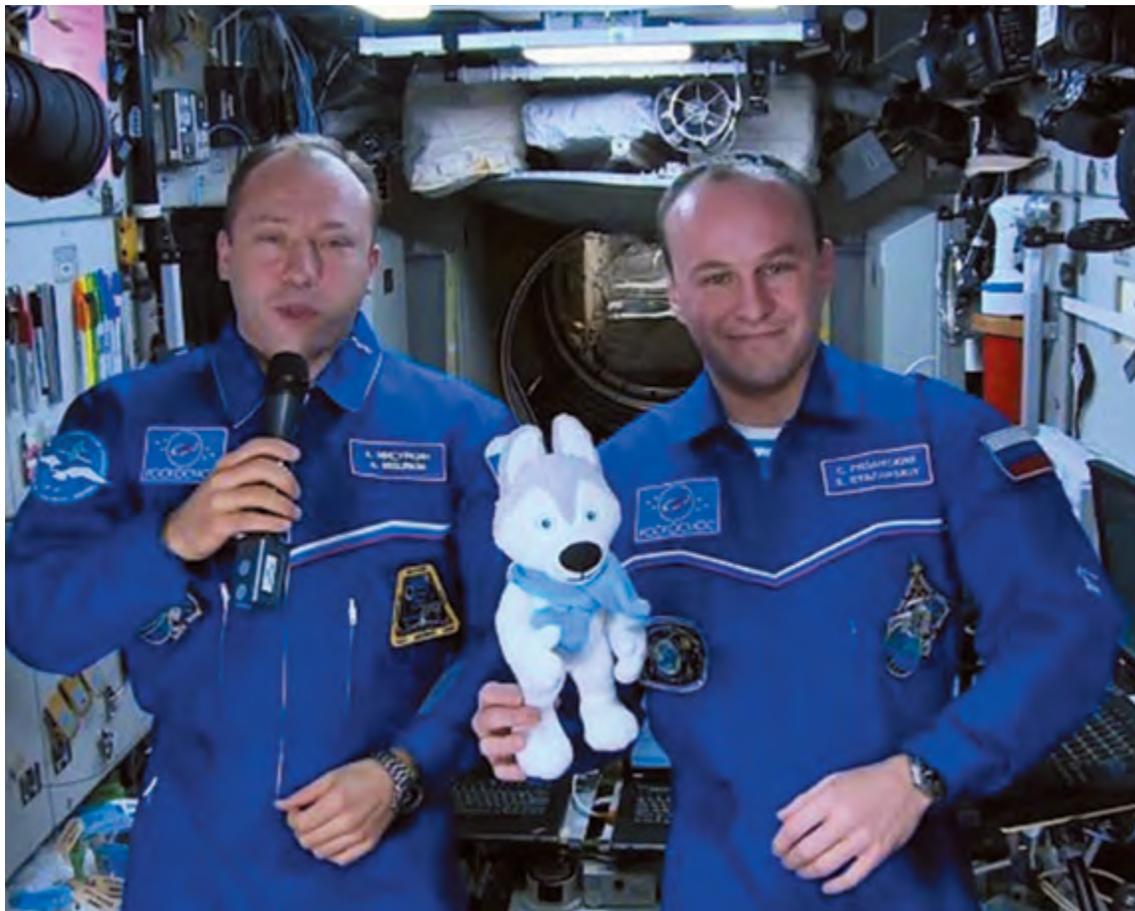
Market overview

Business overview

Corporate governance

Information for shareholders

Appendixes



In 2017, Nornickel proceeded with the construction of a new athletic training facility equipped with a broadcasting system, expansion of the ski pistes, development of an integrated security system, upgrade of the artificial snow machinery, and preparation of an ambulance helicopter pad.

In addition to the Bobrov Log Fun Park, the Company plans to establish a park along the Bazaikha River with sports and playgrounds, walkways, bike lanes, recreation areas, and a foot and bike bridge across the Bazaikha to make the park accessible for people with limited mobility. An agreement to this effect was signed between the Company and Krasnoyarsk municipal authorities.

With the backing from Nornickel, the Russian International Olympic University and the Siberian Federal University organised training for mid-level and top-level managers and leaders of volunteer teams involved in the Winter Universiade.

On top of that, a volunteer team was formed by employees of the Company and members of their families. A dedicated training programme developed by the Siberian Federal University was completed by 95 volunteers who will seek to maximise popular engagement in the run-up to the event.

As a General Partner of the 2019 Winter Universiade, Nornickel strives to ensure extensive promotion to inform the public about the event.

In 2017, three NordStar aircraft were redesigned to feature the symbols of the Universiade. They made nearly 2,000 flights during the year and carried over 265,000 passengers who learnt about the upcoming event while on board. Information about the Universiade is also available in the NordStar inflight magazine.

Branded pavilions of the Company were constructed in Moscow parks, with over 15,000 visitors receiving

information about the Universiade, Bobrov Log Fun Park and other sports-related projects through games and interactive presentations. The pavilions also served as a platform for cultural, educational and sports events involving famous athletes, sports workshops, flash mobs, and prize-winning competitions for park visitors.

The Company also sponsored the 500 Days until Universiade event that linked two cities – Krasnoyarsk (Bobrov Log Fun Park) and Moscow (Lomonosov Moscow State University) – via a teleconference.

U-Laika, the mascot of the upcoming university games, travelled with the Russian cosmonauts to the international space station and addressed the audience of the Universiade from the orbit.

### Norilsk Nickel Futsal Club

In 2016, the team and administrative personnel of Norilsk Nickel Futsal Club moved to Norilsk. The team takes part in the Russian Super League Championship and Russian Futsal Cup. Relocation of the club gave a powerful boost to the development of futsal in the local community. The Russian Futsal Association

and MMC Norilsk Nickel work closely to ensure the success of the Futsal to Polar Region Schools project. As part of this nationwide initiative, the Club's futsal players hold master classes for schoolchildren and special workshops for trainers.



### All Russian Federation of DanceSport and Acrobatic Rock'n'Roll

In 2017, Norilsk Nickel and the All Russian Federation of DanceSport and Acrobatic Rock'n'Roll started cooperation to support and promote these sports.

One of the partnership's objectives is to establish a corporate acrobatic rock'n'roll club in Norilsk.



### XIX World Festival of Youth and Students

Large international events should be viewed as important milestones in the Russian tradition of sponsorship and public-private partnerships. As part of the 2019 World Festival of Youth and Students (attended by nearly 25,000 people from 188 countries), the Company set up an Athletic Norilsk

venue which turned into a major point of attraction during the Festival. The venue was divided into two zones, the 2019 Winter Universiade General Partner Pavilion and the CSKA streetball ground. The Company's contribution to the Festival was highly appreciated by the Russian President Vladimir Putin.



# Occupational safety



## 2017 MILESTONE

Bystrinsky GOK implemented an advanced system for monitoring mining machinery and personnel positioning designed to improve mining operations safety, ensure better coordination of rescue teams in emergencies, and enhance production process management. Occupational safety is one of the core aspects of the Company's corporate social responsibility, with Nornickel seeking to ensure zero workplace fatalities and reduce its lost time injury frequency rate.

The Company's Occupational Health and Safety Policy gives precedence to the life and health of employees over operational performance while also demonstrating the management's commitment to creating a safe and healthy environment and fostering sustainable employee motivation for safe workplace behaviour.



In 2017, Nornickel's Board of Directors approved the Working Conditions Policy available on the Company's corporate website

The Board’s Audit and Sustainable Development Committee oversees occupational health and safety matters, reviewing relevant reports by the management on a quarterly basis. First Vice-President – Chief Operating Officer is responsible for the development of an action plan and enforcement of compliance with the applicable occupational safety requirements.

He also chairs the Company’s Health, Safety and Environment Committee (HSE Committee) charged with:

- improving health and safety performance at the Company and its subsidiaries in Russia;
- toughening responsibility of Nornickel’s executives for ensuring operational health and safety.

In 2017, the committee was engaged in considering improvements to the existing health and safety management system, as well as monitoring the implementation of the scheduled activities aimed at reducing injury rates and enhancing the system’s effectiveness. To that end, a series of video conferences and meetings were held with representatives of the Company’s branches and Russian subsidiaries.

All the production facilities have job- and operation-specific regulations and guidelines containing dedicated health and safety sections. Moreover, Nornickel’s collective bargaining agreements also have occupational health and safety provisions. The Company and most of its subsidiaries have joint health and safety committees made up of management, employee and trade union representatives.

As all maintenance and construction operations at the existing production facilities are classified as high-hazard, the contractors’ workers are required to attend induction and target briefings on health and safety prior to the commencement of works. Work permits also contain information on occupational safety requirements to be followed during the performance of works or in the immediate run-up to them.

## Corporate standards

The Company keeps improving its occupational health and safety management system, including by developing and implementing corporate standards.

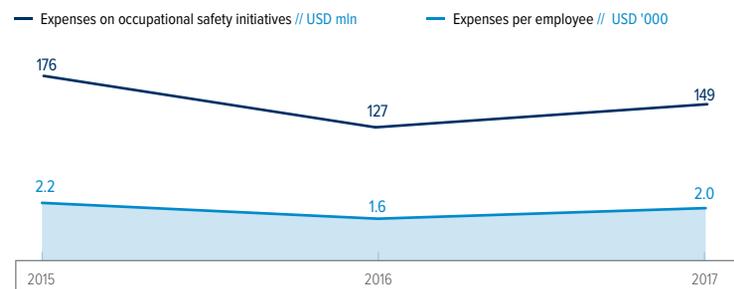
The HSE Department monitors the implementation of the standards across Nornickel’s branches and Russian subsidiaries, including through second-party audits. In 2017, a total of 38 audits were held in accordance with the approved schedule.

As part of the Risk Control project (launched in 2016 to implement the STO KISM 121-211-2014 occupational health and safety management standard), 2017 saw further adjustments to the risk registers to be piloted directly at the production sites, risk register-based employee briefings, and drafting of data sheets for high and material risks.

### HSE certifications

- ☐ Kola MMC and Norilsk Nickel Harjavalta – OHSAS 18001 (international certificate)
- ☐ Polar Division and Pechengastroy – GOST R 54934-2012 (Russian standard identical to OHSAS 18001)
- ☐ Norilsknickelremont – GOST 12.0.230-2007 (interstate standard identical to ILO-OSH 2001)

### Expenses on occupational safety initiatives



Following the certification of 484 conveyors at Polar Division, work is underway to improve occupational safety at the production facilities: fencing and drive and tension stations were repaired, including the installation of new blocking devices, replacement of wiring and painting of equipment (in 2017, a total of 309 conveyors were fully repaired).

In 2017, the Technological and Organisational Change Management project was launched, resulting in:

- development and approval of a standard for the Management of Technical, Technological, Organisational and HR Changes;
- training sessions for process owners and change leaders;
- implementation of a change management process at pilot units;
- building of a team for the standard to be rolled out.

Special-purpose underground machinery across Norilsk Nickel's mines was equipped with protective covers (a total of 83 units of machinery).

In 2017, radio communications and positioning systems were installed and commissioned at Komsomolsky, Taimyrsky, Zapolyarny and Kayerkansky mines of Polar Division and Severny mine of Kola MMC.

The Company's branches and Russian subsidiaries have health and safety monitoring systems in place with the following prevention and control functions:

- safety behaviour audits;
- multi-stage health and safety control;
- ad hoc health and safety inspections;
- on-the-spot health and safety inspections;
- comprehensive health and safety inspections.
- In addition, 2017 saw the launch of regular Risk Hunting sessions which use visual reports for information purposes.

In 2017, pilot testing (assessment of knowledge and skills) of managers in charge of mines and mining facilities at Polar Division and Kola MMC was held as part of a project to develop and roll out a model of professional competencies for line managers of mining facilities. Testing was used to assess the competency model.

To benefit from the opportunities offered by interactive safety briefings, comprehensive programmes were put in place, enabling remote briefings for employees and testing capabilities for the key mining jobs.

## External health and safety audit

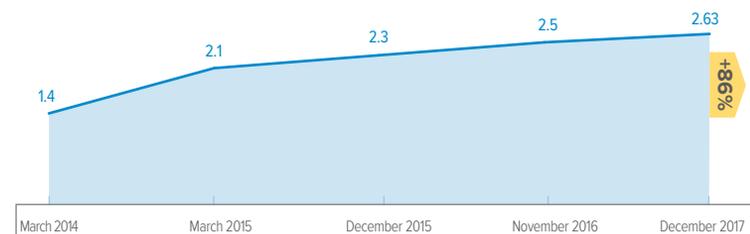
In order to define priority paths for further improvement of the corporate health and safety management system and mitigate injury and accident risks at Nor Nickel's key assets, DuPont Science and Technologies has been assessing the level of the Company's industrial safety culture every year since 2014.

Improvements in the safety culture metrics came on the back of greater personnel involvement in occupational health and safety, a sharper focus on HSE on the part of the production facilities' management (management training completed, a team of in-house experts built) and enhancement of risk assessment and management expertise.



Report of corporate social responsibility for 2017

### Safety culture as per the Bradley curve



### Health and safety performance indicators

In 2017, the Company failed to improve its LTIFR<sup>1</sup> due to a group accident at Zapolyarny mine in July 2017, when a methane explosion in the mine opening claimed the lives of four people. An ad-hoc investigation followed to enforce compliance with the safety rules set out in the Special Requirements for Mining Operations in Hazardous Gas Conditions. The investigation gave the Company an opportunity to take a series of organisational, technical and disciplinary actions to prevent similar accidents going forward.

Investigation of production accidents and occupational diseases is carried out in accordance with the Labour Code of the Russian Federation, industry regulations, and

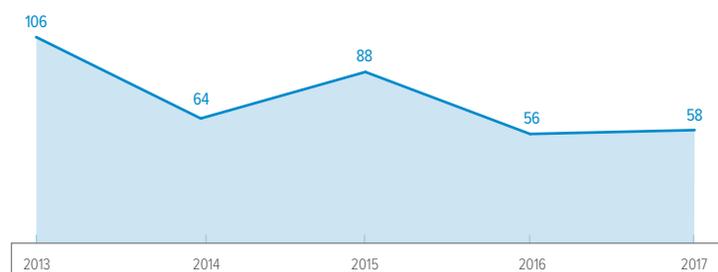
the Accident Investigation corporate standard. All fatal accidents were reported on to the Board of Directors and thoroughly investigated to avoid them in the future. Nornickel's management views occupational safety and zero workplace fatalities as its key strategic objective and keeps running dedicated programmes to prevent workplace accidents and injuries.

In 2017, the implementation of core occupational safety standards, rollout of video information systems and launch of the Risk Control project (development of risk mitigation initiatives) resulted in a 46% decrease in the number of fatal accidents.

### Safety performance indicators

Indicators	2015	2016	2017
FIFR <sup>2</sup>	0.12	0.11	0.06
LTIFR	0.62	0.35	0.43
Production-related accidents, including:			
fatalities	88	56	58
lost-time injuries	14	13	7
Minor injuries	74	43	51
Accidents among the contractors' employees, including:			
fatalities	411	719	719
fatalities	19	18	15
fatalities	5	8	1

### Total number of accidents // people



<sup>1</sup> LTIFR stands for Lost Time Injury Frequency Rate (LTIFR = non-fatal LTIs / total number of hours worked \* 1,000,000).

<sup>2</sup> FIFR stands for Fatal Injury Frequency Rate (FIFR = FIs / total number of hours worked \* 1,000,000).

# 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

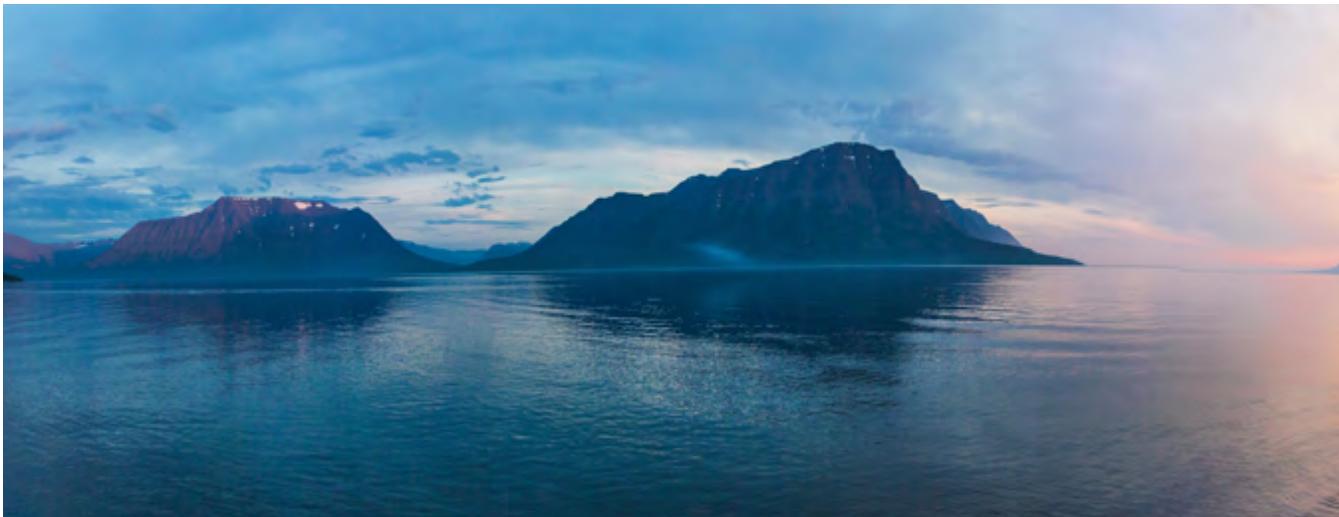
Throughout 2017, the Company carried out internal audits as part of the CIMS. In line with international standards and Norilsk Nickel’s by-laws, internal audits were conducted by specially trained and competent personnel:

- 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.

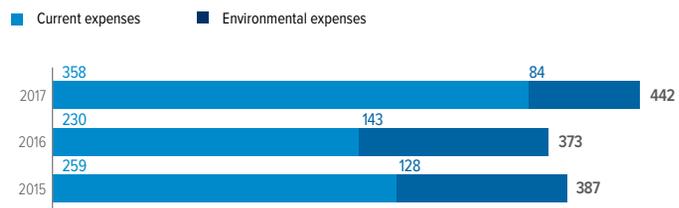
In 2017, the EMS operated in accordance with the new version of ISO 14001:2015. To comply with this international standard, among other things, the Company revised its Environmental Policy approved by MMC Norilsk Nickel's Board of Directors (resolution No. GMK/33-pr-sd of 5 October 2017).

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

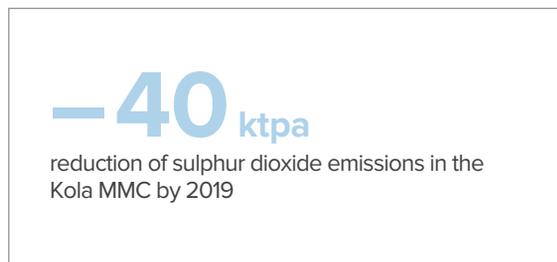
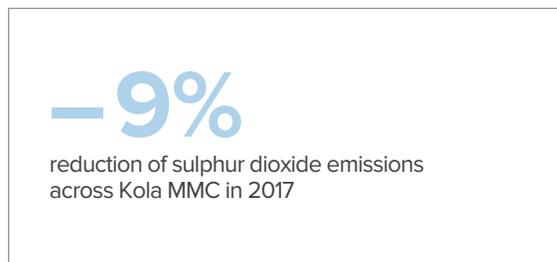
337 ktpa by 2023. This will guarantee that Norilsk air meets the air quality requirements regardless of wind speed or direction.

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.



## Environmental impact across Norilsk Nickel's Russian operations



Air

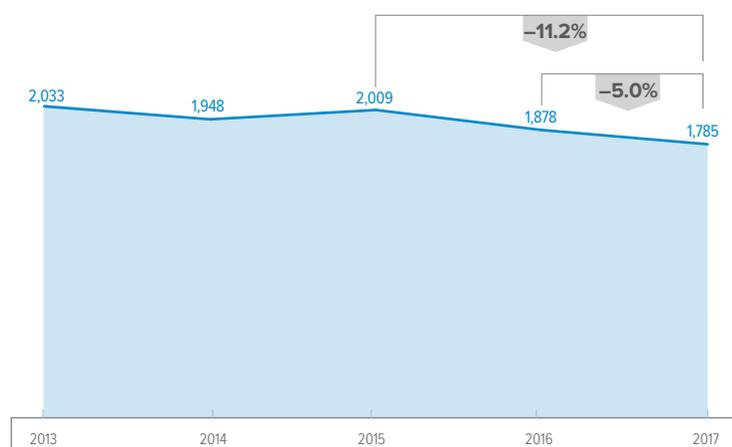
### Air pollutant emissions across the Group // kt

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

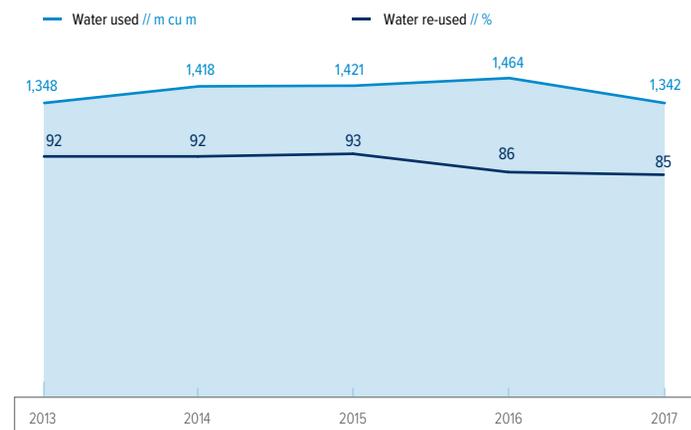
Pollutants discharged in wastewater amounted to 217 kt, which is 24 kt more than in 2016 (up 12%). The increase was caused by a natural inflow of snow melt and rain water, large-scale processing of metal-containing feedstock and ramping up of pyrometallurgical capacities at Nadezhda Metallurgical Plant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

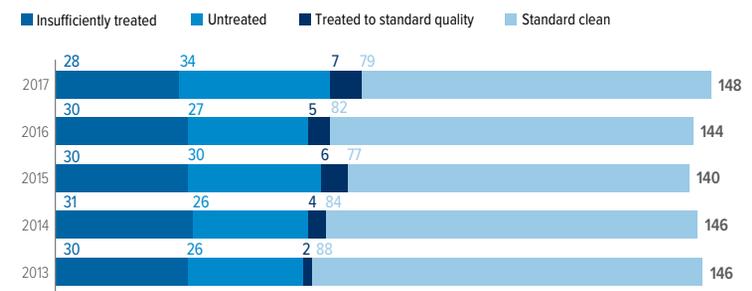
- optimised water cycle at Polar Division's concentration facilities;
- efforts made to purify production wastewater in the combined storm water collector and utility tunnel of Nadezhda Metallurgical Plant, as well as production wastewater from Lebyazhye tailings pit at Norilsk Concentrator;
- technologies 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- Gluboky Mine.

### Water consumption



### Wastewater discharges // mln cubic meters



<sup>1</sup> The Group's direct GHG emissions were stated based on the earlier estimates (ca. 10 mt of CO<sub>2</sub> 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 (CO<sub>2</sub>) and methane (CH<sub>4</sub>) 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

Company overview

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Market overview

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Appendices



## 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
<b>Total</b>	<b>33,267.7</b>	<b>31,926.9</b>

## 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 (NH<sub>3</sub>) and nickel (Ni), and discharges of nickel, sulphates (SO<sub>4</sub><sup>2-</sup>) and ammonia ions (NH<sub>4</sub><sup>+</sup>). 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
<b>Pollutants in industrial wastewater, t</b>			
Ni	0.4	0.4	0.5
SO <sub>4</sub> <sup>2-</sup>	20,051	22,457	25,853
NH <sub>4</sub> <sup>+</sup> (rebased to nitrogen)	36.0	49.5	60.3
Total water consumption, mln cubic meters	10.4	10	11.1
<b>Total air pollutant emissions, t</b>			
Ni	1.7	1.6	1.7
NH <sub>3</sub>	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 Uмба 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.

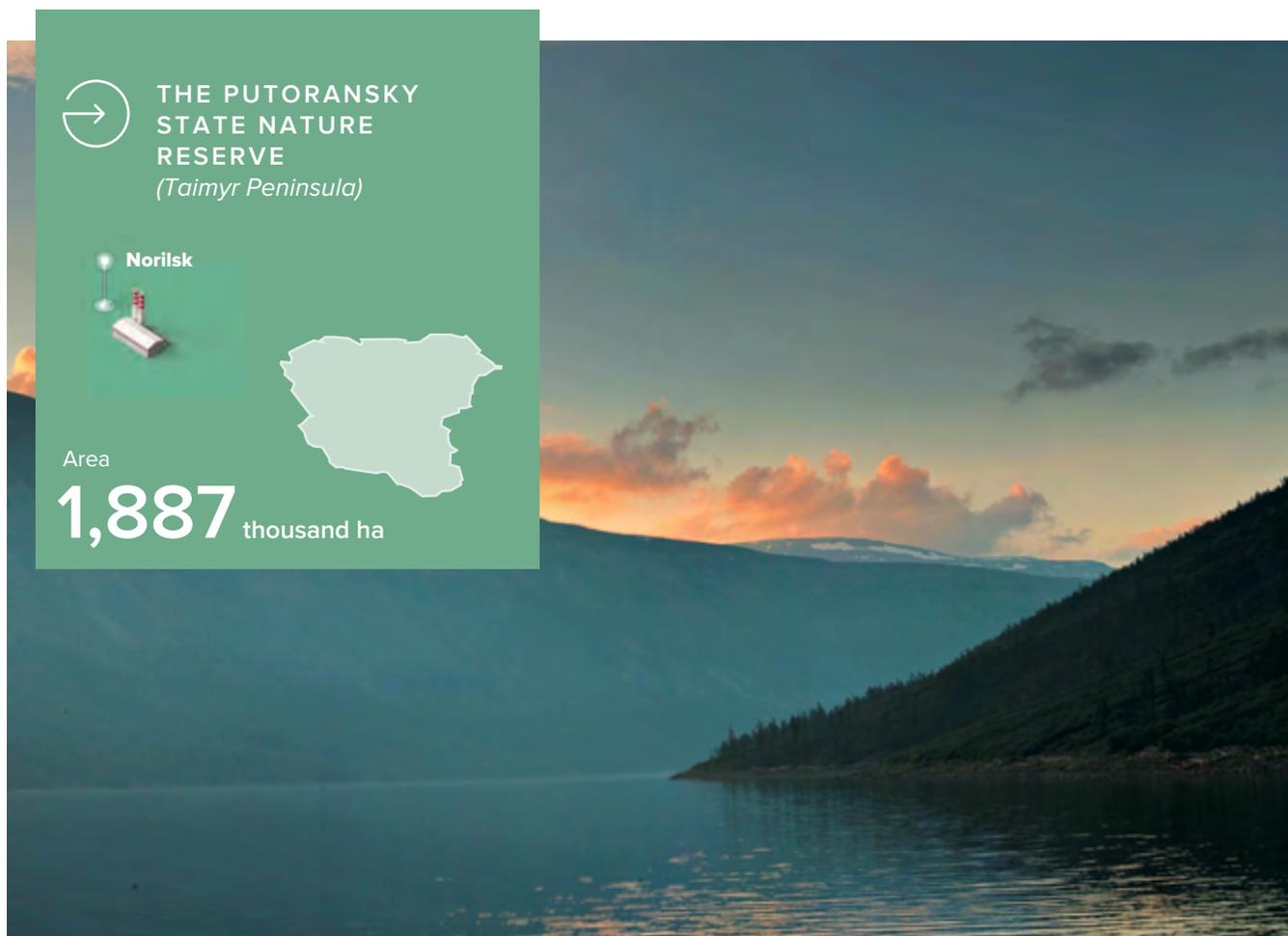
This is in line with Nornickel’s strategy set to embrace green technologies in the next five years through a new investment cycle to secure sustainable development.

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 Nornickel’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, Nornickel 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**

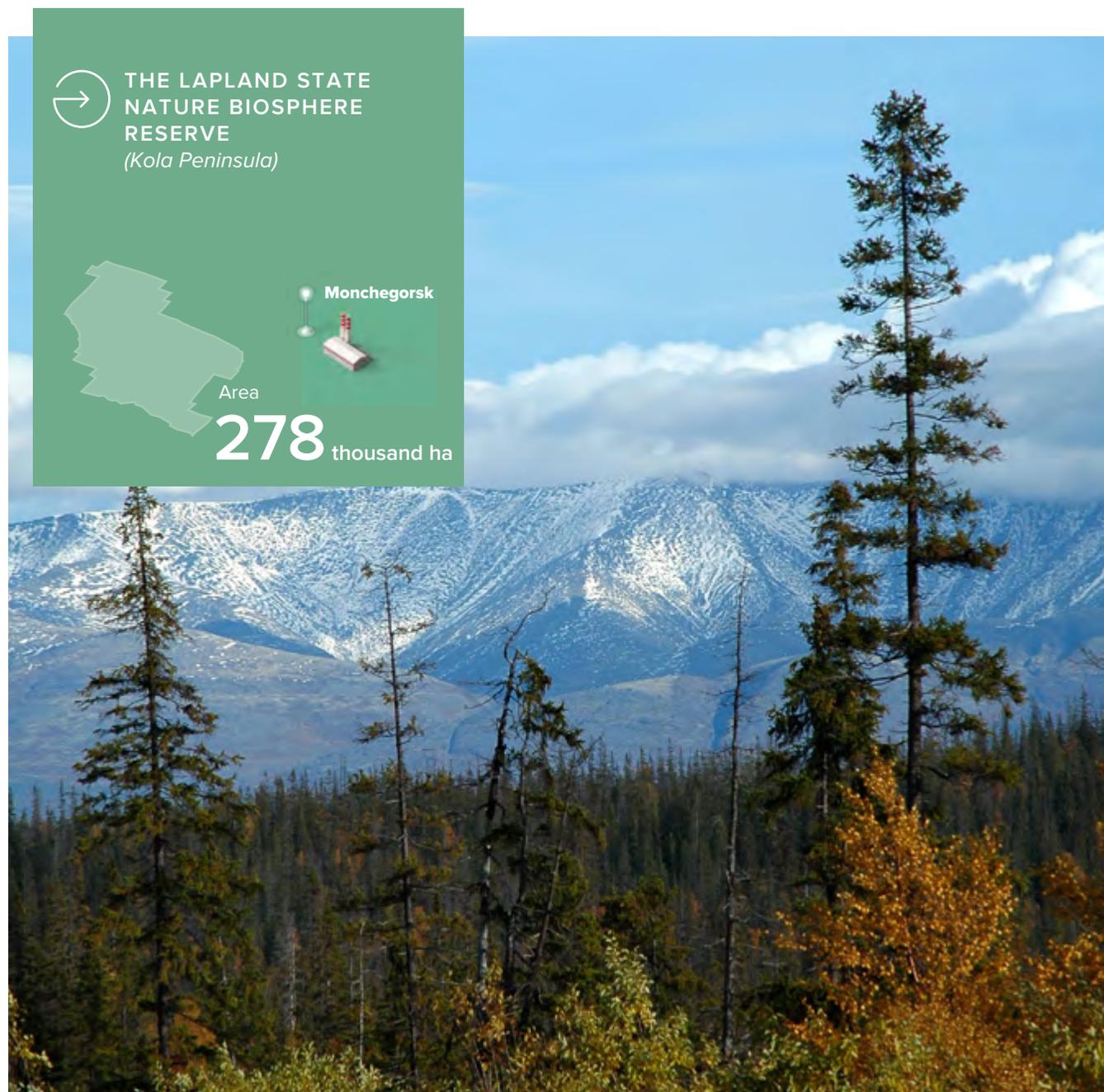
The visitor centre of the Pasvik Reserve featuring a permanent environmental exposition was officially opened in January 2017 in the settlement of Nickel, Pechengsky District. The visitor centre hosts ecological seminars and conferences, serving as a modern platform for discussing international cooperation 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, Nornickel released over 235,000 salmon fingerlings into the Northern Fishery Basin.

### Landscaping

In 2017, Nornickel 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, Nornickel 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. Nornickel 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>	17,027	40	11,856	36	12,175	38
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
<b>Total</b>	<b>77,356</b>	<b>100</b>	<b>65,221</b>	<b>100</b>	<b>61,963</b>	<b>100</b>

In October 2017, Norinickel 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

Norinickel'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 Norinickel 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 Nickel<sup>1</sup>

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

<sup>1</sup> No other types of energy resources were used besides those specified in the table