



# ENVIRONMENTAL REPORT



**2018**



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MESSAGE FROM ANATOLY S. NURYAEV,  
FIRST DEPUTY DIRECTOR GENERAL  
OF "SURGUTNEFTEGAS" PJSC

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**ANATOLY S. NURYAEV**  
First Deputy Director General  
"Surgutneftegas" PJSC



For the period from 2018 to 2024, the Ecology national project has become one of the priority development vectors for the Russian Federation. Its objectives and aims align with the regulations of the Environmental policy of “Surgutneftegas” PJSC. For almost 30 years, the Company has successfully been implementing the comprehensive measures of the Ecology corporate program, closely following the requirements of environmental legislation.

“Surgutneftegas” PJSC is the all-time leader of Russian fuel and energy complex in terms of utilization of associated petroleum gas. As far back as ten years ago, the Company reached the level of 95% in terms of efficient utilization of associated petroleum gas. Since 2012 to the present day, Surgutneftegas has been holding the record in the sector – more than 99%.

The Company ensures environmental safety of field pipelines: for the fifth year, it has been operating its own in-house specialized enterprise for application of an internal polymer coating on pipes and pipeline fittings. At the end of 2024, the Company will use only pipelines with an internal anti-corrosion coating.

The Company continues to develop and move forward: it tests and implements the best available technologies, new machinery, equipment, improves the competences of its personnel. In all areas of its operations the Company steadily mitigates a negative environmental impact of production aiming

at resource saving and energy efficiency. For the last five years, “Surgutneftegas” PJSC investments in environmental activity exceeded RUB 92 billion.

The Company understands the importance of maintaining balance, providing not only an economic performance of “Surgutneftegas” PJSC operations, but also the reliability and environmental friendliness of all production processes as well as the social responsibility of the business. The Company develops an effective collaboration with various public institutions. Thanks to our combined efforts a solid foundation is laid for the further sustainable development of Surgutneftegas and territories of the Company’s operations.

The Company is engaged in a constructive dialog with the indigenous people representing the small-numbered peoples of the North, who revere customs and the way of life of their ancestors, engaging in deer herding and other traditional industries. Surgutneftegas cares about biodiversity conservation, performs an extensive work to artificially restore aquatic biological resources and forests.

The Company shows a high level of information transparency in the issues of environmental responsibility. “Surgutneftegas” PJSC uses resources in the most efficient way, minimizes its environmental impact in order to preserve the unique natural heritage of Russia for future generations.



# 01

## **Key areas of the Company's environmental activity**







# The Ecology national project and key areas of the Company's environmental activity

*Throughout the entire territory of Russia we must ensure the highest standards of ecological well-being.*

*Vladimir V. Putin, President of the Russian Federation*

The Ecology national project is implemented pursuant to Decree of the President of the Russian Federation, Vladimir Putin, dated 7 May 2018 "On the national goals and strategic tasks of the development of the Russian Federation for the period up to 2024". The project covers 11 areas, including "Clean country", "Fresh air", "Clean water", "Forests preservation", "Integrated system for municipal waste

management", "Infrastructure for especially hazardous waste management (hazard classes I-II)", "Biodiversity conservation and ecological tourism development", etc.

"Surgutneftegas" PJSC pays close attention to the issues of environmental protection. The implementation of the Ecology corporate program provides resource saving and a consistent reduction of the environmental impact of production.



# Key areas of the Ecology program:

- construction of environmental facilities, including air protection facilities, waste decontamination and utilization facilities;
  - air protection;
  - protection and rational use of water resources;
  - industrial waste decontamination and utilization;
  - protection and rational use of land;
  - monitoring of environmental components and control of production facilities operation;
  - ensuring environmental safety of oil production facilities, including pipelines;
  - environmental training and education of the personnel;
  - implementation of the “green office” principles in each administrative building of “Surgutneftegas” PJSC;
  - biodiversity conservation in the areas of the Company’s operations;
  - R&D activities in the field of environmental protection.
- The Company annually increases its production resource saving capacity, and owns a vast fleet of machinery and equipment, including:
- gas processing plant;
  - 23 gas turbine power plants and 7 gas reciprocating engine power plants (GTPP, GREPP);
  - 31 compressor stations;
  - 2 gas processing units for utilization of associated petroleum gas (APG);
  - 112 initial water separation units (IWSUs);
  - 6 centers for oily soil decontamination;
  - 3 centers for sludge decontamination with sludge storage ponds, units for oily fluid recovery and Heater-Treater three-phase separators;
  - 5 mobile units for tank cleaning and initial oil sludge treatment, including three-phase centrifuges;
  - 33 single- and multiple- cell sludge storage ponds with a total capacity of 81 thousand cubic meters;
  - 10 units for thermal oil sludge decontamination with a total capacity of 70 thousand cubic meters per year;
  - 5 landfills for disposal of solid household and industrial wastes designed to dispose of production and consumption waste with a total capacity of 1,671 thousand cubic meters;
  - 21 Forsazh mobile units for thermal decontamination of solid oily waste with a total capacity of 15.75 thousand tonnes per year;
  - units for shredding waste paper and non-returnable plastic containers with a capacity of 1,150 kilograms per hour and 50 kilograms per hour respectively;
  - a tire recycling plant for recycling worn-out tires and inner tubes with a capacity of 5 thousand tonnes per year;
  - a workshop for application of an anti-corrosion coating on pipes and pipeline fittings with a capacity of 720 kilometers of pipes and 15 thousand fittings per year.
- A high level of environmental safety of “Surgutneftegas” PJSC production across the whole territory of the Company’s operations, including new regions of operations is ensured by a sustainable financing of environmental protection measures.
- The annual costs of the Company for environmental protection are made up of

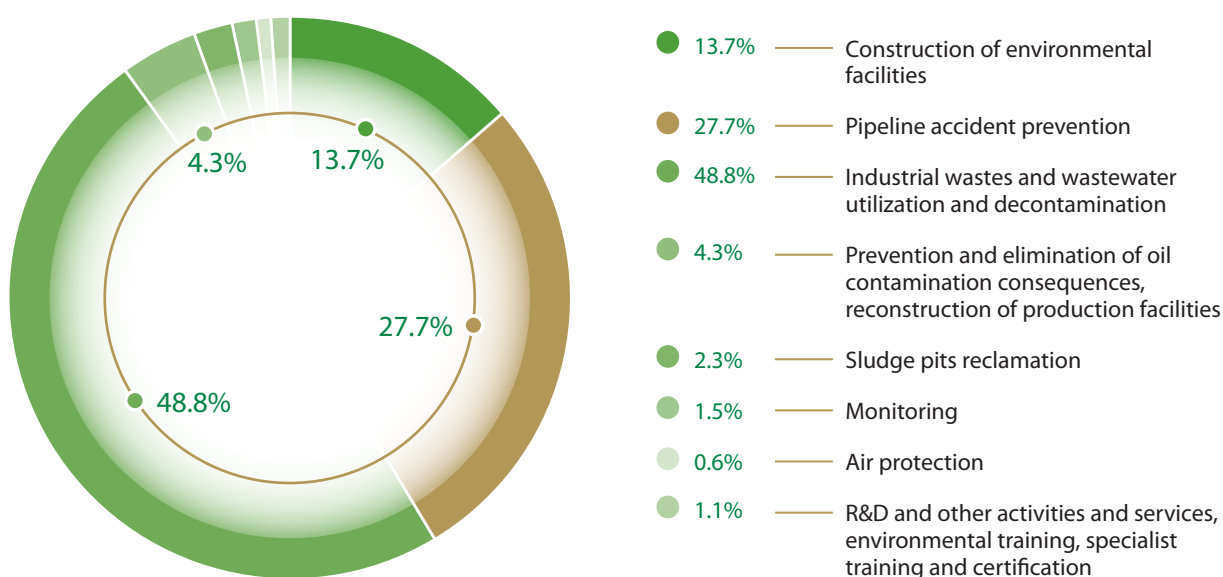
a number of different expenses, including those of repairing and replacing pipelines, protecting oilfield equipment and facilities from corrosion, preventing equipment failures and oil contamination, and elimination of their consequences, air protection, industrial

wastewater utilization, waste management, land reclamation, environmental monitoring and R&D activities. In the reporting year, the costs reached RUB 17.4 billion. In 2019, the costs are planned to be increased by RUB 0.5 billion.

## INVESTMENTS IN ENVIRONMENTAL PROTECTION MEASURES BY "SURGUTNEFTEGAS" PJSC FOR 2014-2019, RUB MN

Measures	2014	2015	2016	2017	2018	2019 (as planned)
Construction of environmental facilities	4,100.43	5,078.51	4,010.00	4,566.71	2,382.55	2,536.36
Pipeline accident prevention	4,981.09	4,306.14	5,193.77	5,078.22	4,814.70	4,925.87
Industrial wastes and wastewater utilization and decontamination	7,333.30	6,457.79	6,370.34	9,330.36	8,493.88	8,007.65
Prevention and elimination of oil contamination consequences, reconstruction of production facilities	1,487.13	1,293.76	1,183.44	1,083.96	750.93	898.54
Sludge pits reclamation	360.15	398.90	487.86	441.17	396.14	792.97
Monitoring	131.64	143.19	189.03	249.93	268.64	287.46
Air protection	90.98	104.37	98.42	92.73	105.99	95.31
R&D and other activities and services, environmental training, specialist training and certification	93.78	110.11	200.91	263.02	189.75	346.07
<b>Total costs of measures</b>	<b>18,578.50</b>	<b>17,892.77</b>	<b>17,733.77</b>	<b>21,106.10</b>	<b>17,402.58</b>	<b>17,890.23</b>

### Investments in environmental protection measures in 2018





# The Company’s readiness to adopt the best available technologies

Since 2018, there has been an environmental reform in Russia. Adoption of the best available technologies (BAT) is a strategic task, determined by the Government of the Russian Federation in the field of environmental protection.

“Surgutneftegas” PJSC in a timely manner started to solve vital environmental protection problems in accordance with the new normative acts and the new requirements, which depend on the volume of a negative impact.

At the end of 2017, all facilities, technologies and equipment of the Company were evaluated for their compliance with the principles of BAT. Registration of facilities, that have a negative environmental impact, was performed according to an integrated data, which is a key aspect of adopting the principles of BAT by enterprises and can be found in BAT information and technical reference books.

“Surgutneftegas” PJSC being among the eight domestic vertically integrated oil and gas companies, which provide about 90% of all oil production in Russia, operates 30 oil production facilities and 11 waste management facilities. These facilities are classified as I category facilities, that have a negative environmental impact. Technologies and equipment used at these Company’s facilities comply with BAT.

The requirements on new comprehensive and declared approval environmental protection documents on companies’ business activities became effective in the Russian Federation on 1 January 2019. Due to the preventive measures taken in 2018, the Company has all the required documents.

In the reporting year, “Surgutneftegas” PJSC won the XIV All-Russia contest “Leader of environmental protection in Russia” in the category “Best environmentally responsible company in oil and gas production industry”. The Company’s environmental management is recognized by the first prize diploma in the rating of transparency of oil and gas companies in Russia in the sphere of environmental responsibility. The results of the rating are provided by the World Wildlife Fund (WWF) and “CREON” group.



# 02

## **Environmental safety**







# Accident risk mitigation measures

**“Surgutneftegas” PJSC environmental safety is largely based on the operational reliability of field pipelines. In order to mitigate the accident risks, the Company applies efficient solutions for optimized quality control of construction and safe maintenance of field pipelines.**

The Company implements a long-term comprehensive program on increasing the operational reliability of the field pipelines, which includes the following activities:

- design, using the best available technologies;
- receipt inspection of pipes and fittings;
- quality control of field pipelines construction;
- use of pipes with an anti-corrosion coating;
- dehydration of well production fluid;
- inhibitor protection;
- field pipeline corrosion monitoring and diagnostics;
- control over pressure and volume balance of pumped fluids;
- computer modeling and optimization of operation modes;
- monitoring of main pipelines condition, including the use of aircrafts equipped with video monitoring;
- timely repair and replacement of accident-prone pipeline sections.

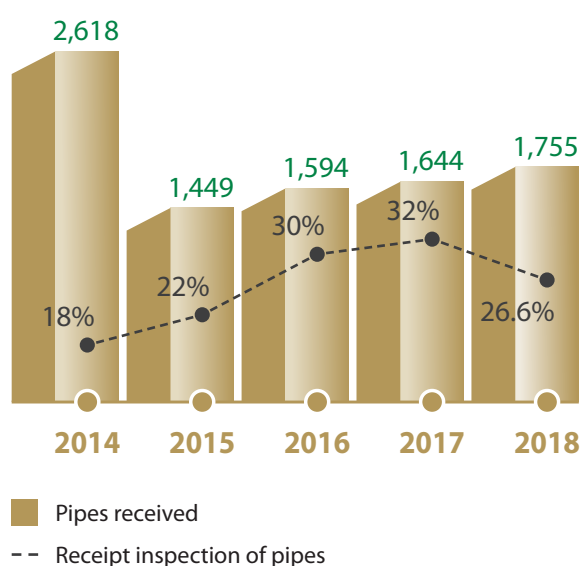
# Receipt inspection of pipe products

**“Surgutneftegas” PJSC ensures the environmental safety of pipelines starting from the receipt of pipes. In order to confirm its high quality a receipt inspection of pipes is performed using both destructive and non-destructive methods.**

All pipes that come to “Surgutneftegas” PJSC for construction of oil pipelines and oil and gas pipelines undergo a receipt inspection for compliance with the technical requirements using non-destructive methods.

In the reporting year, the receipt inspection using destructive methods amounted to 467.2 kilometers (26.6%) with 2 kilometers of rejected pipes being replaced by the supplier with high quality products.

Receipt inspection of oil and gas pipes using destructive methods, km



100% OF PIPES UNDERGO A RECEIPT INSPECTION USING NON-DESTRUCTIVE METHODS

# Field pipeline corrosion monitoring and diagnostics

The most accurate diagnostic type of inspection of field pipelines in “Surgutneftegas” PJSC is pipe pigging.

For the period from 2012 to 2018, the Company performed diagnostics of 2,516 kilometers (82%) of its field pipelines. Corrosion monitoring of pumped fluids in pipelines is performed at 686 points of control. This method is an effective tool to control the efficiency and the process of corrosion protection.

Based on the received data, an annual overhaul program is planned as well as other measures to increase the operational reliability of field pipelines, which allowed the Company to repair 616 kilometers of pipelines in the reporting year.

ANNUALLY, **500-700 KILOMETERS** OF FIELD PIPELINES UNDERGO PIPE PIGGING





# Pipeline inhibitor protection

In order to control the corrosion inhibitors quality, the Company created the system for the admission of chemical products for use.

In 2018, the inhibitor protection was performed on 2,268 kilometers of field pipelines, the inhibitor injection was performed by 292 chemical injection units,

equipped with devices for automatic control of operating parameters with technological processes online data transfer to ASU TP "OKO-TsITS OGPD".

THE EFFECTIVENESS OF INHIBITOR FIELD PIPELINE PROTECTION OF  
"SURGUTNEFTEGAS" PJSC IS **90-95%**



# Use of pipe products with an internal coating

In seven years, “Surgutneftegas” PJSC will use only oil and gas pipelines with an internal coating. The use of pipes with improved corrosion resistance is the priority in minimizing environmental risks.

Since 2013, the Company has been operating the program on capital construction, reconstruction and repair of oil and gas pipelines using only pipes with an internal coating. Taking into consideration the world cutting-edge experience, “Surgutneftegas” PJSC constructed a plant for application of an internal anti-corrosion polymer coating on pipes and fittings. The plant has been successfully operating for 4 years. During this period, the Company produced over 2,200 kilometers of pipes and 78,000 pipeline fittings. To protect welded pipe joints having an internal anti-corrosion coating, the Company uses protective sleeves of its own production. In the reporting year,

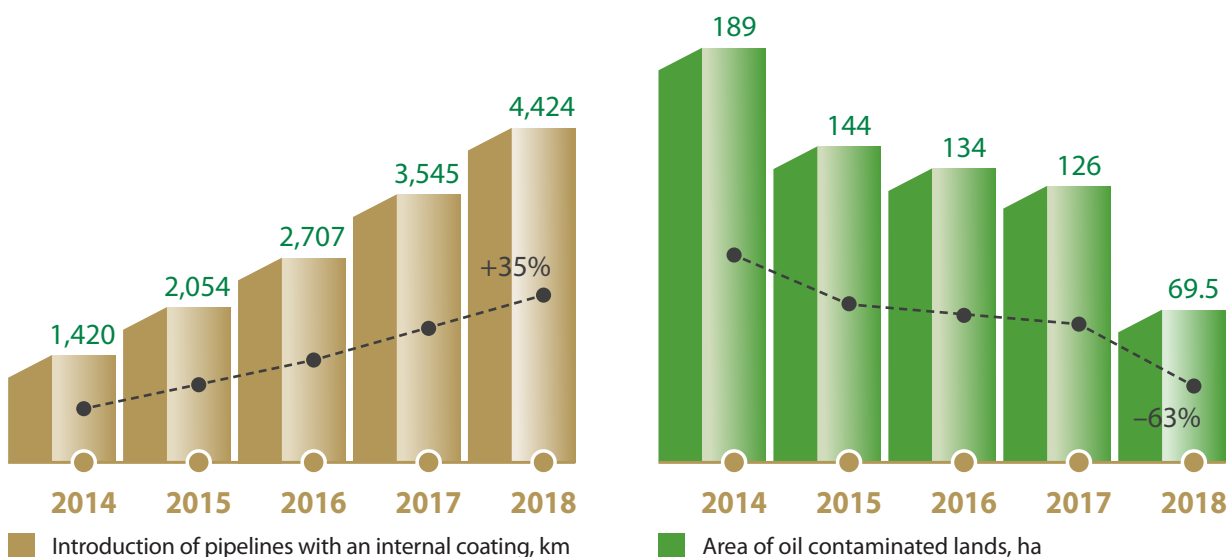
the Company produced more than 66,000 of those.

In 2018, “Surgutneftegas” PJSC constructed 879.4 kilometers of pipelines with an internal protective coating, including 500.6 kilometers – according to the capital construction plan, and 378.8 kilometers – as a part of the overhaul program. In total, the Company operates about 4,400 kilometers of such field pipelines (54% from the total length of oil and gas pipelines of “Surgutneftegas” PJSC).

Since 2014, the length of oil and gas pipelines with an internal coating has increased more than three-fold and at the end of 2019 will exceed 5,300 kilometers.

BY 2025, THE SHARE OF THE COMPANY’S OIL AND GAS PIPELINES WITH AN INTERNAL COATING WILL BE **100%**

Effectiveness of introduction of pipelines with an internal coating



# Dehydration of oil

**Intra-field dehydration of well production fluid ensures mitigation of accident risks, reduction of pipelines length and power consumption during oil pumping and allows the Company to rationally use the water resources.**

Transportation of dehydrated oil is one of the efficient methods of corrosion protection. Dehydration of oil by “Surgutneftegas” PJSC is done at 112 booster pump stations with initial water separation units, 106 of which are equipped with Heater-Treater three-phase separators.

Separation and reuse of formation water in the reservoir pressure maintenance system

in close proximity to the production sites allow the Company to decrease the diameter and length of pipelines, eliminate the corrosion-prone operation mode of pipelines, mitigates accident spill risks and the possibility of environmental pollution.

Due to preventive measures, the Company managed to perform accident-free operation of its field pipelines in 2018.





A circular graphic design with a thick green border. The background is a photograph of a field with tall green grass and a blue sky with clouds. In the distance, a building with a blue roof is visible. The design is divided into two main sections by a white curved line.

# 03

## **Environmental activity**







# Air protection

For seven years, “Surgutneftegas” PJSC has been holding the record level of utilization of associated petroleum gas (APG) among Russian fuel and energy complex companies – over 99%. Thus, the amount of emissions of pollutants from flaring decreased by 94% against 2004 and emissions of more than 30 million tonnes of greenhouse gas (in CO<sub>2</sub>-equivalent) into the atmosphere were prevented.

The Company was able to achieve these solid results thanks to a comprehensive approach to air protection measures, a high level of investments in construction and upgrading of facilities.

AT THE END OF 2018, THE LEVEL OF EFFICIENT APG UTILIZATION IS **99.56%**

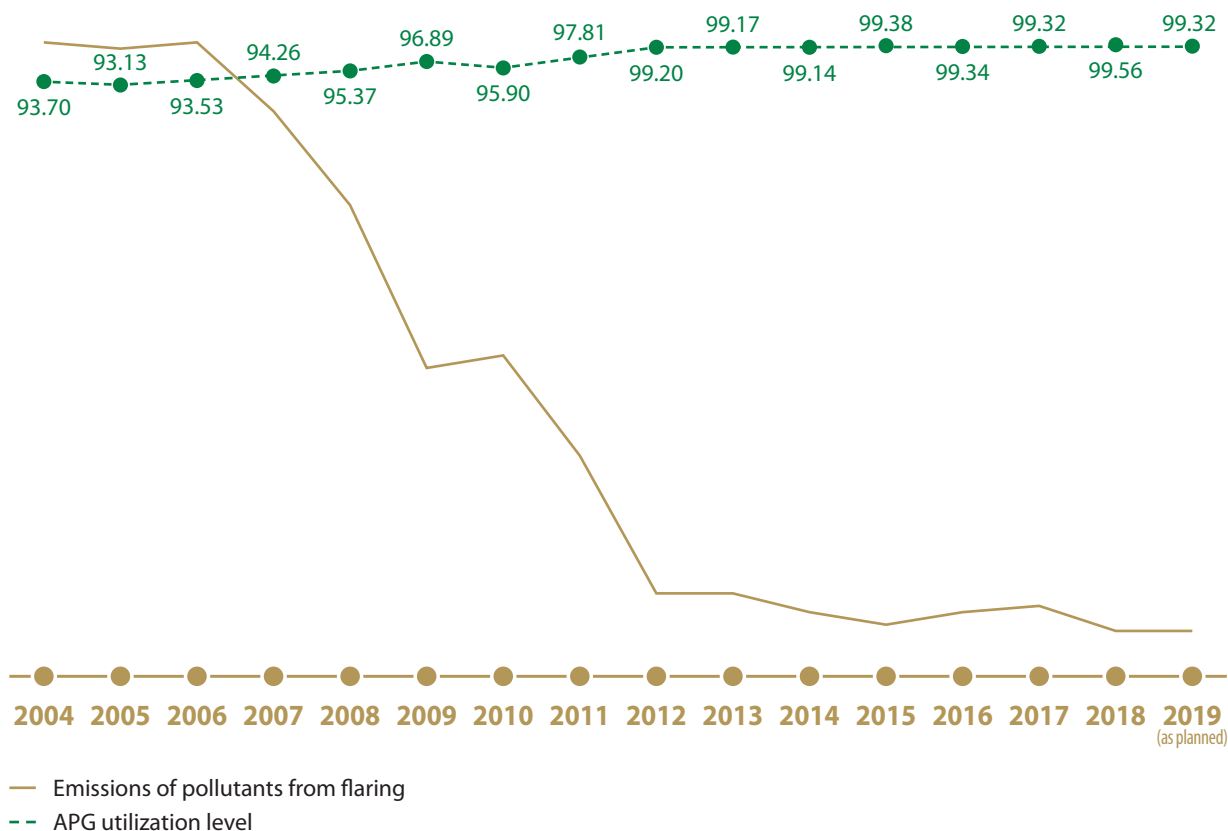
The Company started to implement innovative projects in the sphere of climate changes long before the introduction of obligatory legal requirements. One of environmental initiatives of the Company that contributed to the reduction of gas flaring, in addition to using 30 small-scale power generation facilities, was introduction and upgrading of 22 low pressure separation compressor stations, which can fully extract

the gas saturated with heavy hydrocarbons from the oil emulsion (more than 1.5 billion cubic meters annually).

“Surgutneftegas” PJSC has a powerful and well-developed production infrastructure, which employs a gas processing plant, compressor station for gas injection, transport compressor stations, gas pipelines and gas distribution stations. Besides, APG is utilized across the areas of the Company’s operations as fuel in boilers, furnaces, initial water separation units, etc. In the reporting year, the level of efficient APG utilization at 58 fields of the Company was 99% and higher.

**0% – THE BEST INDICATOR (ZERO LEVEL OF APG FLARING) IS REACHED AT 14 FIELDS OF THE COMPANY**

## APG utilization level and emissions of pollutants from flaring, %



## AIR PROTECTION MEASURES

For the purpose of APG utilization and reduction of the negative impact on ambient air, “Surgutneftegas” PJSC implements the following measures:

- construction of facilities for APG utilization, their technical reequipment, reconstruction and upgrading;
- improvement of energy efficiency of production and reduction of hydrocarbon losses, including due to prevention of accident emissions of pollutants into ambient air.
- performing regular operating setup of fuel-fired equipment;
- using gas treatment units, controlling their efficiency, performing routine repairs and overhaul;
- decrease emissions during the periods of adverse meteorological conditions;
- using environmentally friendly fuel;
- renewal of motor vehicle fleet, an increase of fuel efficiency of motor vehicles;
- transition of the equipment to coolants, which are safe for the ozone layer;
- performing regular checks of transport and other vehicles for compliance with technical standards for emissions;
- industrial environmental control;
- recording of emissions of pollutants, including greenhouse gases and chemicals that destroy the ozone layer;
- improvement of arrangement and quality of air protection in the Company.

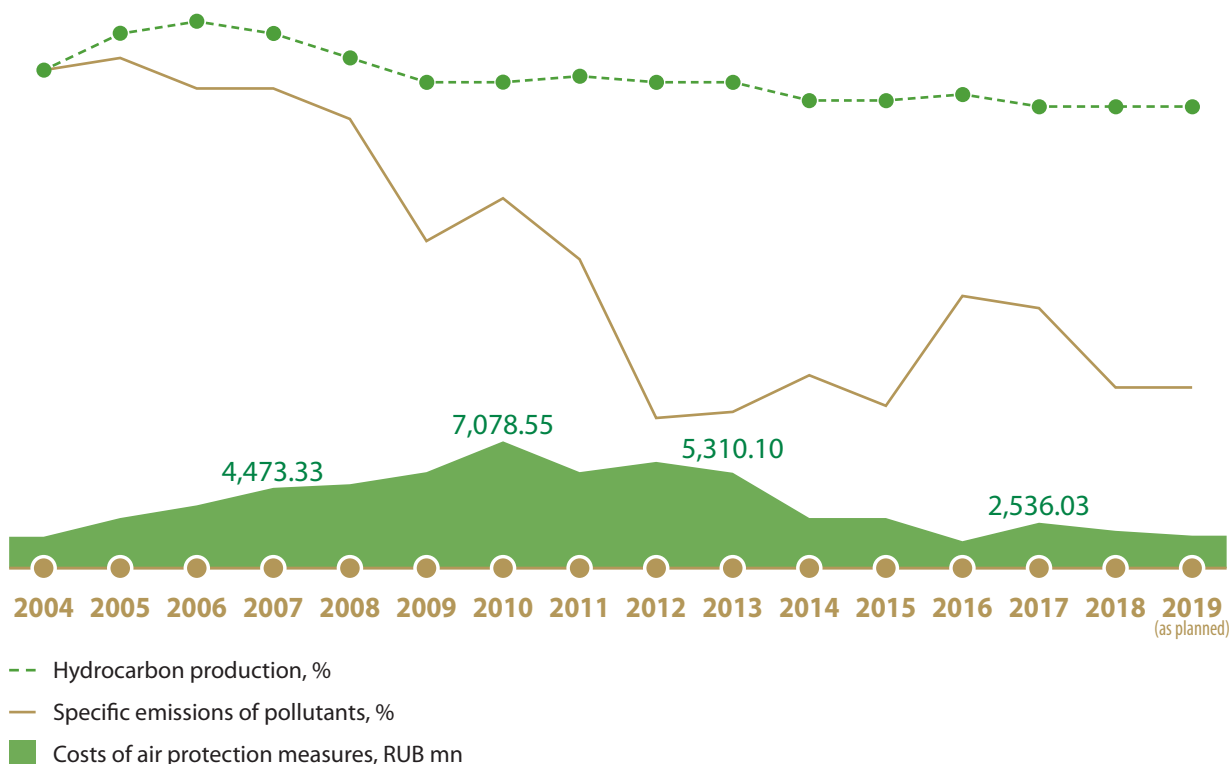


Designing and construction of air protection facilities are performed by "Surgutneftegas" PJSC at its own expense. Investments in fixed assets amounted to RUB 58 billion for the last 15 years. A decrease of investments in construction and reconstruction of facilities for utilization of associated petroleum gas is determined by the fact that the Company has a complete production infrastructure for APG utilization in the existing fields and investments are made for ensuring efficient APG utilization in new oil fields. The rate of specific emissions of pollutants with the stable high level of hydrocarbon production is decreased more than two-fold against 2004

(from 4.09 kilograms to 1.98 kilograms per tonne of produced hydrocarbons).

In the reporting year, the investments of "Surgutneftegas" PJSC in construction and technical reequipment of facilities for APG utilization amounted to 81.5% of the total volume of capital investments in construction of environmental facilities. The Company spent over RUB 2 billion on air protection measures. A network of gas pipelines, gas separation facility at the Rogozhnikovskoye field and low pressure separation compressor station at the Yuzhno-Vatlorskoye field were constructed. Construction of a low pressure separation compressor station at the Yuzhno-Nyurymyskoye field is expected in 2019.

#### Hydrocarbon production, specific emissions of pollutants, costs of air protection measures



## ENVIRONMENTAL EFFECT FROM AIR PROTECTION MEASURES

Implementation of air protection measures in 2018 compared to 2017 let the Company to:

- ensure high rates of APG utilization – 99.56%;
- decrease the volume of associated petroleum gas flaring two-fold;
- decrease the volume of emissions of pollutants from stationary sources by 21%;
- prevent emissions of pollutants due to rational use of associated petroleum gas by more than 3 million tonnes per year (including by 340 thousand tonnes of methane greenhouse gas, which is about 9 million tonnes in CO<sub>2</sub>-equivalent);
- reach a high level of air pollutants caught by gas treatment units (more than 22 thousand tonnes);

- withdraw substances which destroy the ozone layer (more than 38% of the total coolant consumption) from the use;
- reduce emissions of pollutants from motor vehicles by 10% by increasing their fuel efficiency and using environmentally friendly fuel (more than 94% of the total consumption);
- decrease the rate of specific emissions from 2.51 kilograms to 1.98 kilograms per tonne of produced hydrocarbons;
- ensure the existence and compliance with emissions standards at each source and prevent above-limit emissions into ambient air.

A systematic approach to reduce a man-made impact on ambient air, preservation of ecosystems and rational use of natural resources allow the Company to significantly minimize the negative impact on the atmosphere as a result of production operations of “Surgutneftegas” PJSC.





# Protection and rational use of water resources

**“Surgutneftegas” PJSC minimizes the impact of business activities on water bodies by implementing a set of measures aimed at saving, rational use of water resources and protection of water bodies from pollution.**

According to the monitoring results of the environmental components at the Company's license blocks, the environmental impact is described as acceptable. The Company performs surface and ground water abstraction in strict compliance with the project and regulatory documents. In the reporting year, fresh groundwater reserves were evaluated at water intake points with production rate over 100 cubic meters per day.

There are sanitary protection zones developed for household and drinking water intake points, their projects have obtained a sanitary and epidemiological approval.

To maintain reservoir pressure, the Company is gradually switching to the use of underground saline water instead of fresh one (from surface water bodies) which can be used for household and drinking water supply. In the reporting year alone, more than 1.5 million cubic meters of fresh water was saved; the plan for 2019 is to make it 1.8 million cubic meters.

**THE COMPANY ABSTRACTS 47% OF THE ALLOWABLE VOLUME OF FRESH WATER**

**100% OF WATER INTAKE POINTS OF “SURGUTNEFTEGAS” PJSC ARE EQUIPPED WITH WATER METERING INSTRUMENTS**

“Surgutneftegas” PJSC puts special emphasis on the rational use of water resources. In recent years, the total specific water consumption has been kept at a minimum level of less than 1.5 cubic meters of water per tonne of hydrocarbons produced.

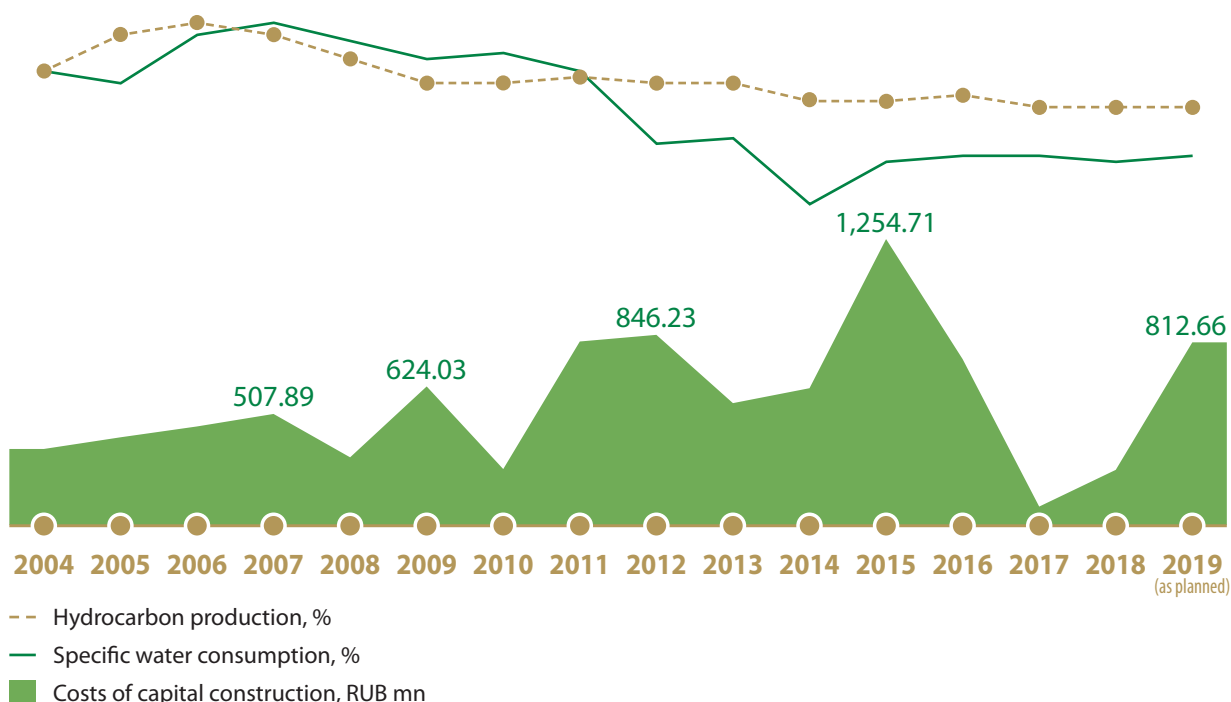
“Surgutneftegas” PJSC recycles treated industrial wastewater as injectant in the reservoir pressure maintenance system. In 2018, about 429.8 million cubic meters of wastewater and produced water was injected. Total volume of treated household wastewater injected to maintain reservoir pressure in the reporting year was 4.4 million cubic meters, including 2.8 million cubic meters in the Republic of Sakha (Yakutia).

Effluents from the facilities located in the Yakut village of Vitim are streamed to the Romanovsky Klyuch brook only after

## INFORMATION ON WATER CONSUMPTION

Indicator	Unit	2017	2018	2019 (as planned)
Water production	'000 cub m	83,258.53	83,652.57	82,816.04
incl. fresh subsoil	'000 cub m	4,426.35	4,187.42	4,145.55
Surface water abstraction	'000 cub m	17,847.02	16,313.06	14,500.96
Specific water consumption	cub m/t	1.418	1.408	1.424

## Hydrocarbon production, specific water consumption, costs of capital construction of water protecting facilities



being cleaned to the required standard at biological treatment facilities.

"Surgutneftegas" PJSC implements a comprehensive program on increasing the operational reliability of the oil production facilities involving the construction of initial water separation units based on three-phase separators. These units are usually mounted on booster pump stations and are designed to separate the water-oil emulsion and bring the water to the requirements of the relevant standards. IWSU enables to efficiently separate produced formation water for its further use in the reservoir pressure maintenance system,

thereby reducing the corrosion of pipelines, which significantly cuts down the likelihood of failures at the Company's field pipelines and, as a result, the possibility of pollution of water bodies.

Reconstruction of oilfield infrastructure is performed in accordance with the requirements of environmental legislation: in the reporting year, drain tanks were installed at 18 well pads, ramps were reconstructed at 81 sites. In 2018, the capital investments of "Surgutneftegas" PJSC in construction of all water protecting facilities exceeded RUB 269 million.

**OVER RUB 812 MILLION – IN 2019, THE COMPANY WILL TRIPLE FINANCING OF WATER PROTECTING FACILITIES CONSTRUCTION**

## INFORMATION ON WATER DISCHARGE

Indicator	Unit	2017	2018	2019 (as planned)
Wastewater injection	'000 cub m	446,545.1	429,783.62	425,506.11
incl. household wastewater	'000 cub m	4,240.5	4,441.08	4,396.67
Treated wastewater discharge into water bodies	'000 cub m	21.7	19.83	22.5



# Waste management

The advanced innovative technologies that “Surgutneftegas” PJSC uses in waste management correspond to the best available technologies. Thus, the technology of pitless drilling is included in the Russian BAT information and technical reference book (“Oil production” industry) and can be used by the Company without restrictions.

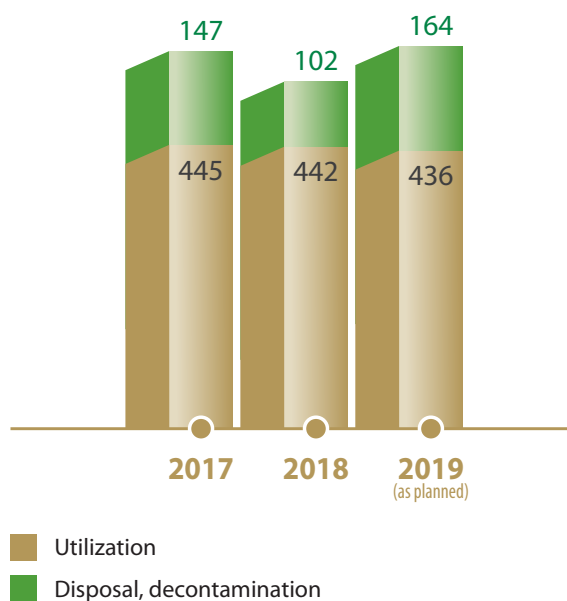
“Surgutneftegas” PJSC seeks to minimize a negative environmental impact of production, reducing the amount of drilling waste generation, gradually refusing to use toxic chemicals and oil for the preparation of drilling fluids. Drill cuttings constitute the greater part (over 70%) of all consumption and production wastes of the Company, generated each year in the amount of about 800 thousand tonnes.

**OVER 75% – “SURGUTNEFTEGAS” PJSC  
DRILL CUTTINGS UTILIZATION LEVEL**

Environmentally friendly and resource saving technology of pitless drilling, successfully employed by the Company in Western Siberia, is one of the most promising global practices in terms of environmental protection. In the process of drilling, only clay based drilling fluids with the addition of biodegradable polymers are used, four-stage cleaning and circulation systems for drilling fluid are employed. Decontaminated drill cuttings are utilized as soil during earth fill construction on well pads.

Application of this BAT allows “Surgutneftegas” PJSC to drill wells in areas with a special mode of management, avoiding transportation of this type of waste to utilization sites and necessity to decontaminate it for further disposal and burial.

“Surgutneftegas” PJSC data on drill cuttings utilization as soil during earth fill construction on development and exploratory drilling sites, '000 tonnes



## WASTE MANAGEMENT IN “SURGUTNEFTEGAS” PJSC

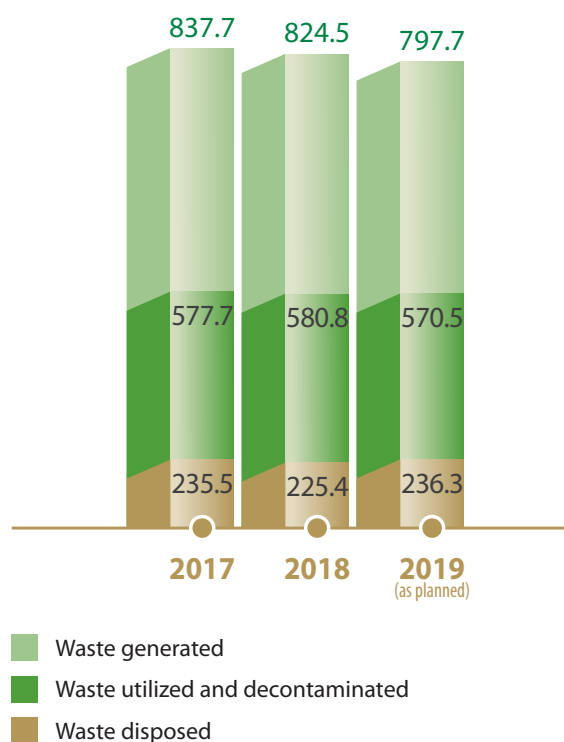
Indicator	2017	2018	2019 (as planned)
Waste generated, '000 tonnes	837.66	824.49	797.70
incl. drilling waste	591.94	584.61	559.10
Waste utilized, '000 tonnes	527.11	535.10	523.10
incl. drilling waste	444.54	455.16	442.61
Waste utilization level, %	62.93	64.90	65.58
incl. drilling waste, %	75.10	77.92	79.16
Waste decontaminated, '000 tonnes	50.54	45.73	47.40
incl. drilling waste	27.75	28.14	27.60
Waste disposal and burial, '000 tonnes	235.52	225.37	236.30
incl. drilling waste	100.90	92.65	98.00

“Surgutneftegas” PJSC uses single and multiple cell sludge storage ponds that collect oil sludge and drill cuttings, oil containing fluids and contaminated soil all year round. As many as 6 centers for oily soil decontamination that include 4 upgraded lines for fluid phase recycling, equipped with tricanter centrifuges, are used for maximum recovery of oil that returns to the technological process. The remaining solid phase of oil sludge is decontaminated by a thermal method using 10 Szhigatel incineration units.

Due to such a high level of equipment availability, the annual burial of over 60 thousand cubic meters of oil sludge and oily soils is prevented as the Company fully decontaminates this waste.

**100% – OIL SLUDGE  
DECONTAMINATION LEVEL**

Waste management  
in “Surgutneftegas” PJSC,  
'000 tonnes



## DECONTAMINATION OF OIL SLUDGE AND OILY SOILS

Indicator	2017	2018	2019 (as planned)
Generation, '000 cub m	55.56	60.33	65.05
Decontamination, '000 cub m, incl.:	55.56	60.33	65.05
using Szhigatel incinerators	46.29	50.54	52.90
at panning centers	9.27	9.79	12.15
Decontamination level, %	100	100	100

The Company uses 21 Forsazh thermal destruction units for thermal decontamination of oily waste cloth, filters and other solid oily waste (0.392 thousand tonnes in total).

All mercury containing waste of hazard class I (in 2018 – 31.04 tonnes) has been transferred under the contracts to specialized companies for further decontamination.

The Company utilizes 100% of used oils and tires employing its own equipment. Used oils generated in "Surgutneftegas" PJSC are fully utilized into commercial oil after clean-up (settling). Worn-out car tires with fabric and metal cords are also fully recycled by the Company. The complex of equipment produces pellets from rubber car tires, which are used to modify bitumen at asphalt-concrete plants of the Company. The resulting products are certified and widely demanded by third-party consumers.

The Company also sells recyclable material obtained by grinding paper and polymer-containing waste products, as well as by pressing cardboard.

In 2018, "Surgutneftegas" PJSC completed the construction of a site for disposal, accumulation and decontamination of production and consumption waste at the Yuzhno-Nyurymskoye field.

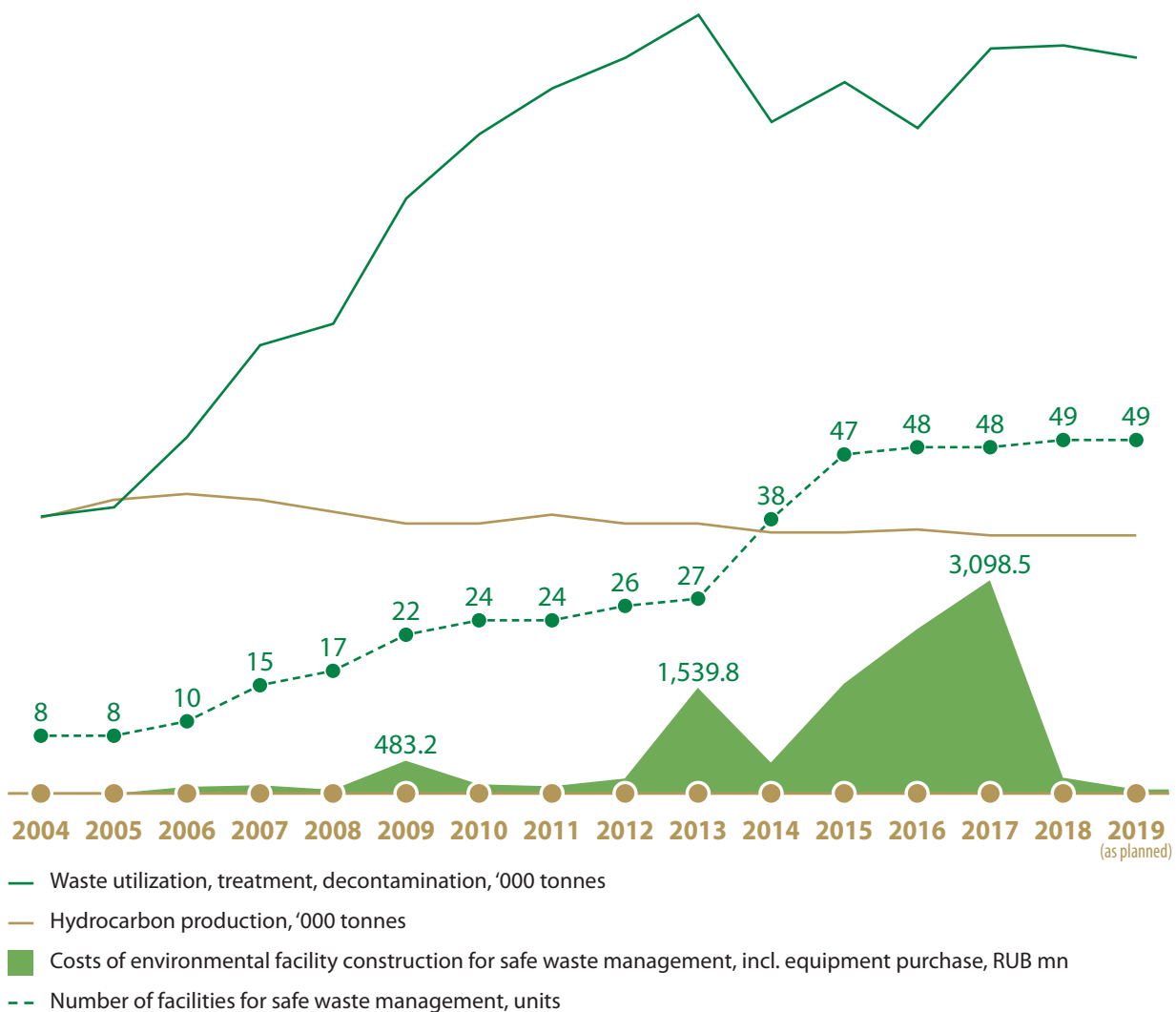
**100% OF GENERATED OIL SLUDGE, USED OILS, TIRES WITH METAL AND FABRIC CORDS IS UTILIZED AND DECONTAMINATED DUE TO THE COMPANY'S PRODUCTION PROCESS**

## WASTE UTILIZATION AND RECYCLING

Indicator	2017	2018	2019 (as planned)
Used oils utilization, '000 tonnes	2.559	2.285	3.379
Used tires recycling, '000 tonnes	2.305	2.673	2.302
Paper, plastic recycling, '000 tonnes	0.472	0.403	0.361



Hydrocarbon production, waste utilization, treatment and decontamination, costs of construction and purchase of environmental facilities for safe waste management



FOR YEARS, BY DIRECTING SIGNIFICANT INVESTMENTS IN THE CONSTRUCTION OF FACILITIES AND PURCHASE OF EQUIPMENT FOR SAFE WASTE MANAGEMENT, THE COMPANY HAS PROVIDED:

- LOW SPECIFIC INDICATOR OF WASTE GENERATION AND BURIAL (0.012 TONNES AND 0.003 TONNES PER 1 TONNE OF PRODUCED HYDROCARBONS RESPECTIVELY);
- HIGH LEVEL OF WASTE UTILIZATION, TREATMENT AND DECONTAMINATION (OVER 70%)

# Protection and rational use of land

## LAND RECLAMATION

*“Surgutneftegas” PJSC rationally uses land resources, annually taking comprehensive measures for the technical and biological reclamation of disturbed lands in order to restore their fertility and timely return to the State Forest Fund of the Russian Federation.*

The Company places its facilities closely across the areas of its operations with the minimum possible land allocation. Subsequently, reclamation of disturbed lands is consistently carried out, after which they are returned to the State Forest Fund in accordance with corporate programs and project documents.

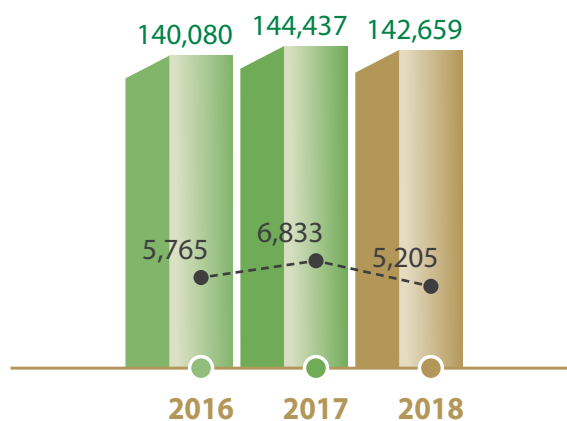
The area of lands that are used by the Company after increasing following the commissioning of production facilities of the new oil and gas cluster in Tyumenskaya Oblast in 2017, decreased in the reporting year due to the reclamation and return of the lands to the Russian Forest Fund and now it is 142,659 ha.

**5,205 HECTARES OF LANDS  
RETURNED TO THE FOREST FUND OF  
THE RUSSIAN FEDERATION IN 2018**

“Surgutneftegas” PJSC conducts reclamation taking into account the individual characteristics of each land plot: depending on the type of landscape, climatic and environmental conditions, the necessary equipment and materials are used to minimize damage and the load on the soil. Monitoring of the plants condition continues even after the completion of the works provided for by the project. Industrial environmental control is constantly exercised during infrastructure construction, field development and land reclamation phases, which ensures high efficiency of all kinds of “Surgutneftegas” PJSC operations related to the land use.

For many years, the Company has been in good standing for the purposes of land reclamation and return.

Land area in use  
by “Surgutneftegas” PJSC,  
ha



-- Return of lands to the Forest Fund  
of the Russian Federation

## RECLAMATION OF LANDS DISTURBED DURING CONSTRUCTION AND OPERATION OF SLUDGE PITS

*The Company actively employs the method of sludge pit reclamation by forest rehabilitation, which maximizes the use of natural mechanisms for the restoration of ecosystems on once-disturbed land plots. The unique technology developed in cooperation with V. N. Sukachev Institute of Forest SB RAS is certified by the State Environmental Expert Commission.*

Effective restoration of ecological functions of disturbed lands, reduction of the negative impact of drilling waste – this is a part of the Ecology corporate program adopted in “Surgutneftegas” PJSC. The method of forest rehabilitation excludes backfilling of sludge pits, due to this, natural processes take place: oil sludge transforms into soil forming material, planted reed mace and willow grow stimulating the process of sludge pit overgrowing. This technology has been used by the Company in Western Siberia for more than 20 years; during this time, the sites

once occupied by sludge pits have turned into forest communities characterized by biological diversity and high productivity.

In the reporting year, “Surgutneftegas” PJSC reclaimed 29 sludge pits using this technology. The Company’s demand for soil was reduced, and as a result, the ecosystem

has been preserved from destruction under piles of sand over an area of about 55.46 hectares, it was possible to avoid the construction of water-flooded pits over the area of about 164 hectares. Besides, about 36.3 thousand tonnes of motor vehicle emissions have been prevented.

**1,873 SLUDGE PITS RECLAIMED THROUGH FOREST REHABILITATION  
BY SURGUTNEFTEGAS SINCE 1997**

## THE MAIN COMPONENTS OF SLUDGE PITS RECLAMATION METHOD

Construction phase	Operation phase	Reclamation phase
<b>Reinforced sludge pit construction</b>	<b>Drilling waste disposal for maximum hazard class IV</b>	<b>Refusal to backfill drilling waste surface</b>
• double diking	• use of low hazard chemicals	• recovery of cofferdams and filling of a “ledge” in a sludge pit
• making a hydraulic lock	• use of a four-stage drilling fluid cleaning system	• application of a peat sand mix
• waterproofing with a clay drilling mud		• planting reed mace and willow sprigs



### SLUDGE PIT BEFORE COMMENCEMENT OF DRILLING

A sludge pit on a well pad is designed for drilling waste disposal and collecting drilling wastewater generated during the construction of wells. After drilling operations are completed, the sludge pit requires reclamation.



### RECLAIMED SLUDGE PIT

Following reclamation work, phytocenoses appear in place of sludge pits, and they surpass the permanent plant community in terms of productivity and biological diversity.



## POLLUTION PREVENTION AND ELIMINATION

*Prevention of land pollution by oil and oil products is the most important area of measures for the protection of land resources. "Surgutneftegas" PJSC has a unique oil spill prevention and response system that meets international environmental safety standards adopted in the oil industry.*

The Company, with its own necessary equipment, is ready to immediately begin to eliminate the effects of oil and oil product spills of any level (from local to federal) on various types of terrain and under any conditions, to prevent the death of animals, including birds, and to ensure high-quality reclamation of polluted lands.

The Company's oil spill response fleet includes the following equipment and materials:

- 128 oil skimmers designed to operate in various oil viscosities and under diverse weather and climatic conditions;
- 4 skimmer boats for skimming of oil on the surface of rivers and lakes, including 6 shallow water trimarans;
- 91 self-contained pumps;
- 12.78 kilometers of easy-to-assemble aluminum pipes;
- 20.68 kilometers of rapid deployment booms both lightweight and reinforced made of frost-proof materials, including for onshore protection;
- 23.43 kilometers of absorbent booms;
- 42 mobile tanks for temporary storage of skimmed oil;

- 22 sprinklers for biological agents and bacteria treatment;
- 9 units for producing thermally exfoliated graphite absorbent (U-SRTG) with the capacity of 30 kilograms per hour;
- 30 multifunctional floating platforms equipped with an attached system for water bodies and inshore zone integrated treatment;
- 85 vacuum dump trucks and tank trucks for oil products pumpdown and transportation from the areas of oil spills;
- 146 dump trucks for soil transportation;
- 23 all-terrain vehicles with excavators and other equipment.

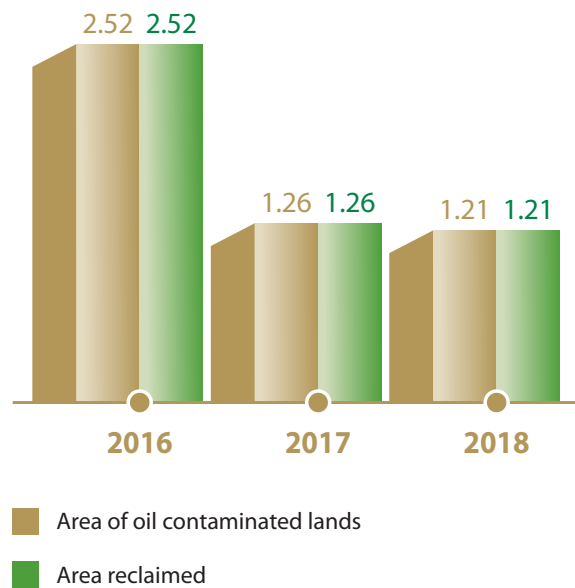
The Company conducts regular comprehensive exercises in order to develop practical skills for the prevention and elimination of emergency situations caused by oil spills, for the effective interaction of personnel and maintaining a high level of readiness.

Thus, in May 2018, a comprehensive exercise was held on the Pim River at the Lyantorskoye field, in which six of the eight accident rescue squads of the out-of-staff accident rescue unit of the Company took part. The exercise involved 187 workers, including professional rescuers certified by a commission of the Ministry of Energy of the Russian Federation, 60 units of vehicles and 258 units of purpose-built equipment were used. The joint integrated man-caused emergency response exercise showed a high level of training for the out-of-staff accident rescue unit that carried out all the necessary actions provided for in the plan for the prevention and elimination of oil and

oil products spills at production facilities, including situations when spills enter rivers.

For more than five years, "Surgutneftegas" PJSC has been performing reclamation work only at recently emerged areas, the so-called "old" oil contaminations are absent. In 2018, there were two oil spill incidents at the Company's fields (one due to a criminal tie-in, the second due to internal corrosion of the pipeline), and a total land area of 1.21 hectares was reclaimed. Additionally, in 2018, previously reclaimed lands with the area of 1.26 hectares were excluded from the register of territories and water bodies of Khanty-Mansiysky Autonomous Okrug – Yugra contaminated by oil, oil products and produced water.

Reclamation of oil contaminated lands  
"Surgutneftegas" PJSC,  
ha



# Forest protection

As much as 99% of the land plots used by “Surgutneftegas” PJSC are located in the territory of the Forest Fund of the Russian Federation. The Company does not allow the use of forests and lands for carrying out the geological study of the subsoil and the development of mineral resources without issued permits (title documents).

The Company strives to accomplish most work in the forests in winter time, provided there is enough snow, in order to preserve the ability of self-rehabilitation of the soil cover. Specialty vehicles with wide pneumatic wheels and tracks are used, which helps to avoid additional load and soil disturbance.

Every year efficient land reclamation is performed in a timely manner, measures are taken to prevent littering of adjacent forest areas, which serves to prevent violations in management of production and consumption wastes, and eliminate unauthorized landfills. “Surgutneftegas” PJSC employees undertake volunteer clean-ups on a regular basis to clear the territory and take out the garbage left by the forest visitors. The Company has introduced an access mode restricting the entry into the forested areas of all comers, including poachers from among hunters and fishermen.

FOLLOWING THE VOLUNTEER  
CLEAN-UPS IN 2018, SURGUTNEFTEGAS  
EMPLOYEES COLLECTED  
MORE THAN **3 THOUSAND TONNES**  
OF GARBAGE IN FORESTED AREAS  
AND INSHORE ZONES WHICH  
WAS TAKEN TO LANDFILLS

In order to protect production facilities, adjacent territories and forest resources from fire, the Company annually takes fire prevention measures, trained personnel are ready to respond promptly in case of possible fires. Mineralized fire barrier strips are created along the borders of the forest, all stationary and mobile points of production sites are equipped with fire-fighting equipment; it is obligatory for the equipment in use to be fitted with spark arresters.



# Indicators of an environmental impact

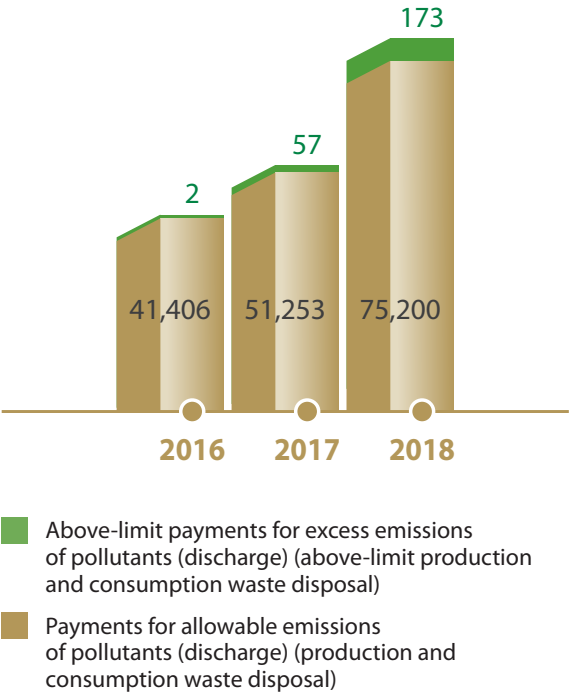
For five years, "Surgutneftegas" PJSC – applying a comprehensive approach to solving environmental protection problems – has maintained the position of the industry leader among enterprises with a minimum negative environmental impact.

No.	Name of specific indicator	Unit	2015	2016	2017	2018
1	Oil production	'000 tonnes	61,621.5	61,848.7	60,544.9	60,886.2
2	Hydrocarbon production	'000 tonnes	71,167.73	71,575.72	70,472.46	70,490.52
3	Gross pollutant emissions into the atmosphere	'000 tonnes	132.2	185.1	176.7	139.5
4	Specific pollutant emissions into the atmosphere per unit of produced hydrocarbons	kt/t	1.86	2.59	2.51	1.98
5	APG utilization level	%	99.38	99.34	99.32	99.56
6	Waste generated	'000 tonnes	725.8	714.0	797.3	798.6
7	In-house utilized waste	'000 tonnes	452.6	417.1	462.3	480.5
8	Waste treated in in-house production	'000 tonnes	43.0	43.9	50.5	45.7
9	Transferred to external companies	'000 tonnes	183.3	181.7	176.7	164.1
10	Specific indicator of waste disposal per unit of produced hydrocarbons	t/t	0.002	0.003	0.003	0.003
11	Water consumption	'000 cub m	100,509.8	101,551.04	101,105.56	99,965.63
12	Specific water consumption per unit of produced hydrocarbons	cub m/t	1.411	1.426	1.418	1.408
13	Discharge of wastewater into surface water bodies	cub m	0	0	0	0
14	Total land area at the beginning of the year	ha	131,681	133,798	140,080	144,437
15	Total land area at the end of the year	ha	133,798	140,080	144,437	142,659
16	Disturbed land area at the beginning of the year	ha	14,251	13,742	10,700	10,373
17	Disturbed land area at the end of the year	ha	3,060	7,911	3,866	5,168
18	Polluted land area at the beginning of the year	ha	0	0	0	0

No.	Name of specific indicator	Unit	2015	2016	2017	2018
19	Polluted land area at the end of the year	ha	0	0	0	0
20	Amount of oil (oil products) spilled (remained) as a result of pipeline ruptures and accidents	kg	0	0	0	0
21	Number of oil, oil products and produced water spills	units	9	9	5	2
22	Share of above-limit payments in the total amount of the negative environmental impact payments	RUB/RUB	0.001	0.000	0.001	0.002
23	Share of environmentally friendly fuel (high-octane gasoline Euro 4-5, diesel Euro 3-4-5, gas motor fuel) in the total amount of fuel used	%	94.78	94.24	93.99	94.09
24	BOILER AND FURNACE FUEL CONSUMPTION:					
	Fuel oil	tonnes	572	607	644	568
	Diesel fuel	tonnes	16,702	17,916	16,476	18,377
	Oil	tonnes	34,194	32,329	40,056	45,049
	Gas	'000 cub m	3,023,042	3,078,228	3,135,174	3,413,229
25	MOTOR FUEL CONSUMPTION:					
	Gasoline	liters	20,283,604	18,771,097	19,054,054	19,513,750
	Diesel fuel	liters	300,927,112	293,654,921	311,979,886	292,596,142
	Kerosene	liters	64,333	71,756	58,305	49,622
26	Vehicles total mileage	km	485,542,315	477,344,756	483,638,262	486,420,935
27	Volume of reduction of fuel and energy consumption	tonnes of equivalent fuel	168,358	183,608	184,161	102,376
28	Consumption of electrical energy from external sources for in-house needs	mn kWh	6,290	5,767	6,061	5,852
29	Electrical energy saving	mn kWh	1,369	1,493	1,497	812
30	Consumption of thermal energy from external sources for in-house needs	Gcal	145,092	150,871	147,987	154,009
31	Thermal energy saving	Gcal	15,055	14,045	14,240	17,399
32	Supply of electrical energy to external consumers	'000 kWh	620,428	565,565	552,531	552,322
33	including in-house generated (Eastern Siberia)	'000 kWh	152,620	181,476	172,862	167,840
34	Supply of thermal energy to external consumers	Gcal	31,887	29,877	23,615	27,782
35	including in-house generated	Gcal	31,415	29,541	23,366	27,550

In 2018, “Surgutneftegas” PJSC payments for the negative environmental impact amounted to RUB 75.4 million, including above-limit payments – RUB 173 thousand (0.2%). Above-limit payments for excess air pollutant emissions were caused, among other things, by the use of backup power plants in order to maintain operation of health resorts of the health trust “Surgut” during unplanned power outages in Krasnodarsky Krai. Above-limit payments for disposal of consumption waste generated by Yakutsk Representative Office of the Company are due to lack of landfills included into state register of waste disposal facilities.

Payments for the negative environmental impact, RUB thous.





# In-house environmental monitoring

**Production environmental monitoring (PEM) is environmental condition and pollution level monitoring which includes long-term observations, assessment and forecast of the environmental condition. Monitoring is performed by “Surgutneftegas” PJSC within industrial environmental control.**

Production environmental monitoring is performed for the purpose of getting information on the condition of environmental components in the vicinity of production facilities, preventing a negative impact of business activities, compliance with environmental quality standards and provision of rational natural resources management.

The main objective of PEM in the vicinity of man-made facilities including well sites, waste disposal landfills, sludge storage ponds, flares, pipeline crossings over the watercourses is to regularly monitor the environmental condition for timely identification of a specific impact of man-made facilities and development of measures for its mitigation or elimination.

The environmental condition is controlled across the areas of “Surgutneftegas” PJSC operations in accordance with the developed programs of environmental monitoring. The observational network has been operating at the Company’s license blocks for many years. The area that has been monitored is about 150 thousand square kilometers. An extensive database that covers contamination of the environmental components of license blocks prior to the commencement of their commercial development (initial (background) contamination) and after the fields are put in production is supplemented annually during local environmental monitoring.

In 2018, the condition of environmental components was controlled at 126 license

blocks of the Company at 3,839 control points, including:

- during assessment of the initial contamination and conducting local environmental monitoring of license blocks at 1,342 control points;
- during environmental monitoring of man-made facilities at 2,497 points;
- during monitoring of condition and contamination of vegetation cover around sludge pits using expert interpretation of satellite and aerial images at 271 facilities.

“Surgutneftegas” PJSC has vast capabilities of successful environmental monitoring. Testing is carried out in 11 accredited laboratories fitted with the best equipment. The Central Base Laboratory for Ecoanalytical and Technological Studies of the Engineering and Economic Implementation Center is accredited for 153 measurement techniques; the production and research laboratory of the R&D and production work site in OGPD “Talakanneft” – for 102 techniques; physical and chemical testing laboratories of R&D and Design Center of six oil and gas production divisions – for 20 and more techniques. Apart from in-house laboratories, for environmental monitoring, “Surgutneftegas” PJSC engages laboratories of independent third-party organizations whose

reports are accepted by the regulatory bodies when exercising regulation and supervisory functions.

The Company has the license to operate in the sphere of hydrometeorology and related areas, including determination of the pollution level of ambient air, water and soil.

To solve environmental problems such as assessment of the current environmental situation within license blocks, making inventories of disturbed lands, performance of landscape monitoring, development of projects on environmental monitoring

and projects on reclamation, the Company practices remote monitoring by air patrolling, including the use of unmanned drones, large-scale aerial photography and ultra-high resolution space imagery. Geobotanical monitoring in the area of sludge pits is performed based on expert interpretation of remote sensing data.

The results of environmental monitoring have confirmed that the Company operates with a minimum environmental impact; environmental conditions at license blocks of "Surgutneftegas" PJSC are favorable.



# Biodiversity conservation and support of specially protected natural reservations and other territories with special mode of management

## BIODIVERSITY CONSERVATION

*Biodiversity conservation is one of the key areas of the environmental policy of "Surgutneftegas" PJSC and an integral part of the Ecology complex program, which is aimed at preserving the original state of the areas of the Company's operations and minimization of an environmental impact of production.*

When planning and carrying out its production operations, the Company utilizes an ecosystem approach, one of the key aspects of which is biodiversity conservation.

"Surgutneftegas" PJSC within the Ecology program implements the biodiversity conservation program which is aimed at protection of lands, water bodies, reproduction of biological resources, monitoring of the environmental components, including monitoring of bioresources and monitoring of vegetation. Monitoring of biodiversity indicator species in the vicinity of production facilities of the Company is performed.

Leading experts of Lomonosov Moscow State University, the Tyumen Scientific Center of Siberian Branch of RAS and the Institute for Biological Problems and Cryolithozone of Siberian Branch of RAS have developed lists of key biogeocenoses indicator species (vascular plants, mosses, lichens, birds, mammals) for Khanty-Mansiysky Autonomous Okrug – Yugra, Tyumenskaya Oblast and the Republic of Sakha (Yakutia) where the Company performs most of its prospecting, exploration and production of hydrocarbons.

More than 45 million young and larval peled were released into water bodies in the reporting year in order to restore aquatic biological resources and maintain biodiversity, "Surgutneftegas" PJSC allocated about RUB 65.5 million for this. Deputy Minister of Agriculture of the Russian Federation and Head of the Federal Agency for Fisheries recognized the Company for its activities

to restore aquatic biological resources and maintain biodiversity by a letter of thanks.

In the course of reclamation activities, more than 880,000 pine saplings were planted in 2018. Expenditures on this part of the biodiversity conservation program accounted for RUB 23 million.

The Company performs biological monitoring in Numto nature park within the biodiversity conservation program in Khanty-Mansiysky Autonomous Okrug – Yugra. Researches have been done continuously for 7 years already by scientists with the richest experience in the region from Lomonosov Moscow State University, V.V. Dokuchaev Soil Science Institute, Yugansky State Nature Reserve. As at the previous stages of biological monitoring, no threat to habit areas of rare plant and animal species and biodiversity in the territory of Numto nature park as a whole was identified in 2018.

In the Republic of Sakha (Yakutia), scientists from the Institute for Biological Problems and Cryolithozone of Siberian Branch of RAS continued the field observations within monitoring of bioresources and cryolithozone. In the reporting year, activities were performed in the territory of the Yuzhno-Talakansky license block.

In addition, the aerial survey of ungulates in the areas of the Company's operations in the Republic of Sakha (Yakutia) was organized in 2018. It was done in order to assess the level of impact of production operations of "Surgutneftegas" PJSC on large wildlife resources which create the basis of game animals. According to the results of the observations, it was found that there has been a six-fold increase in the elk population for the 20-year period. "Surgutneftegas" PJSC is the first and only subsoil user in the Republic of Sakha (Yakutia) that conducted such researches.

In the territory of Numto nature park the Company implements measures to



minimize environmental risks when placing production facilities in the wetland ecosystems, to mitigate a negative impact of business activities on the hydrology of wetlands and implements preventive measures to avoid death of birds at electric power supply network facilities. It is done within agreements on cooperation with the Institute of Forest Science of RAS, the State Hydrological Institute and the All-Russia public organization “Russian bird conservation union”.

In order to carry out complete environmental impact assessment (EIA) of the planned activities, the Company pays particular attention to issues of biodiversity conservation and ecosystem services. In this connection, environmental and biological assessment of priority development territory and a spatial analysis of environmental risks are carried out when planning activities in especially valuable and sensitive areas, for example, in Numto nature park or in the flood plain of the Irtysh River. In 2018, Surgut State University and the Tyumen Scientific Center of Siberian Branch of RAS were engaged to perform these R&D activities.

The received materials and recommendations were used during development of mitigating and compensatory environmental protection measures in project documentation. Thus, scientists discovered *Dryopteris filix-mas* – a specimen of fern added to the Red Book. It was discovered during an inspection of fields of common mineral resources in Uvatsky District in 2018. In order to save the rare plant, the Company took a decision to change the location of a borrow pit under design.

During the whole period of construction and operation of waste disposal facilities “Surgutneftegas” PJSC remotely monitors vegetation condition around cluster well pads and waste landfills by large-scale aerial photography and ultra-high resolution space imagery.

The geoinformation system of the Company has a database which contains information on discovered habitat of rare and endangered biota representatives. The database is always updated as far as new research results appear.

**RUB 6.4 BILLION – IS THE AMOUNT OF INVESTMENTS IN THE BIODIVERSITY CONSERVATION PROGRAM IN 2018**

## SUPPORT OF SPECIALLY PROTECTED NATURAL RESERVATIONS AND OTHER TERRITORIES WITH SPECIAL MODE OF MANAGEMENT

*The Company carries out its production operations within specially protected natural reservations using a special procedure. They are performed because they are subject to fulfillment of license agreements for subsoil use.*

Adhering to the Environmental policy which provides for compliance with the rules and customs adopted in the places of residence of the small-numbered indigenous peoples of the North, “Surgutneftegas” PJSC ensures maximum conservation of indigenous environment, housekeeping activities and industries of the indigenous population in traditional nature management areas. To implement the basic principles of

preserving the ethnos, the Company ensures the achievement of the following goals and the solution of the following tasks:

- ① minimize the number and area of industrial sites and linear facilities through implementation of the best available technologies for exploration, production and transportation of oil and gas;
- ② minimize a negative environmental impact, reducing emissions, effluents and waste, eliminating any man-made impact outside the areas designated for production facilities;
- ③ eliminate the vehicles and personnel presence and movement outside the boundaries of industrial sites and facilities designated for this purpose without proper authorization;

- arrange field operations to survey areas of proposed location of industrial sites for the presence of ethno-archeological and ethnographic objects, and if any, transfer production facilities outside the area, subject to technological capabilities;
- ensure subsequent restoration of original natural functions of the territory, including resource capacities that preserve the traditional way of life and industries of the small-numbered indigenous peoples of the North, through detailed survey of the areas of proposed location of industrial sites and consideration of ecosystem functions at the design stage;
- limit unauthorized access to traditional nature management areas and SPNR;
- supervise observance of the code of conduct by employees working within boundaries of SPNR.

In 2018, "Surgutneftegas" PJSC in agreement with Budgetary Institution Numto nature park in KhMAO-Yugra transferred funds for the arrangement of an ecological trail, monitoring in the nature park and purchasing

of monitoring machinery and equipment. Grand total of financing under the agreement exceeded RUB 26 million.

During the year, the Company assisted scientists from the Tyumen Scientific Center of Siberian Branch of RAS, Yugra and Surgut State Universities in organization of the research on assessment of biodiversity, vegetation cover resources and landscapes in Numto nature park.

Understanding the importance of development of specially protected natural reservations, the Company supported an initiative of the Yugra authorities to maintain the natural landmark of regional significance Tundrinsky kedrovyy bor. The unique natural site is located in Surgutsky District of KhMAO-Yugra within the Company's license block.

In 2018, representatives of public organizations, regulatory and supervisory bodies and local authorities took part in continued monitoring and regular survey of the environmental components within the cultural heritage site of local significance, the sightseeing attraction Sacred Lake Imlor. According to the results of the inspection, "Surgutneftegas" PJSC received a high assessment of the environmental condition of the territory and there were no comments on the operation of the Company.



The high results have been achieved by the Company through implementation of a number of actions with a view to ensure water and air resources protection and prevent the territory from becoming polluted with production and consumption wastes as well as oil spills. Environmental monitoring of the territory is conducted; 100% of field pipelines within Lake Imlor were replaced with pipelines with an internal anti-corrosion coating.

The measures taken allow “Surgutneftegas” PJSC to ensure trouble-free operation, lower the risk of accidents and incidents and, as a result, preserve game animals and wild-growing herbs which are the basis of the traditional way of life of the indigenous population.

There are checkpoints along the Company field roads in order to protect the facilities of the fuel and energy complex and to limit unauthorized access to places of traditional residence of the indigenous people. The personnel of “Surgutneftegas” PJSC working in places of residence of the small-numbered indigenous peoples of the North adheres to the following principles:

- understanding and respect for the traditions, customs and rituals

forming a major part of the culture of the indigenous people;

- taking into account the partnership experience and continuous improvement of the system of relations with the small-numbered indigenous peoples of the North;
- immediate reporting to the Indigenous Peoples Affairs Department of Land Use Division, Environmental Safety and Management Division of “Surgutneftegas” PJSC in the event of misunderstanding, threat of conflict or violation of the established requirements;
- conflict resolution and misunderstanding clearing up through discussion and negotiation;
- impermissibility of conflicts between the employees of the Company and the indigenous people;
- ensuring privacy of the small-numbered indigenous peoples of the North;
- adherence to environmental standards and requirements.





# Interaction with the small-numbered indigenous peoples of the North

**Social responsibility of “Surgutneftegas” PJSC is the principled position of the Company which particularly supports the small-numbered indigenous peoples of the North that preserve authentic culture and traditional way of life. The Company and the indigenous population have built long-term partnership relations based on trust, respect and mutual understanding.**

The Company's license blocks overlap territories historically inhabited by the Khanty, Mansi, Nenets and other peoples that for generations inherit the way of life of their ancestors as well as economic activities and national industries which include deer herding, fishing, hunting, gathering of wild-growing herbs, animal skin dressing and others. It is the territory not only of social but environmental responsibility of the Company which is aimed at preservation of the historically developed area of living of the small-numbered indigenous peoples of the North.

“Surgutneftegas” PJSC in a mandatory manner coordinates the placement of production facilities in traditional nature management areas and habitats of the small-numbered indigenous peoples of the North with the indigenous people. The Company meets the most stringent requirements to conducting exploration, construction of field facilities, located on specially protected natural reservations.

“Surgutneftegas” PJSC concludes agreements with the regional authorities and municipalities, invests in social and economic projects on sustainable development of territories, infrastructure development, education and culture support, improvement of living standards of the indigenous population.

Contracts on subsoil use of land plots within the boundaries of traditional nature management areas, aimed at solving social problems of the local population are concluded with the holders of traditional nature management rights.

Inviolability of the property of families of the small-numbered indigenous peoples of the North as well as places of the worship and shrines is provided. Measures are taken to ensure safe traffic at the intersection of road traffic routes with deer paths and roads

of the indigenous population by sign posting, building safe crossings and driveways and their timely clearing; clearing dirt roads and driveways from fallen trees used by representatives of the small-numbered indigenous peoples of the North.

Special access mode limits access of unauthorized persons to traditional nature management areas and SPNR. Conveyance of firearms, fishing equipment, explosives and hazardous chemicals, dogs and other animals as well as alcohol beverages is prohibited. Hunting, fishing and gathering of wild-growing herbs in such territories are strictly prohibited.

Services dedicated to work with the small-numbered indigenous peoples of the North successfully operate in the business units of “Surgutneftegas” PJSC and the Company's headquarters. The Company provides the indigenous population with health, dental, communication, transportation, helicopter services as well as with prize fund to celebrate traditional festivals and with supplies (power plants, chainsaws, snowmobiles, motorboats, boat engines, etc.). Construction materials and wood are supplied to Numto village.

Organization of system work of “Surgutneftegas” PJSC in terms of protection of rights of the small-numbered indigenous peoples of the North, preservation of their national culture, traditional industries and crafts was used as a basis for legal framework of Khanty-Mansiysky Autonomous Okrug – Yugra which regulates relations with representatives of the small-numbered indigenous peoples of the North. Most promising and socially significant projects of the Company are represented as successful practices at meetings of the session of the United Nations Permanent Forum on Indigenous Issues.

# R&D activities in the field of environmental protection

**“Surgutneftegas” PJSC cooperates with a wide range of scientific organizations which research the field of environmental safety, environmental monitoring as well as environmental and biological assessment of the area of operations.**

To receive an independent professional assessment of the environmental condition in the area of production operations, development of the new and the most effective technologies which facilitate minimization of an environmental impact, “Surgutneftegas” PJSC throughout many years cooperates with different scientific organizations many of which are incorporated into the Russian Academy of Sciences.

In 2018, the Company continued to cooperate with the St. Petersburg Scientific Research Center for Ecological Safety of RAS (SRCES RAS) which has a profound experience in the unique complex environmental and toxicological research of drill cuttings. In the reporting year, at the Company’s request, SRCES RAS also researched disturbed lands and developed recommendations for efficient reclamation of disturbed lands and reinforcement of side slopes of fill-up soils.

In order to prevent an impact and changes which can happen with the environment, scientists from the Institute for Biological Problems and Cryolithozone of Siberian Branch of RAS continued monitoring of bioresources in the areas of the Company’s operations in the Republic of Sakha (Yakutia). Scientists from the Tyumen Scientific Center of Siberian Branch of RAS and Surgut State University made environmental and biological assessment in the vicinity of facilities under design at the Company’s license blocks.

Since 2012, the Company annually has been inviting employees from Lomonosov Moscow State University, V.V. Dokuchaev Soil Science Institute, Surgut State University and Yugansky Nature Reserve for biological monitoring at the Company’s license blocks in Numto nature park.

The results of the research are applied to make management decisions aimed at minimizing a negative environmental impact of oil production facilities.

# Industrial environmental control

**Two-level vertically integrated industrial environmental control (IEC) is a part of the Company's environmental management system that is led by First Deputy Director General of "Surgutneftegas" PJSC, the Chairperson of the Company's Ecological Council.**

The Company oversees compliance of the inspected facilities with the natural environmental legislation, environmental safety standards and in-house standards as well as adherence to environmental legislation, approval documents, environmental, sanitary and epidemiological standards and requirements.

The Company makes out proposals on required actions and works and their deadlines and issues sample collection and ecoanalytical control results reports. Their fulfillment is controlled without preliminary notification of the persons to be inspected. The Company monitors fulfillment of the proposals and instructions every month. The results obtained are reported at the summing-up meetings.

IEC results are accounted, analyzed and summarized to be further used to adopt effective managerial decisions. The results of the comments analysis are announced at the monthly council of the business units

heads under the chairmanship of Director General, at the meetings on the issues of compliance with the natural environmental legislation and also at the meeting of the Ecological Council, which is striving to mitigate the environmental impact of technological processes, the environmental risks and provide rational use of natural resources.

"Surgutneftegas" PJSC collects feedbacks from the public and public organizations via its official website ([www.surgutneftegas.ru](http://www.surgutneftegas.ru), section "Ecology", "Public information"). No complaints concerning environmental violations, underperformance and failings of the Company's business units and employees were received in 2018.

The contact information of the responsible departments can be found directly at the oilfields: the numerous information boards are placed at every field of Surgutneftegas.

## THE RESULTS OF INDUSTRIAL ENVIRONMENTAL CONTROL

Level of control	2016			2017			2018		
	Number of inspections	Number of inspected facilities	Number of comments	Number of inspections	Number of inspected facilities	Number of comments	Number of inspections	Number of inspected facilities	Number of comments
Level I control	371	1,339	1,611	276	1,768	2,023	380	2,197	2,435
Level II control	42	575	624	44	590	512	197	928	1,461



# The “green office” principles

**“Surgutneftegas” PJSC widely supports the “green office” principles in each administrative building of the Company in its attempt to mitigate the negative environmental impact, ensure the maximum conservation of natural resources and reduce wastes.**

Due to the electronic document flow system (Directum), the Company managed to significantly eliminate the number of the documents printed black-and-white and color. By setting printers to automatic double-sided printing, the Company is able to reduce the amount of the consumed stationary paper.

Waste paper, packing board and other wastes related to the stationery are collected by the Company’s office employees to be further processed by the in-house unit. Shredded and compressed paper wastes become valuable recyclable material which is transferred to specialized enterprises under the contracts for its further use. The paper wastes are not buried.

The Company adheres to the following “green office” principles:

- usage of modern energy-saving (LED, electrodeless, fluorescent) lamps and spotlights in indoor and outdoor lighting systems;
- usage of electronic ballasts in fluorescent spotlights;
- usage of programming units and motion sensors in indoor lighting systems and daylight sensors and automatic switches in the outdoor lighting;
- optimization of operating mode of electrical equipment and heat consumption of buildings;
- replacement of air conditioners with multi systems;
- implementation of energy efficient pumping modules and ventilators;
- usage of power filters at workplaces to switch off simultaneously several units of equipment after completing work;
- implementation of metering devices, water flow and heat consumption regulators.

# Environmental education and professional training of employees

**Environmental education and professional training of employees are the most important aspects to maintain the high level of environmental safety of production, which increase the awareness and make every employee of “Surgutneftegas” PJSC and its contractors unconditionally accept the principles of environmental friendliness and careful treatment of natural resources, and ensure strict compliance with the requirements of the environmental legislation of the Russian Federation.**

Every year the Company's employees are offered opportunity to develop their competences by participating in professional skills competitions “Best-in-Profession”. The Company's young people demonstrate their solutions at the annual scientific and technical conference for young scientists and professionals of “Surgutneftegas” PJSC. Among the participants of such corporate projects there are also the environmental specialists tasked with overseeing the compliance with all environmental requirements and regulations at production sites.

Avoidance of accidents and defects, high-quality work, excellent performance indicators in the field of environmental safety of the Company's production facilities are on the list of criteria for selecting winners of economic competitions held among drilling crews, teams of oil and gas production shops as well as between well overhaul and workover crews.

The Company continues systematic work to upgrade the skills of personnel in the field of environmental protection and environmental safety aimed at implementation of the Environmental

policy of “Surgutneftegas” PJSC. The training of specialists in ambient air protection was continued. As much as 180 employees had training under the course of Provision of environmental safety by managers and specialists of the environmental departments and environmental control systems.

To ensure regular professional training of its employees in waste management of hazard classes I-IV, there are professional training courses developed by “Surgutneftegas” PJSC for its managers and specialists responsible for decisions on business activities and other issues as well as workers admitted to manage wastes. In 2018, 568 employees of the Company improved their skills in the abovementioned area.

The Company raises environmental awareness among its employees and contractors in all places and holds the induction meeting with the personnel prior to each shift. In the territories with a special mode of business activities, including Numto nature park, the employees are obliged to study special memos and animated films containing up-to-date basic principles

of the Company's Environmental policy, code of conduct in specially protected natural reservations and interaction with the small-numbered indigenous peoples of the North.

In the reporting year, 35 employees of "Surgutneftegas" PJSC as well as the indigenous people of Numto national village (Beloyarsky District) and

representatives of the Directorate of Numto nature park (the city of Beloyarsky) attended workshop Specific features of the GIS-based spatial system of decision-making when planning environmental management in Numto nature park and promising forms of management of specially protected natural reservations.





# Cooperation with public organizations and media

**Promotion of the environmental protection projects and readiness to disclose information on the Company's significant environmental events are the distinguishing feature of "Surgutneftegas" PJSC. The Company actively cooperates with the public organizations and editorial staff of the media, which are interested in obtaining the objective information.**

"Surgutneftegas" Public Joint Stock Company initiates public discussions of project documentation on assessment of the environmental impact of the expected business activities. Strictly following the letter of the law, the Company invites all stakeholders, including the representatives of the public organizations and local communities – the small-numbered indigenous peoples of the North, to participate in the public discussions.

In order to obtain an independent evaluation of environmental aspects of production operations, the Company regularly interacts with national, regional and local public organizations. Thus, upon the recommendations of the All-Russia public organization "Russian bird conservation union", the Company equipped the power supply network facilities of the Vatlorskoye field with about 500 special bird protection devices at the nest sites of the peregrine falcons. The Company plans to expand its use of the insulated electric wires, which will be totally safe for the birds.

In 2018, during the academic and environmental training, the students of Surgut State University were offered practical training which included visits to the production sites of "Surgutneftegas" PJSC. Future environmental specialists, for the first time, attended a drilling rig and cluster well pads and were able to assess the best available technologies used by the Company.

Surgutneftegas provided transport support to the first innovative project

in Yugra – "IT nomad camp", which was initiated by Alexander Novyukhov, a member of the Duma of Khanty-Mansiysky Autonomous Okrug – Yugra, vice-president of the Association of the small-numbered indigenous peoples of the North, Siberia and the Far East of the Russian Federation in Ural Federal District and expert of RAIPON of the United Nations General Assembly.

The experience of building partnership between the Company and the administration of Beloyarsky District to develop the remote territories of Yugra and information on environmental protection programs implemented by "Surgutneftegas" PJSC in Numto nature park were presented as a positive example at scientific and practical conference "Indigenous peoples. Environment. Oil. Law", which hosted representatives of the public organizations, public authorities of Yugra, Yamal and the Republic of Sakha (Yakutia), subsoil using companies and the small-numbered indigenous peoples of the North. To transport the indigenous people participated in the conference, the Company arranged an additional round trip flight of MI-8 helicopter to the city of Beloyarsky, remote, hard-to-reach nomad camps and Numto national village. The Department of Subsoil Use and Natural Resources of Khanty-Mansiysk Autonomous Okrug – Yugra highlighted the Company's contribution to preparation and organization of the scientific and practical conference.

In the reporting year, journalists took part in the press tour organized

in Surgutsky and Beloyarsky Districts of Khanty-Mansiysky Autonomous Okrug – Yugra. The Company prepared information material on the expedition results obtained by the scientists in Numto nature park, where the Company had been monitoring the territories of oil fields under construction for the seventh year running. Members of the media witnessed comprehensive emergency training exercises of the out-of-staff accident rescue units of "Surgutneftegas" PJSC on response to man-caused emergencies, attended a three-day workshop with participation of Tatiana Minaeva, an international expert and project coordinator of the Wetlands International organization dedicated to the conservation and restoration of wetlands.

Information on the latest geoinformation technologies applied in

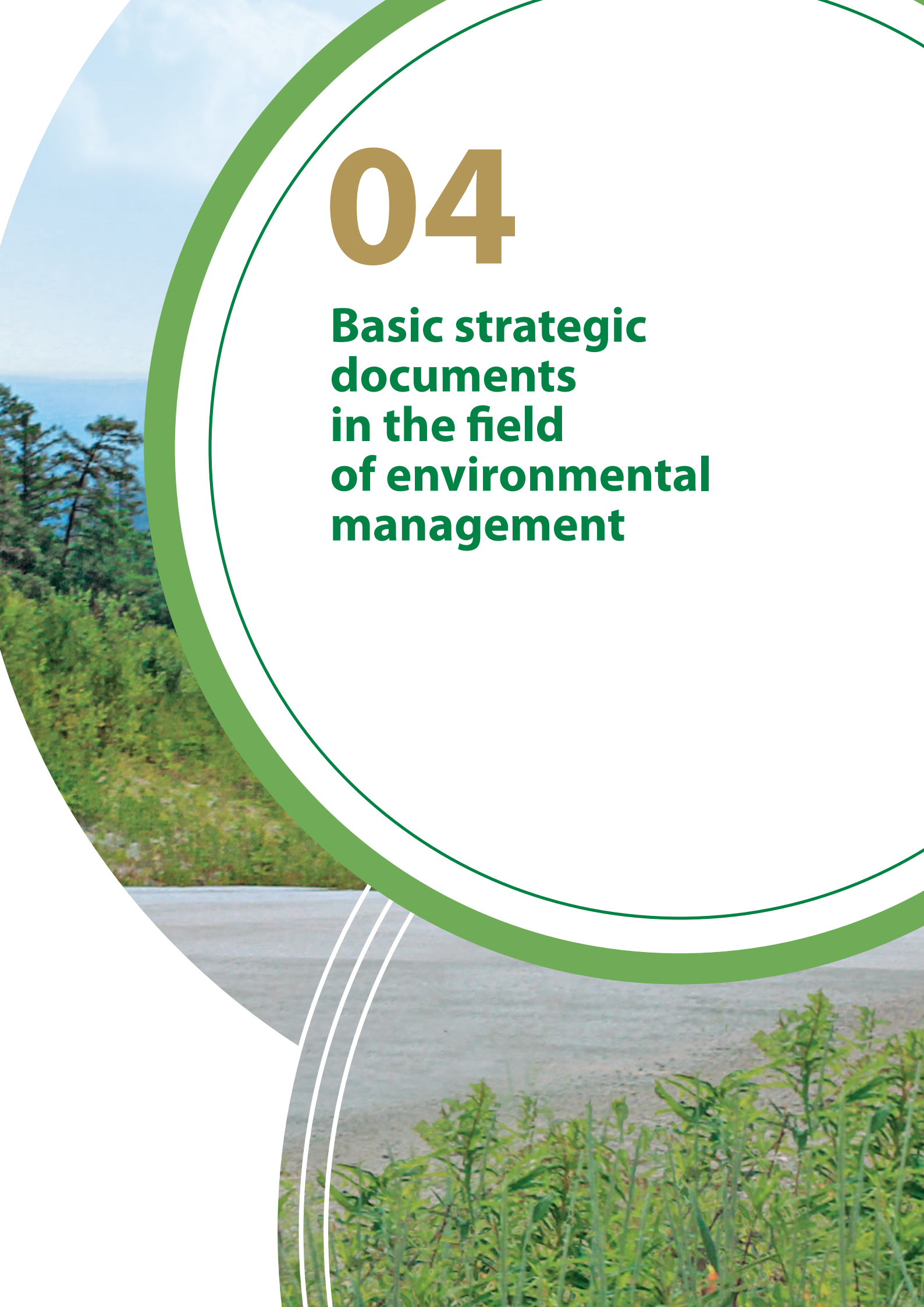
the oil sector is also provided by Arctic Consult, a company delivering consulting services for the small-numbered indigenous peoples of the North.

In 2018, special correspondents of magazine "Tourism and Leisure in Russia" (Moscow) had an expedition to Numto nature park. Alexander Tukmakov and Andrey Nurutdinov visited Numto village and a nomad camp of Vasiliy Pyak, the vice-president of the Union of Reindeer Herders, and rafted over 200 km down the taiga river Kazym to Yuilsk village. The journalists passed this touristic trail 36 years ago when they were working for the Beloyarsky District newspaper and now they got the opportunity to personally assess how much "Surgutneftegas" PJSC had changed life of the Kazym Khanty and forest Nenets.



# 04

## **Basic strategic documents in the field of environmental management**







# Environmental policy

**The Environmental policy represented by the environmental principles which are binding for “Surgutneftegas” PJSC in the course of its business activities and adherence to the concept of sustainable development in modern conditions as well as Policy on interaction with the small-numbered indigenous peoples of the North are the basic strategic documents in the field of environmental management.**

The Environmental policy is brought to the attention of each employee of the Company and is implemented throughout the recognition of the contractual obligation of the contractors, subcontractors and suppliers of the Company in the field of environmental protection in the areas of its operations. The Environmental policy is subject to revision, adjustment and improvement in case the Company changes its development priorities and operational conditions.

## **BASIC PRINCIPLES OF THE ENVIRONMENTAL POLICY OF “SURGUTNEFTEGAS” PJSC**

- Systematic minimization of the negative environmental impact of technological processes and mitigation of the environmental risks through implementation of the best available technologies as well as scientific and technical achievements.
- Giving priority to prevention of the negative environmental impact as compared to mitigation of consequences of such an impact.
- Maintaining industrial and environmental safety in line with up-to-date international standards and requirements.
- Rational use of natural resources based on implementation of innovative environmentally friendly and resource saving technologies.
- Systematic control over compliance with industrial and environmental safety requirements.
- Preservation of the primordial environment, traditional way of life, business activities and industries of the indigenous people of the North.
- Environmental monitoring in the areas of the Company's operations.
- Improvement of environmental activity and environmental management system in the Company's subdivisions.
- Improvement of the personnel's environmental skills.
- Cooperation with parties concerned, public organizations and the media.
- Transparency of the Company's socially significant environmental efforts.



# The Company's responsibilities

To adhere to the basic principles of the Environmental policy, the Company undertakes the following responsibilities:

- Comply with the legislation of the Russian Federation in the fields of environmental protection and sanitary and epidemiological welfare of the population.
- Conduct a strategic environmental assessment while implementing large-scale infrastructure projects of the Company.
- Conduct a comprehensive environmental impact assessment (EIA) of projects from construction to decommissioning of facilities.
- Additionally assess environmental risks while developing project documentation for the construction of facilities in environmentally sensitive and valuable areas.
- Ensure efficient environmental activity and improve its control system.
- Improve industrial and environmental safety at the Company's facilities, assume required measures to mitigate accident risk of oilfield equipment, including pipelines.
- Enhance energy efficiency of production processes at all production stages.
- Reduce motor fuel consumption and improve the environmental performance of the Company's vehicles.
- Ensure rational environmental management, mitigation of a negative impact on the environmental components and compensation of possible damage to the environment.
- Adhere to the “green office” principles.
- Implement all possible measures on biodiversity conservation, preservation of animal migration paths in the areas of operations, timely reclamation of disturbed lands as well as reduction of natural landscapes fragmentation by laying linear facilities in the existing utility line areas and placing site facilities on previously disturbed lands within existing industrial sites.
- Avoid carrying out works in the territory of World Natural Heritage sites and wetlands having special significance and in specially protected natural reservations when designing site structures and oilfield infrastructure facilities. In the absence of such possibility – observe a special mode of business activities.
- Take account of interests and rights of the small-numbered indigenous peoples to lead the traditional way of life and preserve their traditional settlement territories historically inhabited by their ancestors.
- Observe current rules and standards of the Company's employees' conduct when implementing the Company's projects, including waste management standards and prohibition of hunting, fishing and gathering wild-growing herbs, to require the contractors to comply with these rules and standards.
- Organize regular professional training and environmental education of the Company's employees.
- Ensure wide accessibility of environmental information on the Company's business activities, transparency of environmental management and decisions made in this area.
- Apply environmental standards of the Company to the activity of contractors.



# Basic principles of the policy on interaction with the small-numbered indigenous peoples of the North

- Compliance with federal and regional legislation aimed at protecting the rights and legitimate interests of the small-numbered indigenous peoples.
- Preservation of the primordial environment, traditional way of life, housekeeping activities and industries of the indigenous population.
- Recognition of the importance of land, water bodies, wild-growing herbs and game animals, maintaining environmental resource potential of the ecosystems as the basis for the traditional nature management of the small-numbered peoples.
- Rational use of land and natural resources in the places of traditional residence and traditional housekeeping activities of the small-numbered indigenous peoples of the North.
- Obligation to respect the ethnic identity, culture and local customs of the indigenous people.
- Maintaining a balance between the interests of the Company and the small-numbered indigenous peoples of the North by imposing mutual self-restrictions and obligations.
- Ensuring participation of representatives of the small-numbered indigenous peoples of the North in decision-making on placement of business assets in the territory of their living and traditional housekeeping activities.
- Conclusion of economic agreements and treaties as the most important tools of equal partnership with the indigenous people in order to compensate for the limitation imposed on the traditional use of natural resources.
- Transparency of the Company's socially significant environmental efforts, the state of the natural environment and the relations with the small-numbered indigenous peoples of the North.

"Surgutneftegas" PJSC, "Company", "Surgutneftegas", "joint stock company" and "we" used in the text of the Environmental Report are interchangeable terms that relate to the oil and gas production sector of "Surgutneftegas" PJSC.



