

MITIGATING NEGATIVE ENVIRONMENTAL IMPACTS

The careful and sustainable use of natural resources and minimizing environmental risks are key priorities in Gazprom Neft's activities. As it seeks to achieve its goal of zero environmental damage, the Company consistently reduces its environmental footprint, introduces best practices, inventions, and technologies for nature protection, and improves the environmental training system for its employees.

Gazprom Neft is bolstering risk management in matters of environmental safety and maintains constant environmental monitoring and industrial environmental control. An analysis of the environmental impact of production activities is carried out during all stages of the production life cycle, starting with front-end engineering design. An assessment of the potential environmental impact, environmental monitoring, and an independent expert examination are all mandatory when taking management and investment decisions.

When planning new projects, Gazprom Neft enterprises assess the environmental impact of the planned activities. Based on the results of the analysis, the best available technologies (BAT) that aim to mitigate any negative impact are introduced during all stages of the project.

**Investment
in environmental
protection during
the reporting year
totalled**

RUB 27.1 BN

MAIN ENVIRONMENTAL PROGRAMMES OF GAZPROM NEFT

| Environmental aspect | Key programmes | Indicators |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATMOSPHERE | <ul style="list-style-type: none"> Target gas programme Oil refinery modernization programmes using BAT Recovery and purification systems for emissions from petroleum product facilities | <ul style="list-style-type: none"> Reduction in specific pollutant emissions into the atmosphere Reduction in specific greenhouse gas emissions Increase in the level of APG utilization |
| WATER RESOURCES | <ul style="list-style-type: none"> Construction of new treatment facilities as part of modernization of oil refineries Wastewater quality control | <ul style="list-style-type: none"> Reduction in wastewater discharge Eliminating the discharge of contaminated and insufficiently treated sewage |
| LAND RESOURCES | <ul style="list-style-type: none"> The 'Clean Territory' project (corrosion diagnostics and monitoring and the reconstruction and replacement of pipelines) Programmes for the reclamation of oil contaminated lands Reclamation of disturbed lands by sludge pits and sludge collectors Pilot testing of treatment technologies for saline land | <ul style="list-style-type: none"> Reduction in pipeline failure indicators Restoration of soil fertility in the ecosystems of production areas Introduction of new technologies for the reclamation of saline lands |
| PRODUCTION WASTE | <ul style="list-style-type: none"> Programme for the disposal/neutralization of oily waste Programme for the disposal of drilling waste | <ul style="list-style-type: none"> Increase in the proportion of waste shipped off for disposal and utilization |
| PRESERVING BIODIVERSITY | <ul style="list-style-type: none"> Programme for the preservation of the biodiversity of marine ecosystems in the Arctic zone of the Russian Federation Programmes for the preservation of biodiversity in the regions where the Company operates | <ul style="list-style-type: none"> Reduction in the impact on the biodiversity of regions of operations Preservation of the natural abundance and dynamics of biological species |

YEAR OF ECOLOGY

As part of the Year of Ecology in Russia, Gazprom Neft drafted and implemented a special plan of environmental protection measures in 2017 to solve key ecological challenges.

Main focuses of the plan:

- the environmental education of personnel;
- industrial measures such as the modernization of production facilities, the development and implementation of eco-friendly technologies, mitigating negative environmental impact indicators, the commissioning of environmental facilities, and the implementation of energy conservation programmes;
- non-industrial measures such as environmental monitoring, preserving biodiversity, and providing support for federal and international environmental campaigns;
- environmental communication – creating platforms for communication and interaction with stakeholders such as NGOs, the state authorities, schoolchildren, and students;
- the special project 'Green Territory', which involves creating infrastructure for the separate collection of waste at the Company's filling stations and offices as well as landscaping and other improvements.

'Green seismics'

Technology E.2



RUB **25** MN

EXPECTED ECONOMIC EFFECT FOR EACH PROJECT FROM USING THE NEW TECHNIQUE



1,300 TREES PER 1 KM²

TO BE SAVED FROM FELLING

'Green seismics' are a technology that makes it possible to avoid cutting down trees in seismic survey area.

Seismic exploration is one of the primary methods used to study the structure of the earth's interior and is essential to all mining companies. However, 4-metre wide clearings have to be cut in wooded areas to carry out such surveys so that heavy ATVs carrying sensors and pulling cable can pass through them.

'Green seismics' allow for using cable-less recording systems with compact equipment. Narrow paths with a width of 1-1.5 metres cleared of bushes and undergrowth are sufficient for light machinery to pass. As a result, the felling of trees can be reduced by 40%.

For example, roughly 1.2 million trees are cut down for a seismic exploration project in the Khanty-Mansi District with an area of 330 km² using the conventional method,. Using 'green seismics' makes it possible to save 450,000 trees.

Gazprom Neft first tested such equipment at its foreign assets in 2014 (the Middle East project in the Kurdish Autonomous Region of the Republic of Iraq), and then at deposits of Gazpromneft-Noyabrskneftegaz, Gazpromneft-Khantos, Gazpromneft-East,

and Slavneft-Megionneftegaz. The geological information obtained using this method proved to have the same quality as the results of traditional seismic exploration.

Geologists can monitor the signal from sensors in real time and process the results quickly in the field. The new technology is easy to use in areas with mountainous terrain or infrastructure facilities where it is much easier to set up wireless sensors than traditional sensors. It creates opportunities for working in complex areas where seismic surveys of the required quality had previously been considered virtually impossible.

In addition, the technology has reduced the cost of seismic exploration work. The new methodology is expected to produce an economic effect of roughly RUB 25 million per project.

In 2017, the Company decided to fully replicate the 'green seismics' approach at all its projects. In 2018, two major projects are being implemented in the KMAD with total area of 600 km² using components of this technology. Such work is to be used for several projects in the KMAD and Orenburg Region with a total survey area of about 1,000 km² in 2019.

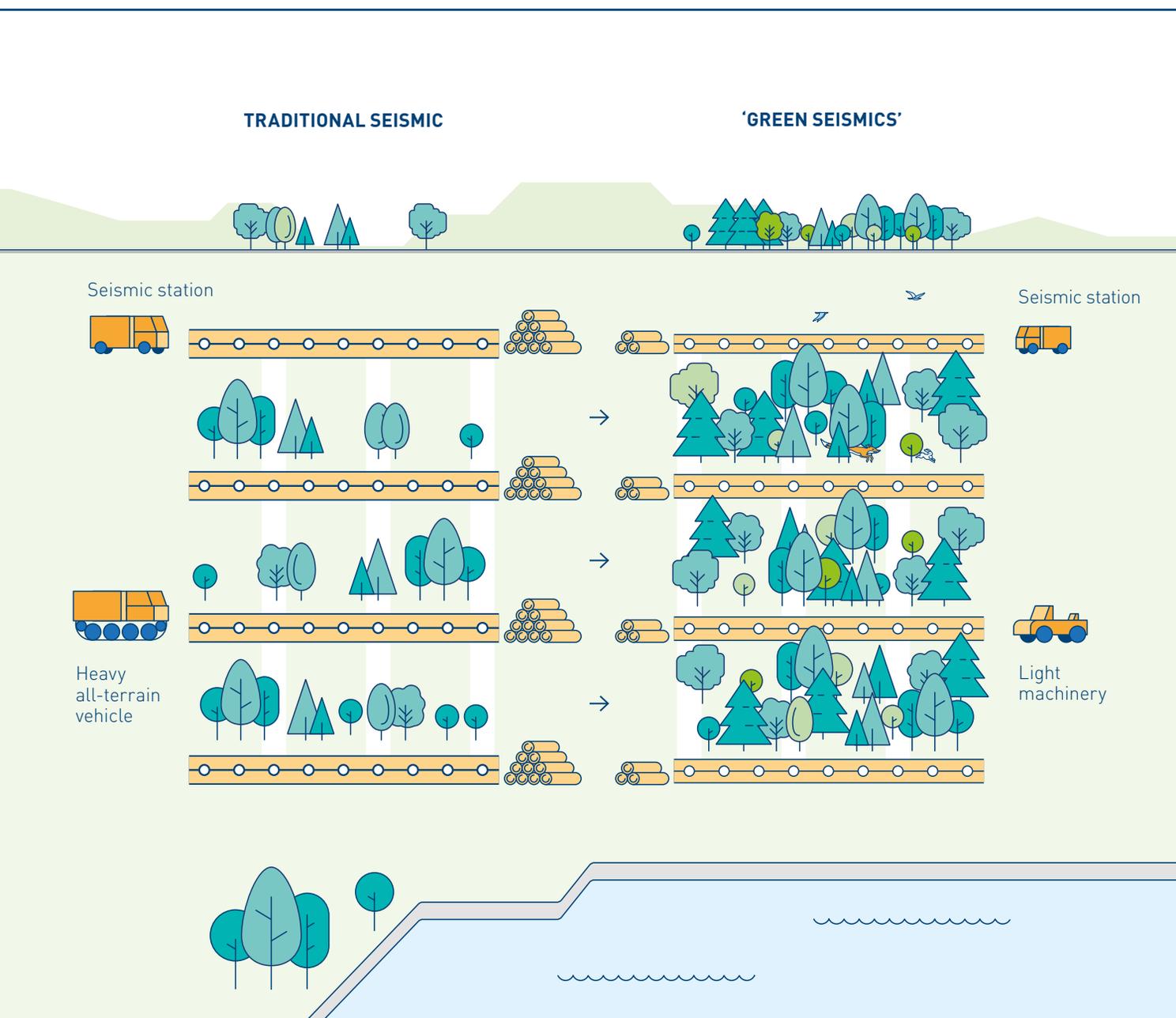
Overall, the Company spent over RUB 17.5 billion on implementing more than 1,100 measures as part of the Year of Ecology.

Key results:

- the commissioning of a gas treatment unit (1st stage) at the Novoportovskoye field of Gazprom Neft-Yamal LLC for the injection of associated petroleum gas in order to maintain reservoir pressure;
- the completion of construction work on the Biosphera biological treatment facilities at the Moscow Oil Refinery and the start of construction work on treatment facilities at the Omsk Refinery (the largest project among those

implemented by the Company as part of the Year of Ecology);

- the opening of a landfill at the Taylakovskoye field for the disposal and processing of industrial and household waste at Slavneft-Megionneftegaz OJSC;
- the release of 36 million fish into water bodies;
- 100 Saturday volunteer work days held in the regions with the participation of over 6,000 people (resulting in the clean-up of more than 1.5 hectares of land and the removal of more than 670,000 tonnes of garbage);
- the planting of more than 298,000 shrubs and trees as part of public campaigns.



PROTECTING THE ATMOSPHERE

In 2017, the Company reduced gross air emissions by 26% compared with 2016. This result was achieved through the further modernization of oil refineries, the implementation of APG utilization programmes, and an increase in APG consumption for oil treatment through the increased extraction of production fluid.

One way to reduce air emissions is to improve the environmental performance of products. In the reporting year, the Moscow Oil Refinery continued to build a Euro+ oil refining unit that is designed for the primary refining of oil and the production of Euro-5 high

emission standard fuel components. The construction of the new facility will enable the Moscow Oil Refinery to decommission several plants of the previous generation, boost energy efficiency and industrial safety levels, and reduce the environmental impact.

The Omsk Oil Refinery produced the first batch of new marine fuel with improved environmental attributes. Due to the minimum sulphur content – no more than 0.1% - the product is suitable for use in emission control zones identified by the International Convention for the Prevention

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26%

of Pollution from Ships (MARPOL). The new fuel is certified in accordance with the requirements of the technical regulations of the Eurasian Economic Community.

REDUCTION IN GREENHOUSE GAS EMISSIONS

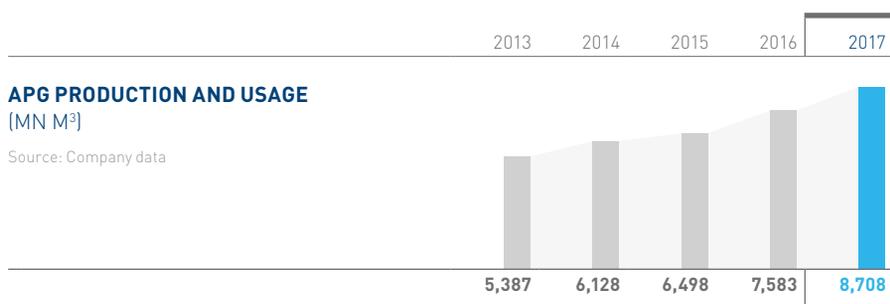
As one of the leaders in the Russian oil industry, Gazprom Neft is aware of its responsibility to preserve the environment for present and future generations. The Company pays special attention to the control of greenhouse gas emissions – one of the key environmental problems faced by mankind today. Gazprom Neft supports the implementation of the Paris Climate Agreement and the Concept to Form a System of Monitoring, Reporting, and Verifying Greenhouse Gas Emission Volumes in the Russian Federation and also adheres

to national legislation on the control of greenhouse gas emissions. The Company continued to develop a programme to increase the level of APG utilization at all of its production assets. This programme allows for reducing emissions while increasing production efficiency.

Key projects:

- the commissioning of fuel gas units to meet the fuel needs of a gas turbine power plant at the East Messoyakha deposit;

- an increase in APG consumption for oil treatment due to an increase in the extraction of production fluids at Messoyakhaneftegaz JSC and the transition of the gas turbine power plant's fuel supply from natural gas to APG;
- the commissioning of a 96 MW gas turbine power plant and an APG compression unit at the facilities of the Novoportovskoye field to support the injection of APG into the reservoir;
- the commissioning of compressor stations at the Shinginskoye and West Luginetskoye fields.



The higher amount of flared APG is due to an increase in oil production at the East Messoyakha, Novoportovskoye, and Urmano-Archinskoye fields. The construction of infrastructure for APG utilization at these assets is in the final stage.

WASTE MANAGEMENT

Gazprom Neft is developing an industrial waste management system that aims to optimize waste flows, mitigate the environmental impact, reduce the economic cost of waste generation, and maximize the possible use of waste.

In 2017, the subsidiaries of the Upstream Division introduced a concept for the utilization of drilling waste in order to mitigate environmental risks and unify waste management requirements. The concept takes into account the infrastructure of the fields under development, the existing technologies for neutralizing drilling waste, key performance indicators, and well construction methods.

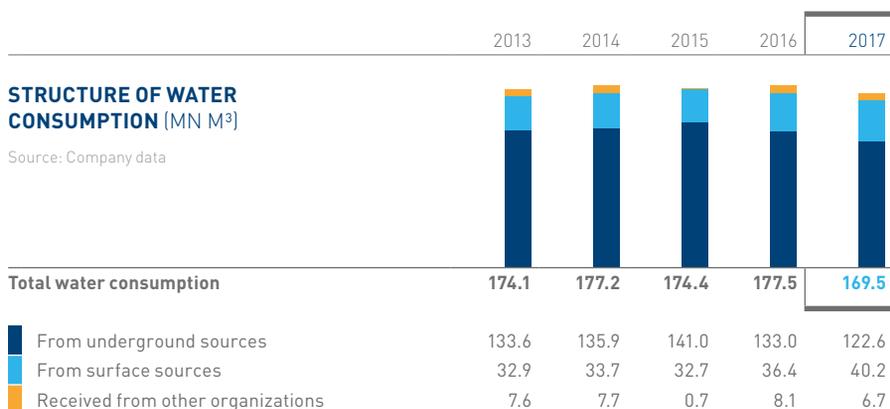
The increase in waste generation during the reporting year is due to higher drilling volumes as well as the active development of Arctic projects.

PROTECTING WATER RESOURCES

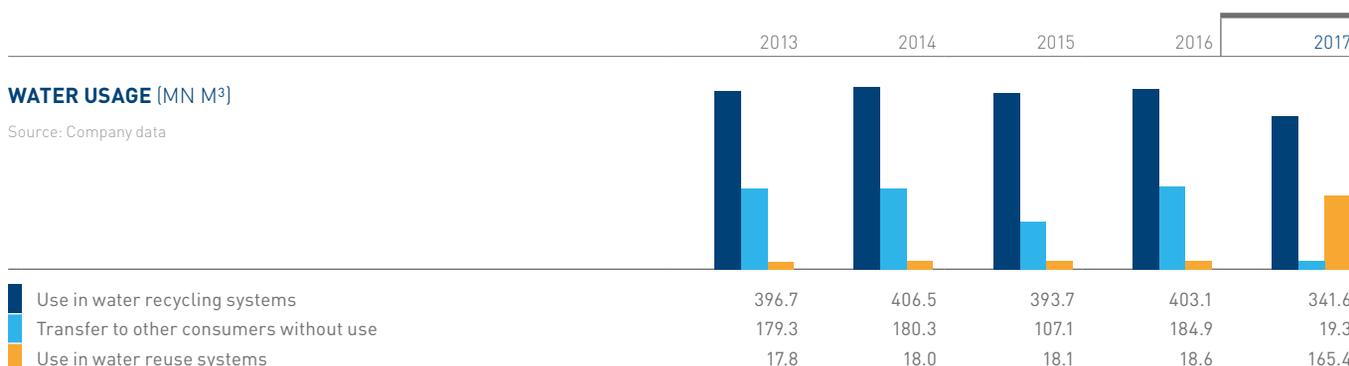
When using water resources, Gazprom Neft seeks to reduce water consumption and discharges in wastewater as well as improve the environmental attributes of water bodies and their coastal areas.

In 2017, the Moscow Oil Refinery completed construction on the Biosphera innovative biological treatment facilities, which will purify water at a level consistent with global standards. Construction has begun on similar structures at the Omsk Oil Refinery.

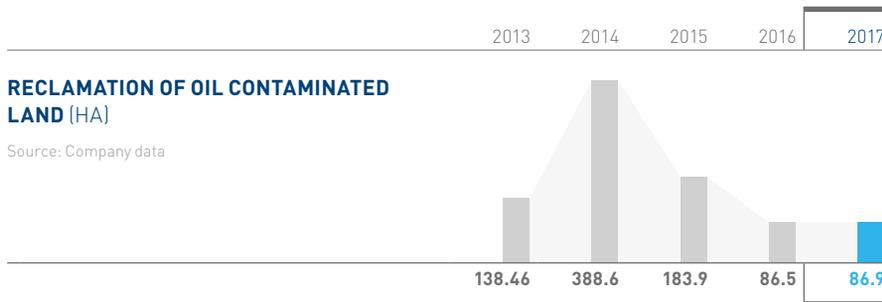
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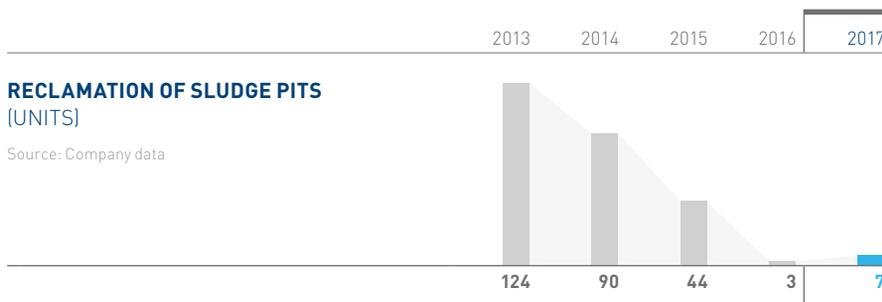
The withdrawal of water from surface sources has increased due to heightened requirements for reservoir pressure maintenance systems.



PROTECTION OF LAND RESOURCES AND VEGETATION



Gazprom Neft reclaims disturbed and contaminated land and sludge pits by introducing advanced technologies for pipeline monitoring and diagnostics and restoring soil (taking into account the soil and climatic conditions of the regions).



In 2017, Gazpromneft-Noyabrskneftegaz JSC conducted the pilot testing of recultivation technologies for saline lands. Washing the soil layer with water and using agronomic and biological methods of reclamation revealed it was possible to accelerate the adaptation and purification of soils. Based on the testing results, a decision will be made on the feasibility of introducing the technology at the Company's facilities.

PRESERVING BIODIVERSITY

Gazprom Neft is implementing a perpetual corporate programme to preserve biodiversity based on a list of flora and fauna that serve as indicators of the stable condition of the marine ecosystems in Russia's Arctic zone.

In particular, the Company carries out environmental monitoring of its impact on the Arctic ecosystems (in the area of its operations), and since 2010 has been implementing a programme to study and preserve the Atlantic walrus. Studies conducted in 2017, including toxicological and genetic analyses of biological samples, did not reveal any significant changes.

Starting in 2017, the Company introduced action programmes to preserve biodiversity for all its assets located in Russia. The implementation of these programmes will be continued in full in 2018.

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