
GAZPROM
Multipolar Energy
PJSC Gazprom Environmental Report 2015

PJSC Gazprom Environmental Report 2015

Contents

Letter of Deputy Chairman of PJSC Gazprom Management Committee

Dear readers!

On behalf of the PJSC Gazprom Management Committee I present you our Environmental Report 2015.

Gazprom takes environmental responsibility as the paramount element of the strategy, the key part of the business activity. And the information disclosure is considered integral within the corporate culture.

Being designed to meet the ISO 14001, the Gazprom environmental management system is continuously evolving. In 2015 the PJSC Gazprom Environmental Policy was updated to provide for the intensified coordination of the business development under new environmental challenges and targets. The efficient operation of the environmental management system will ensure environmental safety of our business, high competence and responsibility of our employees and hence environmental sustainability in the long run.

Gazprom Group has been permanently improving the corporate environmental performance. For instance in the last five years we have allocated RUB 79bn of investments for environmental purposes, reduced pollutant emissions by 294 kilotonnes and discharges into water bodies by 1,404mmcm. The overall amount of fuel and energy resources for the has period made 12.5mm t.c.e.

Further to the Year of Ecology — 2013, Year of Environmental Awareness in 2015 Gazprom initiated and implemented over 19 thousand volunteer activities in Russia and abroad, including planting of over 140 thousand trees and bushes, cleaning areas of over 28 thousand hectares from garbage, greening of residential areas, building of alleys and parks, remediation of water bodies, as well as providing support to special protected areas, federal and regional natural reserves and over 4,500 education training activities for the young.

Thus, our continuous effort for the benefit of the environmental and health of the population has become a good tradition, which has spurred the involvement of our personnel and subcontractors into environmental protection activities across the regions of operation.

We are proud to note that in 2015 PJSC Gazprom became the best energy company in Russia listed on the international stock exchange, according to the Carbon Disclosure Project (CDP) — international non-profit partnership that evaluates self-reported corporate information on greenhouse gas emissions and corporate climate strategy. PJSC Gazprom topped the list of companies in the category “Environmental impact” of the Russian rating of environmental responsible companies.

In 2015 a number of steps further to ensuring sustainable development were made at international level, including the agreement on climate change mitigation. All this broadens the responsibility of Gazprom and raises the meaning of work on ensuring reasonable nature use, environmental safety and energy efficiency improve.

Deputy Chairman of
PJSC Gazprom Management Committee,
Chairman of PJSC Gazprom Coordination Committee
for Environmental Protection and Energy Efficiency

V.A. Markelov

The present report is based on the data of the corporate annual reporting statistics on environmental protection, as well as other information published on the corporate web resources, articles of the Group published in Russia and abroad.

The 2015 Environmental Report provides information about the Gazprom Group activities in the Environmental Policy implementation, including the current performance and measures undertaken to mitigate the impact on air, water bodies, land and improve waste handling. This Report presents data on environmental management and funding of fundamental studies and production complex technical modernization aimed at ensuring the environmental safety of the Gazprom Group operating facilities.

The data are provided in respect of the Gazprom Group on the whole, PJSC Gazprom (including retrospective data for 5 years) and some companies from the Group that contribute greatly to the activities aspects covered in the report.

The terms PJSC Gazprom, the Company used in this Report refers to the parent company of the Gazprom Group, Public Joint Stock Company Gazprom (up to July 17, 2015 — Open Joint Stock Company Gazprom, JSC Gazprom) and its fully owned subsidiary companies and organizations involved in hydrocarbons production, transportation, underground storage and processing activities, as well as maintenance of unified gas supply system.

OOO Gazprom dobycha Astrakhan
OOO Gazprom dobycha Irkutsk
OOO Gazprom dobycha Krasnodar
OOO Gazprom dobycha Kuznetsk
OOO Gazprom dobycha Nadym
OOO Gazprom dobycha Noyabrsk
OOO Gazprom dobycha Orenburg
OOO Gazprom dobycha Urengoy
OOO Gazprom dobycha shelf Yuzhno-Sakhalinsk
OOO Gazprom dobycha Yamburg
OOO Gazprom transgaz Volgograd
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OOO Gazprom transgaz Yugorsk
OOO Gazprom geologorazvedka
OAO Tchetchengazprom
OOO Gazprom UGS
OOO Gazprom pererabotka
OOO Novy Urengoy gas chemical complex
OOO Gazprom energo
OOO Gazprom tsentrremont
OOO Gazprom podzemremont Orenburg
OOO Gazprom podzemremont Urengoy
OOO Gapprom geotekhnologii
OOO Gazprom georesurs
OOO Gazprom gazomotornoye toplivo
OOO Gazprom szhizhenny gaz
OOO Gazprom SPG Vladivostok
OOO Gazpromavia Aviation Company
OOO Gazpromtrans
OOO Gazprom flot
OOO Gazprom invest
OOO Gazprom sotsinvest
ZAO Yamalgazinvest
ZAO Gazprom invest Yug
OAO Gazpromtrubinvest
OAO Tsentrgas

The terms Gazprom Neft comprise PAO Gazprom Neft and its subsidiary companies.

The terms Gazprom neftekhim Salavat Group or Gazprom neftekhim Salavat comprise OAO Gazprom neftekhim Salavat and its subsidiary companies.

The term Gazprom Energoholding Group comprises OOO Gazprom Energoholding and its subsidiary companies (PAO Mosenergo, PAO MPIC, PAO OGK-2, OAO TGC-1).

Gazprom Group, Gazprom or Group will stand for PJSC Gazprom (all above mentioned 100% subsidiaries) and the following companies:

Gazprom Neft Group
Gazprom Energoholding
Gazprom neftekhim Salavat
Vostokgazprom Group
OOO Gazprom mezhregiongaz
OAO Daltransgaz
OAO Krasnoyarskgazprom
Sakhalin Energy Investment Company Ltd. (Sakhalin Energy)
OAO Severneftegazprom
ZAO Purgaz

as well as PJSC Gazprom subsidiary companies conducting their activities abroad:
OAO Gazprom transgaz Belarus
ZAO Gazprom Armenia
OsOO Gazprom Kyrgyzstan
Gazprom EP International B.V.

The Gas business companies of the Gazprom Group comprise PAO Gazprom (and all its 100 per cent subsidiary companies and organizations involved in hydrocarbons production, transportation, underground storage and refining activities, as well as maintenance of unified gas supply system), OOO Gazprom mezhregiongaz, Vostokgazprom Group (OAO Tomskgazprom), OAO Daltransgaz, Sakhalin Energy Investment Company Ltd., OAO Severneftegazprom, ZAO Purgaz.

The environmental impact indicators and the economic indicators are given for the Gazprom Group operations in the Russian Federation. The environmental performance abroad is reviewed separately.

Environmental management system

Gazprom operates an environmental management system with various management units ranging from the Board of Directors, administrative bodies of the affiliated and subsidiary companies to their branch offices and production facilities.

The Gazprom Environmental Policy is the major environmental protection guideline which determines the company's both compulsory and volunteer objectives and liabilities in terms of prevention and reduction of negative environmental impact, as well as defines the implementation mechanisms.

The PJSC Gazprom operations are in a straight line with the national and international regulation to ensure the continuous improvement of environmental performance.

In order to meet new trends in environmental protection and energy efficiency in 2015 the Environmental Policy was modified as per the Decree of the Management Committee № 21.

The modification was caused by the expansion of the scope and geographical scale of the PJSC Gazprom activities, including implementation of projects on the continental shelf and in the Arctic area of the Russian Federation as well as by changes in the national environmental regulation.

The newly approved edition of the Policy considers additional responsibilities for environmental safety of hydrocarbon field exploration on the continental shelf and the Russian Arctic, as well as for mitigating risks of negative environmental impact, especially on highly vulnerable areas and areas subject to thorough protection and preservation.

PJSC Gazprom top administrative body in the Environmental Protection Management System is the PJSC Gazprom Management Committee that regularly submits data on environmental protection activities and PJSC Gazprom Environmental Policy implementation results to the Board of Directors.

PJSC Gazprom Coordination Committee for Environmental Protection and Energy Efficiency was created by the Order of October 17, 2007 of PJSC Gazprom No. 280. The Committee Membership comprises the majority of the Management Committee members and heads of the PJSC Gazprom Administration's structural subdivisions (specialized departments). The Committee exercises complex administration and general coordination of activities for the PJSC Gazprom Administration structural divisions, affiliate and subsidiary companies of the Gazprom Group, interaction with the state environment protection bodies and social organizations aimed at environmental protection.

The Directorate responsible for implementation of unified environmental policy of the PJSC Gazprom and aimed at increasing Gazprom Group energy efficiency is in charge of immediate actions on interacting PJSC Gazprom subsidiary companies and organizations in the environmental activities area and decisions implementation of the Coordination Committee and senior executives of the PJSC Gazprom.

In order to improve the corporate social responsibility, Gazprom has deployed a system of environmental expert assessment and a system of corporate environmental control. Environmental research and development projects carried out upon the PJSC Gazprom requests are also an integral part of the management system.

In 2015, the following questions were raised at the meetings of PJSC Gazprom Coordination Committee for Environmental Protection and Energy Efficiency:

- development of the registry of the best available techniques, which ensure environmental safety of exploration, processing, transmission, storage and refinery of hydrocarbon feedstock;
- "road map" to potential minimum of specific fuel and energy resources consumption for own needs of PJSC Gazprom by means of implementing advanced and perspective technologies through 2030;
- environmental benefits of converting road transport to natural gas vehicles;
- implementation of energy saving measures in the PJSC Gazprom subsidiaries based on energy service contracts;
- environmental safety of the Power of Siberia pipeline construction.

The PJSC Gazprom environmental management system (PJSC Gazprom EMS) comprises the management units of the parent company and its 36 companies with a 100% ownership, operating

in exploration, production, transmission, storage and processing of gas and gas condensate, as well as managing investment projects and assets.

Subsidiary companies in the PJSC Gazprom EMS scope in 2015:

OOO Gazprom dobycha Astrakhan	OOO Gazprom transgaz Volgograd
OOO Gazprom Geologorazvedka	OOO Gazprom transgaz Yekaterinburg
OOO Gazprom dobycha Irkutsk	OOO Gazprom transgaz Kazan
OOO Gazprom dobycha Krasnodar	OOO Gazprom transgaz Krasnodar
OOO Gazprom dobycha Kuznetsk	OOO Gazprom transgaz Makhachkala
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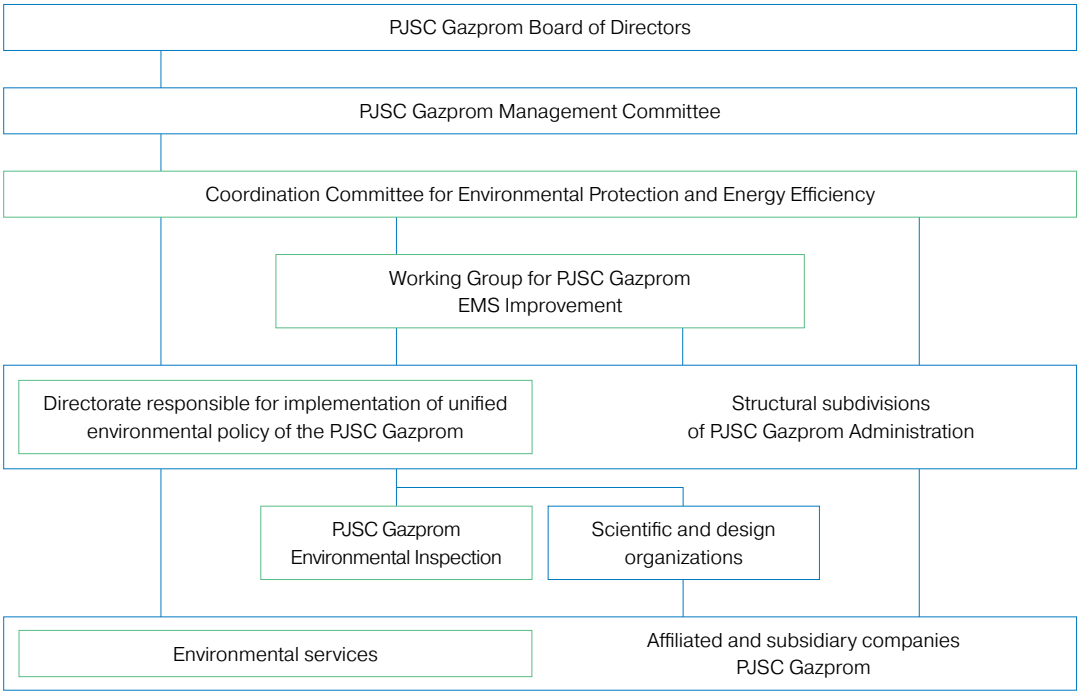
OOO Gazprom dobycha Yamburg	OOO Gazprom transgaz Stavropol
OOO Gazprom UGS	OOO Gazprom transgaz Surgut
OOO Gazprom pererabotka	OOO Gazprom transgaz Tomsk
OOO Gazprom energo	OOO Gazprom transgaz Ufa
OOO Gazprom podzemremont Orenburg	OOO Gazprom transgaz Ukhta
OOO Gazprom podzemremont Urengoy	OOO Gazprom transgaz Tchaikovsky
OOO Gazprom tsentrremont	OOO Gazprom transgaz Yugorsk
OOO Gazprom invest	OAO Gazprom transgaz Belarus



Since 2011, the EMS of the Company has been certified in accordance with the international standard ISO 14001:2004. Recertification audit performed in October 2014 by an independent international certification body Det Norske Veritas (DNV GL) proved that the system was compliant with the requirements.

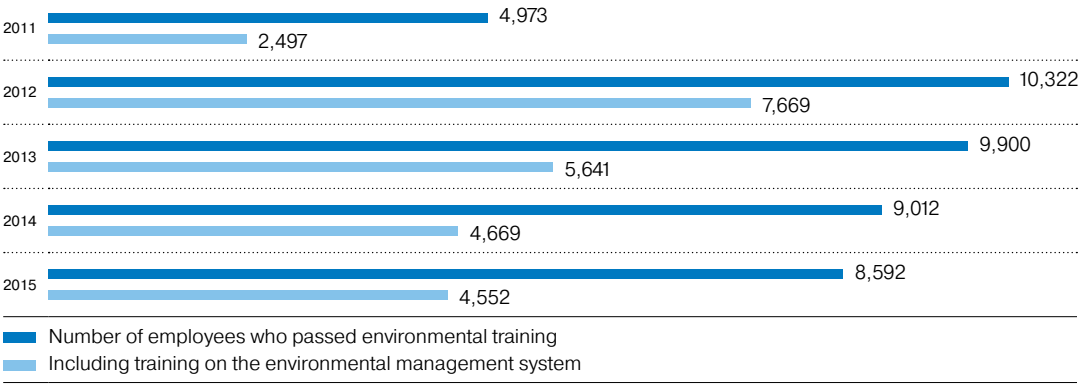
In order to ensure complex approach and coordination of the environmental management of the PJSC Gazprom structural subdivisions, there is a constantly operating Working Group for the PJSC Gazprom EMS improvement. The head of the group is O.E. Aksyutin — member of the PJSC Gazprom Management Committee, Head of Department.

Besides PJSC Gazprom, almost all the Gazprom Group companies have certified EMS. For additional information on EMS in the Group companies, visit their official websites.

Over 42,000 people passed environmental training in Gazprom Group in 2011–2015.

A prerequisite for successful environmental management is the process of improving ecological knowledge and culture of the staff. In 2015, 8,592 people in the Group were trained and managed to improve their skills on environment protection (4,552 of them studied EMS), including 7,070 PJSC Gazprom employees (4,374 of them studied EMS), 968 Gazprom Neft Group employees (152 of them studied EMS).

Dynamics of environmental training of the Gazprom Group personnel, 2011–2015, pers.



Competition of environmental services and ecologists of the PJSC Gazprom subsidiary companies

A competition of environmental services and ecologists of PJSC Gazprom subsidiary companies is held annually in PJSC Gazprom in compliance with the JSC Gazprom order No.113/A dated April 30, 2008.

In 2015, according to the ecologist professionals and services 2014 results, OOO Gazprom transgaz Moscow won the environmental services competition (Head of the Environmental Protection and Energy Saving Division — Olga Nepryakhina).

Winners of the Competition of Ecologists were:

— Ludmila Kostukova — Leading Engineer on Environment Protection in “Don LPUMG” — the branch of OOO Gazprom transgaz Moscow;
— Tatiana Lebediantseva — Deputy Head of the Environmental Protection Division of the OOO Gazprom dobycha Orenburg;
— Alexander Ugrinov — Leadingding Engineer on Environment Protection Division of the OOO Gazprom transgaz Tchaikovsky.

Environmental targets and programs

Gazprom declares its commitment to the principles of sustainable development construed as a well-balanced and socially acceptable combination of economic growth and preservation of a favorable natural environment for future generations.

Major environmental aspects of the subsidiary companies activity are defined on a yearly basis, which signpost environmental objectives, environmental safety measures development and implementation.

At the end of 2015, progress was made in the implementation of corporate environmental targets of PJSC Gazprom, established for the period 2014–2016. In 2015, all corporate environmental targets were met.

Achieving corporate environmental targets of PJSC Gazprom in 2015

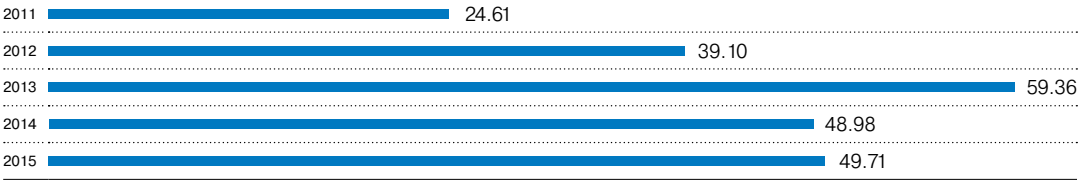
No.	Corporate environmental target	Entities with the EMS scope	Changes as compared to the 2011 baseline
1.	Methane emissions decrease (during the gas transportation system repair)	All natural gas transportation subsidiary companies	Reduction by 5%
2.	Reduction of nitrogen oxide emission intensity (during compressing)	All natural gas transportation subsidiary companies	Reduction by 15%
3.	Lowering of waste and under-treated water discharge into surface water bodies	All subsidiary companies	Reduction by 23.9%
4.	Lowering of waste disposal share	All subsidiary companies	Reduction by18%
5.	Lowering of the payment for exceeding the allowed impact as an integral indicator of the negative environmental impact	All subsidiary companies	Reduction by 54.7%
6.	Lowering of gas consumption for ownprocess needs	All natural gas transportation subsidiary companies	Reduction by 24.6%

In 2011–2015 the PJSC Gazprom comprehensive environmental program was in full progress to enable implementation of priority measures and investment projects providing for introducing environmental protection and resource saving practices in the subsidiaries. These practices include gas pipeline repair techniques with a lower venting amount; production casing heating after a long shutdown; modernization of gas compressor combustion chambers; road transport switch to NGVs. The economic and environmental pay off on the Program made around RUB 44.6bn.

Financing of environmental protection

In 2015 the Gazprom Group environmental costs did not change greatly as compared to 2014 and amounted RUB 49.71bn, with 45% for PJSC Gazprom.

Gazprom Group environmental costs dynamics, 2011–2015, RUB bn



Protection and nature use, 2011–2015, RUB mm

	2011	2012	2013	2014	2015
Gazprom Group	**9,785.71**	**12,885.76**	**24,947.93**	**15,578.35**	**15,754.33**
Gas business	6,872.66	10,416.56	20,760.53	7,703.04	6,931.87
including PJSC Gazprom	6,840.75	10,388.40	20,671.18	7,526.22	6,893.16
Gazprom Neft Group	891.95	1,210.09	1,115.51	3,995.61	3,114.05
Gazprom Energoholding Group	2021.10	646.81	162.26	800.78	2,837.54
Gazprom neftekhim Salavat*	–	612.30	2,909.63	3,078.92	2,870.87

* Hereinafter, data of Gazprom neftekhim Salavat are provided since 2012, after the establishment of 100% control of the Group over OAO Salavat Nefteorgsintez (renamed to OAO Gazprom neftekhim Salavat).

In 2010–2014, the Gazprom Group investments aimed at environmental protection and Sustainable use of natural resources made approximately RUB 78.95bn.

The majority of the Group's companies performed a slight decrease in capital expenditures on environmental protection and rational use of natural resources. Along with that Gazprom energoholding nearly tripled the expenditures in 2015 compared with 2014 due to the construction of a rain water treatment unit and water recycling system with a cooler on the Serovskaya HPP site.

In 2015 in the structure of investments of Gazprom Group 99% was accounted for by investments in protection and rational use of water resources (RUB 8,324.86mm); protection and rational use of lands (RUB 5,033.89mm); atmospheric air protection (RUB 1,553.83mm), investments in construction of enterprises and polygons for utilization, neutralization and disposal of toxic, production, household and other waste (RUB 698.98mm).

Structure of investments for environmental protection and rational use of natural resources in Gazprom Group, 2015, %

Protection and rational use of water resources	53
Protection and rational use of lands	32
Air protection	10
Facilities, enterprises and landfills for utilization, neutralization and disposal of waste	4
Protection and restoration of fish stocks, protection and restoration of wild animals	1

In 2015, total current environmental costs of the Gazprom Group did not change greatly as compared to 2014 and amounted to RUB 32.17bn.

Current environmental expenditures, 2011–2015, RUB mm

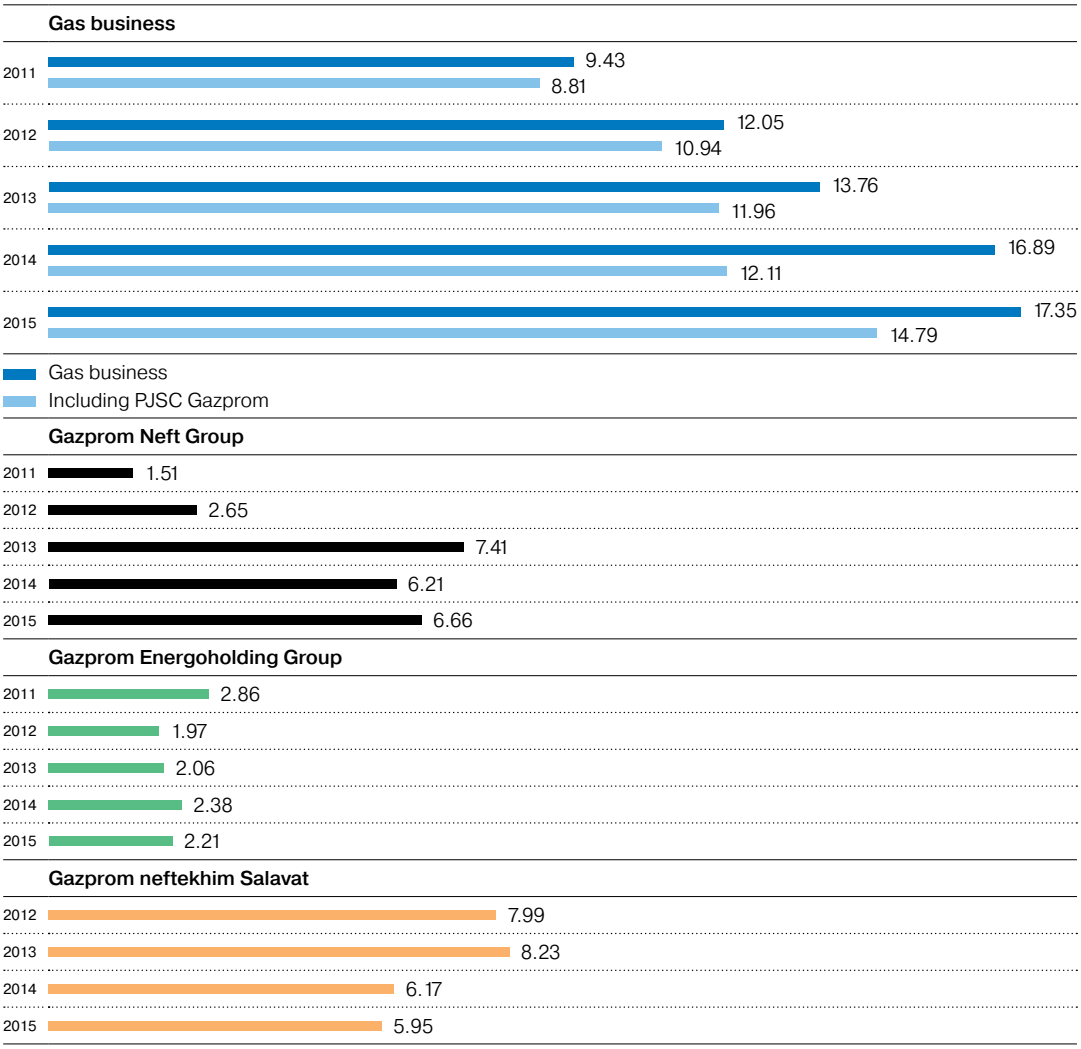
	2011	2012	2013	2014	2015
Gazprom Group	**13,804.47**	**24,648.79**	**31,456.47**	**31,656.24**	**32,169.03**
Gas business	9,434.10	12,047.14	13,758.91	16,895.69	17,348.59
including PJSC Gazprom	8,806.60	10,938.75	11,957.75	12,113.02	14,787.92
Gazprom Neft Group	1,514.24	2,647.73	7,413.42	6,210.19	6,656.05
Gazprom Energoholding	2,856.13	1,966.64	2,058.68	2,380.27	2,214.70
Gazprom neftekhim Salavat	–	7,987.28	8,225.46	6,170.09	5,949.69
including current expenditures for environmental protection					
Gazprom Group	**11,232.71**	**18,354.68**	**20,328.15**	**18,047.89**	**16,399.90**
Gas business	8,021.27	7,034.19	8,224.35	8,079.39	8,561.32
including PJSC Gazprom	7,411.36	6,517.20	7,161.35	7,141.84	8,328.66
Gazprom Neft Group	1,514.24	2,605.06	3,953.91	3,843.48	2,282.08
Gazprom Energoholding	1,697.20	1,253.69	425.05	544.65	413.00
Gazprom neftekhim Salavat	–	7,461.74	7,724.85	5,580.37	5,143.50
including current expenditures for nature conservation services*					
Gazprom Group	**–**	**3,849.51**	**8,021.87**	**9,403.46**	**12,806.27**
Gas business	–	3,100.07	4,008.73	4,988.78	6,591.72
including PJSC Gazprom	–	2,516.47	3,273.98	3,300.71	4,284.04
Gazprom Neft Group	–	–	2,208.34	2,316.29	4,095.48
Gazprom Energoholding	–	436.00	1,420.62	1,686.30	1,729.35
Gazprom neftekhim Salavat	–	313.44	384.18	412.09	389.72
including current expenditures for overhaul repair of main production assets (environmental protection aspects)					
Gazprom Group	**2,571.76**	**2,444.61**	**3,106.45**	**4,204.88**	**2,962.86**
Gas business	1,412.83	1,912.89	1,525.84	3,827.52	2,195.54
including PJSC Gazprom	1,395.24	1,905.08	1,522.42	1,671.01	2,175.23
Gazprom Neft Group	–	42.67	1,251.17	50.41	278.49
Gazprom Energoholding	1,158.93	276.95	213.02	149.32	72.36
Gazprom neftekhim Salavat	–	212.10	116.42	177.63	416.47

* The costs of services of environmental protection have been considered as part of the information about the current costs of environmental protection since 2012, respectively as per the Order of the Federal State Statistics Service of 09.08.2012, the number 441.

** The current expenditures for nature conservation services in 2012 and for overhaul repair of main production assets (environmental protection aspects) in 2010–2011 were not provided.

The increase in the costs of services of environmental protection resulted from the implementation of planned environmental programs and measures. For example, in 2015 companies operating in petroleum production and refinery were carrying out regular cleaning of petroleum refinery equipment, washing and cleaning of water treatment and discharge systems, sludge pits, handling of oily and drill waste etc. The performance was also affected by the price increase for environmental services such as water discharge, transporting and landfilling of waste, development of permit documents, monitoring and chemical tests.

Dynamics of current expenditures for environmental protection in Gazprom Group, 2011–2015, RUB bn



Structure of Gazprom Group's current environmental expenditures, 2015, %

Waste water collection and treatment	52
Protection and reclamation of lands, surface and underground waters	15
Atmospheric air protection and prevention of climate change	14
Waste management	14
Other activity areas in the environmental protection sphere	5

In the Gazprom Group current costs structure, the costs for waste water collection and treatment are predominant, amounting RUB 16.82bn in 2015. Waste management costs amount to RUB 4.53bn; RUB 4.38bn were spent in atmospheric air protection and prevention of climate change; RUB 4.76bn were spent in protection and reclamation of lands, surface and underground waters; 1.67bn were spent in other environmental protection programs (preservation of biodiversity and protection of natural areas, protection from physical impact factors, provision of radiation safety, scientifi c research activity and research works for mitigation of adverse anthropogenic impacts).

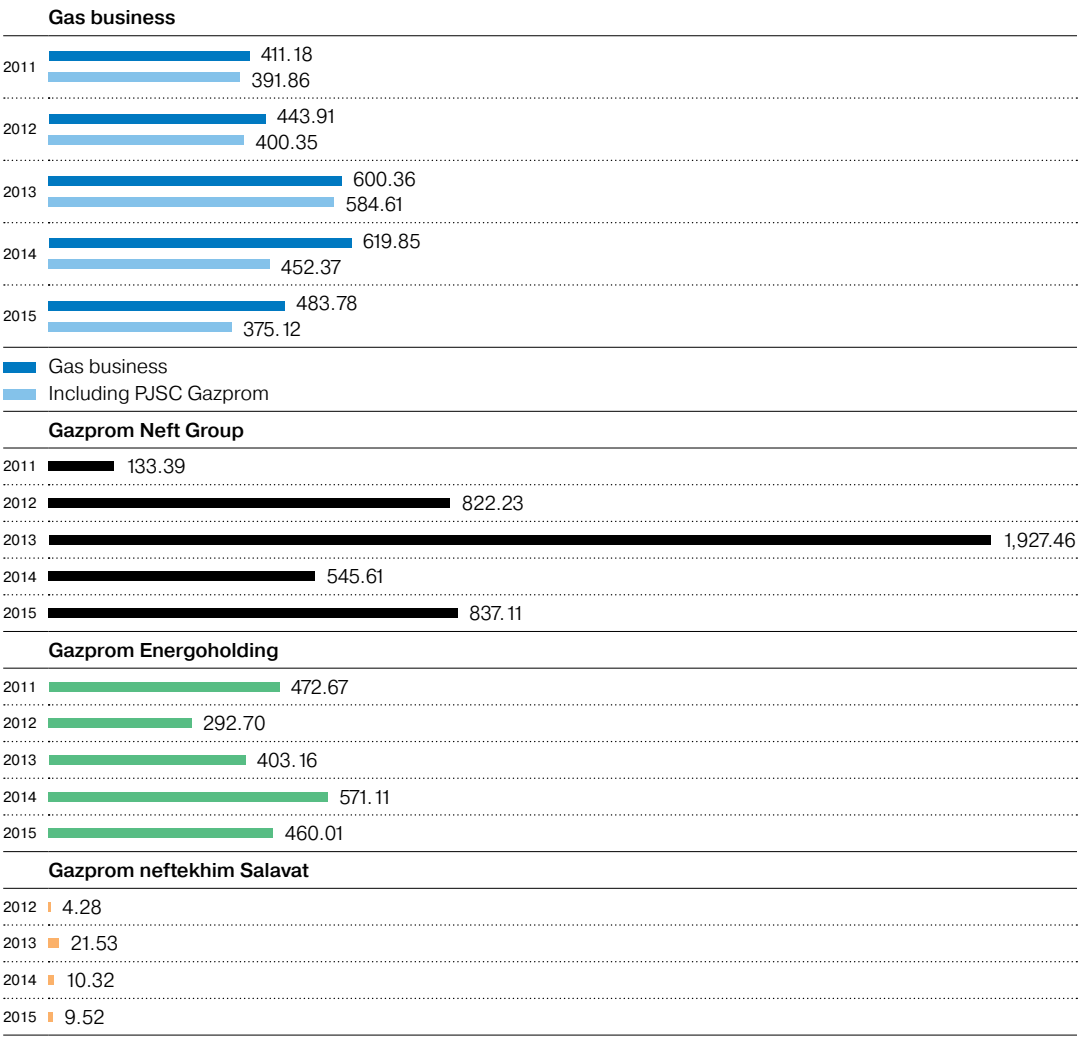
Adverse environmental impact fee

RUB 1,790.42bn were transferred by the Gazprom Group to budgets of different levels as payment for the adverse environmental impacts in 2015.

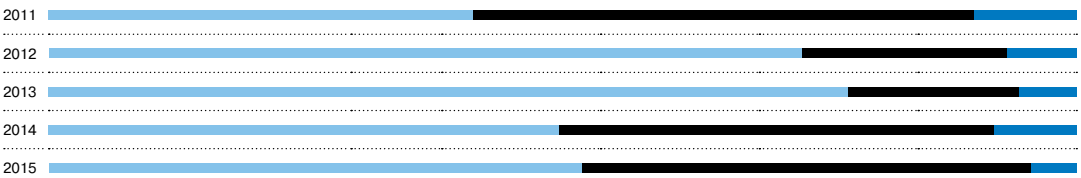
Adverse environmental impact fee, 2011–2015, RUB mm

	2011	2012	2013	2014	2015
Gazprom Group	**1,017.24**	**1,563.12**	**2,952.50**	**1,746.89**	**1,790.42**
Gas business	411.18	443.91	600.36	619.85	483.78
including PJSC Gazprom	391.86	400.35	584.61	452.37	375.12
Gazprom Neft Group	133.39	822.23	1,927.46	545.61	837.11
Gazprom Energoholding Group	472.67	292.70	403.16	571.11	460.01
Gazprom neftekhim Salavat	–	4.28	21.53	10.32	9.52

Adverse environmental impact fee dynamics in Gazprom Group, 2011–2015, RUB mm



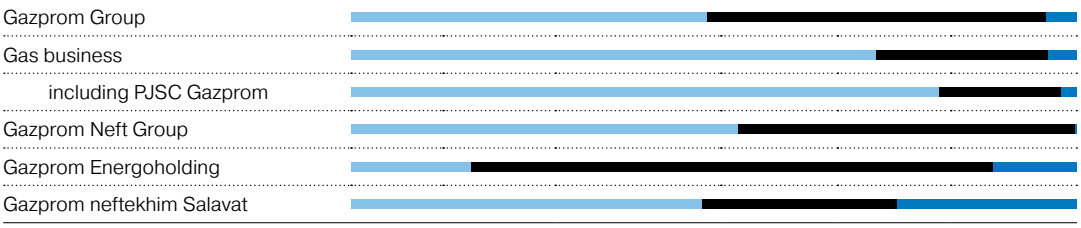
Structure of environmental payments of Gazprom Group in Russian Federation by types of adverse environmental impact, 2011–2015 , RUB mm



	2011	2012	2013	2014	2015
Payment for air pollutant emissions	419.44	1 140.46	2 294.27	866.34	875.70
Payment for waste disposal	496.52	311.31	492.41	740.44	840.06
Payment for wastewater discharge into surface water bodies	101.27	105.95	165.84	139.96	74.66

In the adverse environment impact fee structure, payments for polluting substance (PS) emissions into atmospheric air and payments for waste disposal were predominant in 2015, being also major environmental aspects of the Gazprom Group. The changes in the structure of the environmental payments compared with 2014 were caused by the reduction of payments for exceeding the allowed limits of waste water discharges and increase in payments for waste landfilling due to volunteer plans of Gazpromneft-Muravlenkovo to cover the costs of landfilling drilling waste in sludge pits in 2012–2014.

Payment breakdown by the types of environmental impact, Gazprom Group, 2015, RUB mm

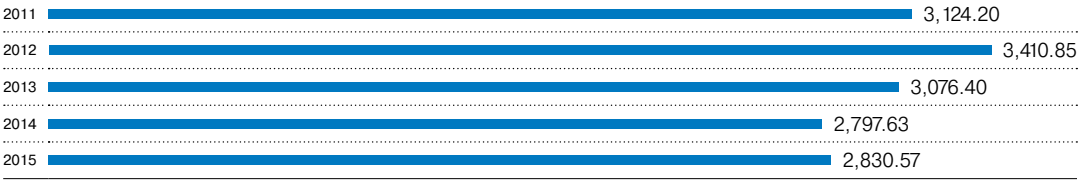


	Gazprom Group	Gas business	including PJSC Gazprom	Gazprom Neft Group	Gazprom Energo-holding	Gazprom neftekhim Salavat
Air pollutant emissions	**875.70**	349.52	303.47	446.02	75.56	4.60
Waste disposal	**840.06**	115.07	63.77	390.72	331.71	2.57
Waste water discharge into surface water bodies	**74.66**	19.20	7.88	0.37	52.74	2.36

Air protection

In 2015, total pollutant emissions from stationary sources of Gazprom Group amounted to 2,830.57 kilotonnes, 1% different from the index 2014.

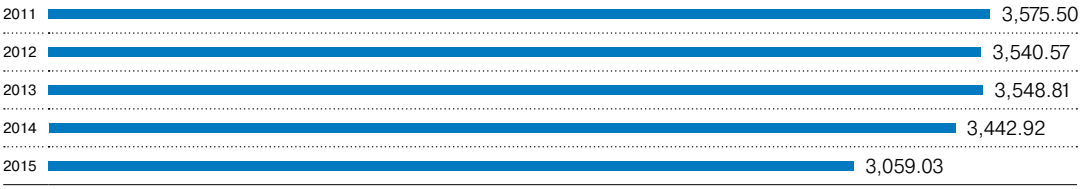
Dynamics of total air pollutant emissions in Gazprom Group, 2011–2015, kilotonnes



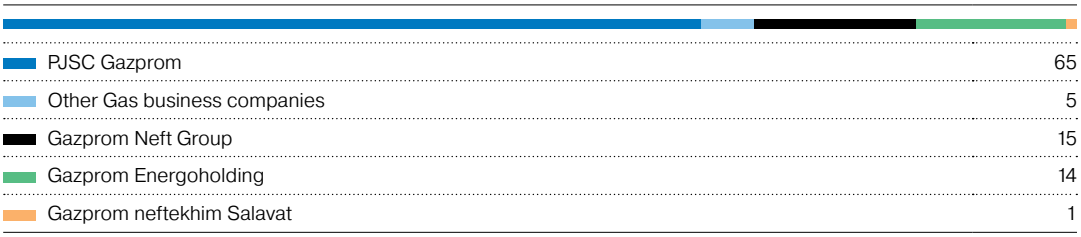
In the Gazprom Group 3,059.03 kilotonnes of pollutants were captured and neutralized at waste gases treatment facilities, including 2,899.29 kilotonnes at Gazprom Energoholding, 134.62 kilotonnes at PJSC Gazprom. The amount of captured and neutralized pollutants was 95% presented by particulate matters (94% — ash of the burning solid fuels), 4% by sulfur dioxide and 1% by other gaseous and liquid substances.

In 2011–2015 Gazprom Group total pollutant emissions amounted to 293.63 kilotonnes, prevented the emission into the atmospheric air 516.47 kilotonnes of pollutants.

Dynamics of air pollutants capture and neutralization at treatment facilities in the Gazprom Group, 2011–2015, kilotonnes



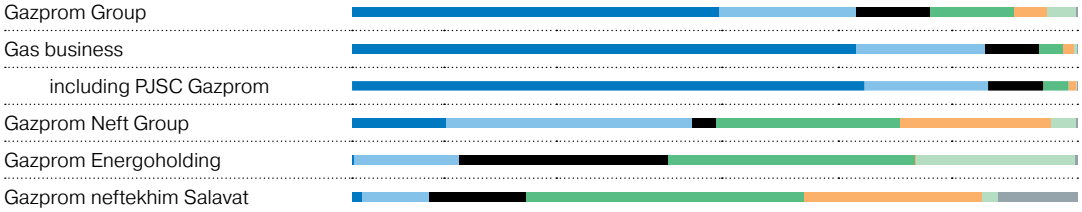
Share of Gazprom Group companies in total emissions, 2015, %



The Gazprom Group emissions structure is largely determined by the specifics of operations of PJSC Gazprom and other companies of the gas complex, which is why hydrocarbons (primarily methane — approximately 50%), carbon monoxide, nitrogen oxides, sulfur dioxide refer to the major pollutants. The particulate matter emissions mostly come from the Gazprom energy sector (over 80% of the respective amounts of the Group emissions), whereas volatile organic compounds are commonly associated with the operations of the companies of Gazprom Neft Group and gas processing assets of Gazprom Group (approximately 70% of the respective amounts).

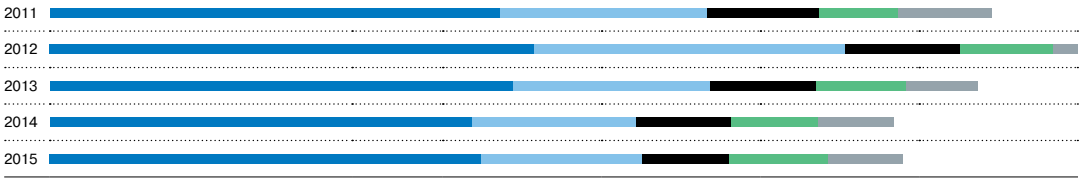
In 2011–2015 reducing emissions by Gazprom Group amounted to hydrocarbons — 60.27 kilotonnes, carbon oxide — 153.56 kilotonnes, nitrogen oxides — 86.34 kilotonnes, other substances— 60.98 kilotonnes.

Air pollutant emissions structure in the Gazprom Group, 2015, kilotonnes, %



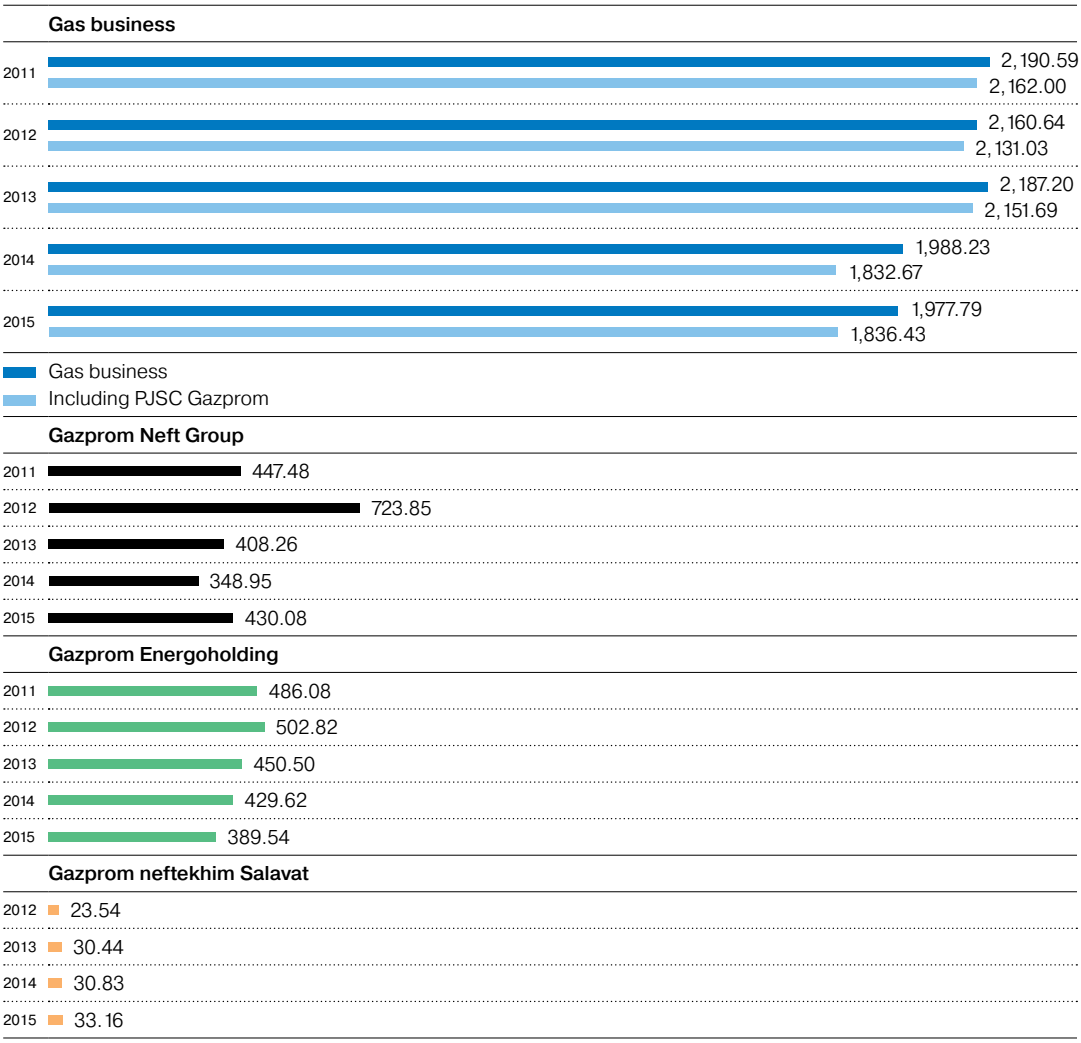
	Gazprom Group	Gas business	including PJSC Gazprom	Gazprom Neft Group	Gazprom Energo-holding	Gazprom neftekhim Salavat
Hydrocarbons (including methane)	**1,430.83**	1,374.71	1,297.38	55.60	0.11	0.42
Carbon monoxide	**533.64**	353.21	313.12	145.70	31.62	3.11
Nitrogen oxides	**286.26**	146.90	139.52	14.26	120.71	4.39
Sulfur dioxide	**328.43**	64.27	64.22	108.60	142.85	12.70
Volatile organic compounds	**128.47**	30.59	19.62	89.49	0.24	8.14
Solid substances	**114.55**	6.34	2.09	15.36	92.12	0.73
Other gaseous and liquid substances	**8.40**	1.78	0.50	1.06	1.89	3.67

Dynamics of air pollutant emissions from the Gazprom Group stationary sources, 2011–2015, kilotonnes



	2011	2012	2013	2014	2015
Hydrocarbons (including methane)	1,491.10	1,606.6	1,534.0	1,398.5	1,430.8
Carbon oxide	687.2	1,031.9	653.4	546.9	533.6
Nitrogen oxides	372.6	378.3	352.9	313.1	286.3
Sulfur dioxide	260.9	310.0	296.9	289.3	328.4
Other substances	312.4	84.1	239.2	249.8	251.4

Dynamics of total emissions in Gazprom Group stationary sources, 2011–2015, kilotonnes



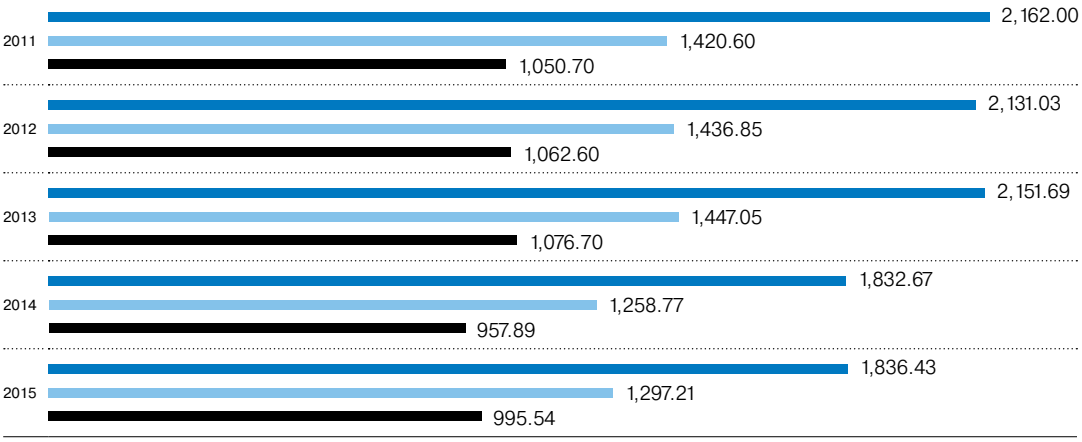
The pollutant emissions from stationary sources of the Group gas business made 1,977.79 kilotonnes, which was 0.5% less than in 2014. The PJSC Gazprom share of the total emissions of the gas operations is 92.85%.

The total PJSC Gazprom emissions were 3.76 kilotonnes (0.21%) larger than in 2014 due to the methane emissions associated with scheduled preventive repair of gas trunk pipelines. Along with that the production and processing sectors managed to perform decrease by 7.5 kilotonnes and 5 kilotonnes respectively, as well as a 5.7 kilotonnes reduction was reached in the storage sector by means of lower emissions form process operations.

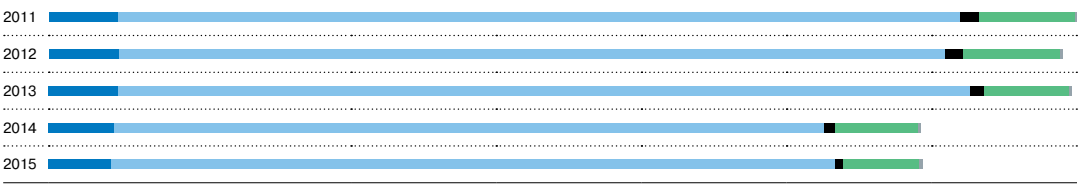
The Gazprom Energoholding total emissions decrease was reached by a lower fuel consumption for the heat and power generation. The Gazprom neftekhim Salavat emissions remained almost the same as in 2014.

The growth of the Gazprom Neft Group emissions was caused by the increase in production and flaring of the associated petroleum gas (APG) due to the consolidation of the ZAO Gazprom Neft Orenburg assets, increase in transfer of petroleum products (OOO Novorosnefteservis), as well as the recommissioning of filling stations after the re/construction and acquisition/renting of new assets.

Dynamics of air pollutant emissions from the PJSC Gazprom stationary sources, 2011–2015, kilotonnes



Dynamics of total air pollutant emissions in PJSC Gazprom by activity types, 2011–2015, kilotonnes



	2011	2012	2013	2014	2015
Gas and gas condensate production	144.21	146.36	145.29	137.65	131.05
Gas transportation	1,770.43	1,736.87	1,791.33	1,492.61	1,520.37
Underground gas storage	41.15	39.18	28.36	22.66	17.38
Natural gas and gas condensate processing	201.96	203.92	179.55	174.12	161.08
Other activity types	4.25	4.70	7.16	5.63	6.55

In 2015 Gazprom Group launched four pollutant emissions capture and neutralization units with a capacity of 6.83mcm/hour (OOO Gazprom transgaz Saratov — 2 pcs, OOO Gazprom transgaz Ukhta — 1 pc, OOO Gazpromtrans — 1 pc.).

Greenhouse gas emissions

PJSC Gazprom climate protection activities are based on the Energy Strategy of Russia up to 2030 and the State Program of the Russian Federation "Environmental Protection" for 2012–2020, as well as the Climate Doctrine of the Russian Federation.

Greenhouse gas (GHG) control — is a part of the PJSC Gazprom Corporate Strategy. It helps the PJSC Gazprom to maintain dominant positions in sustainable development ratings, encourage achievement of the national objective approved by the Order of the President of the Russian Federation No. 752 dd. September 30, 2013 that is, to ensure a 75% reduction of GHG emissions by 2020 as compared to the 1990 level.

In 2015, GHG emissions at PJSC Gazprom facilities amounted 102.6mm tonnes of CO_2-equivalent, which is 7.3% lower as compared to 2014.

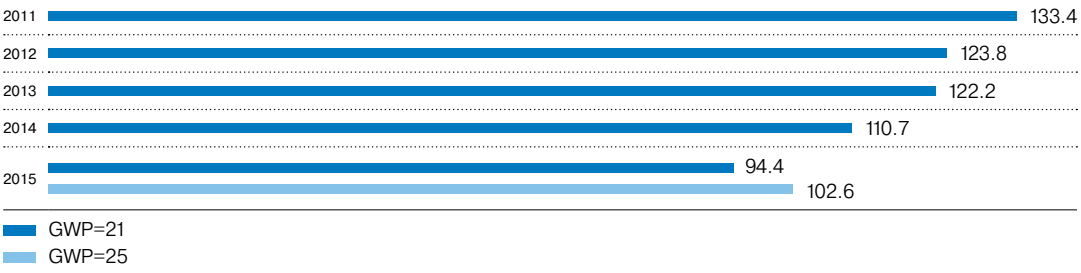
The PJSC Gazprom emissions are primarily reduced by means of implemented practices ensuring a reasonably lower consumption of process natural gas within corporative programs such as:

— Program of energy saving and energy efficiency improve;
— Comprehensive program of a technical modernization of the PJSC Gazprom upstream;
— Comprehensive program of a technical modernization of the PJSC Gazprom midstream.

The energy saving practices and measures provide for the biggest greenhouse gas emissions reduction in the PJSC Gazprom transportation sector.

The main reasons of this GHG emissions reduction are natural gas compression consumption decrease, efficiency increase in fuel and energy resources (FER) usage and implementation of other energy saving measures.

Greenhouse gas emissions in PJSC Gazprom, 2011–2015, CO_2-equivalent, mm tones



All the greenhouse gas emissions calculations till 2014 were based on the methane global warming potential (GWP) of 21. Since 2015 the methane GWP is taken as 25 in accordance with "Methodological guidelines of quantitative assessment of greenhouse gas emissions of organizations operating on the territory of the Russian Federation" as per the Order of June 30, 2015 № 300 of the Ministry of Natural Resources and Environment of the Russian Federation.

Every year PJSC Gazprom submits the results of the quantitative assessment of annual GHG emissions to Roshydromet (Russian Federal Service for Hydrometeorology and Environmental Monitoring) for preparing the national GHG emissions inventory of the Russian Federation to meet the requirements of the national legislation and requirements of the UNFCCC. PJSC Gazprom participates in data collection for the National greenhouse gases emissions Reports. The PJSC Gazprom share of the country's oil and gas greenhouse gas emissions is approximately 12%, including 3.8% of methane of the national emissions breakdown in the Greenhouse Gas Emissions Inventory of the Russian Federation.

Since 2009 the Company has been participating in an international partnership project involving more than 500 international financial organizations, Carbon Disclosure Project (CDP), that maintains the largest international database on GHG emissions. The data from that database are used when making investment decisions. Since 2013 the Company has expanded the scope of reported indicators providing additional data on indirect GHG emissions.

In 2011–2015 as the result of the CDP questionnaire rating the Company was listed as the top oil and gas company in Russia.

The participation in the Investor CDP and CDP Water programs allowed PJSC Gazprom to announce its water resources and greenhouse gas emissions management strategies to the world financial institutions and investors, which consider these data for their investment policies. It also granted PJSC Gazprom an access to the global database of corporate information on climate change, providing a reliable tool of studying and analyzing the advanced experience of multi-national corporations, including oil and gas companies, in mitigation of environmental impacts.

GHG accounting and inventory system is implemented in other Gazprom Group companies. For instance, since 2001 all PAO Mosenergo (Gazprom Energoholding) power stations have been projecting their total emissions of carbon dioxide and other GHG (guiding document RD 153-34.0-02.318-2001 “Methodological guidelines for calculation of total greenhouse gases emissions from heat stations and boilers” as of December 20, 2007). The company Sakhalin Energy company keeps records and annually publishes information on GHG emissions. Since 2014 Gazprom Neft has assessed its greenhouse gas emissions based on the “Methodological guidelines for assessment of annual greenhouse gas emissions of the Gazprom Neft Group”.

Greenhouse gas emissions in Gazprom Group, CO_2-equivalent, mm tones

	2014	2015
PJSC Gazprom	110.7	102.6
Gazprom Energoholding	98.9	100.0
Gazprom Neft	14.5	11.2
Sakhalin Energy	3.5	3.7
Other Group companies	0.5	2.5

Utilization of associated petroleum gas

A great contribution into the greenhouse gases emissions reduction is made by the Gazprom activities in the flared APG decrease (cut off).

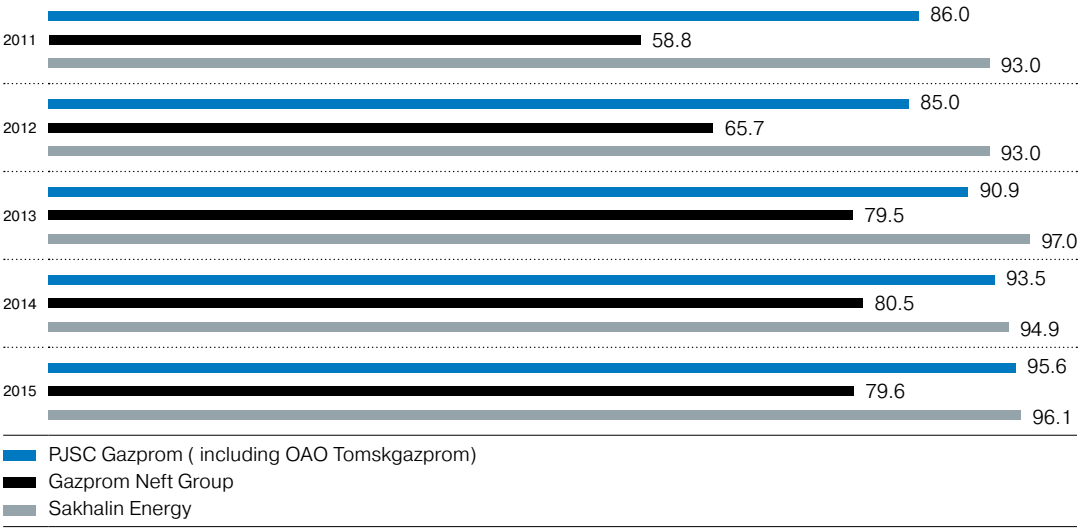
APG combustion is a pending problem of the oil and gas sector in the conditions of general world economy transition to the low-carbon and high energy efficient way of development and due to the reasons of economic, environmental and social risks and losses. Implementation of investment projects for APG use at Gazprom Group fields is aimed at achievement of the APG use level at least 95% in accordance with the requirements in the Government Decree of the Russian Federation of January 8, 2009 №7.

In 2015 the rate of the APG utilization in the PJSC Gazprom upstream (including OAO Tomskgazprom) made 95.6%, in Gazprom Neft Group — 79.6%, Sakhalin Energy — 96.1%.

In August 2015 OAO Tomskgazprom put into operation a 7.2MW compressor station on the Severo-Ostaninskoye OGCF; a gas processing plant on the Kazanskoye OGCF; a trunk pipeline with a gas filling unit and a rail terminal in Kuibyshev. All these raised the company's APG utilization rate by up to 97%, which leveraged the PJSC Gazprom rate to at least 95%.

A slight decrease of the APG utilization in Gazprom Neft Group compared with the previous year was caused by a lower APG delivery from the Novogodneye field (OAO Gazpromneft-Noyabrskneftegaz) to the SIBUR Vyngayakhinsky gas processing plant; due to the lack of the necessary infrastructure and APG capacities.

APG utilization level in the Gazprom Group companies, 2011–2015, %



Reduction of vehicle fleet impact on air

Methane is the optimal energy carrier, which meets the air and climate protection requirements. Road transport running on methane is considered to be a Euro-4 and Euro-5 vehicles.

Gazprom Group makes a descent contribution into the greening of the Russian road transport by means of developing the NGV market and producing Euro-3 and Euro-5 gasoline and diesel fuels.

Gazprom considers the natural gas fuel promotion as a strategic aspect of development on the national and international markets.

Gazprom has established a schedule of reconstruction of existing compressed natural gas filling station (CNG FS) through 2020. The company has been installing compressed natural gas filling modules on the existing fuel stations of PAO Gazprom neft, AO Gazprom gazenergoset, PAO LUKOIL, PAO Tatneft.

Gazprom has been installing CNG modules on existing fuel stations and has put into operation mobile CNG FS for remote consumers.

Under the Memorandum signed with OAO Russian Railways Gazprom has set up sites of retrofitting locomotives with liquefied natural gas (LNG) equipment, as well as filling stations and production plants.

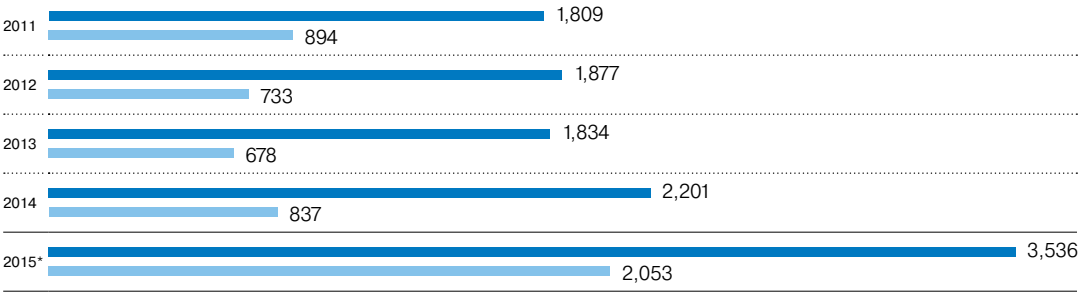
Gazprom has identified the 10 priority Russian regions for the natural gas fuel infrastructure development in 2015–2017: the Republics of Tatarstan and Bashkortostan, Krasnodar and Stavropol Krai, Leningrad, Moscow, Rostov and Sverdlovsk Regions and the administrative centers of Moscow and Saint-Petersburg.

Gazprom has also made agreements with 45 Russian federal subjects on promotion of natural gas as a motor fuel. At the end of 2015 the CNG FS network encompassed 270 stations, of which 213 belonged to Gazprom. The network turnover made 433mmcm in 2015. In 2016 the company is planning to commission 35 stations and reconstruct four stations in 21 regions of Russia. By the end of 2020 the Gazprom CNG FS network is expected to expand to 500 stations.

Nowadays the Russian NGV fleet is about 110 thousand. PJSC Gazprom operates the country's largest NGV fleet: 20% of the corporate vehicle fleet (6,614) run on natural gas. Gazprom Group is implementing a dedicated program of the corporate road transport switch to NGVs in all subsidiary organizations.

In 2015 Gazprom Group enlarged its NGV fleet by 3,536 units, of which 89 vehicles were switched to NGVs in the Republic of Armenia 93 in the Republic of Belarus.

Number of vehicles switched to natural gas by Gazprom Group, 2011–2015, vehicles in year



*The data reported through 2014 are provided for JSC Gazprom only.

Gazprom is continuously seeking to promote the natural gas fuel abroad. OOO Gazprom gazomotornoye toplivo and OAO Gazprom transgaz Belarus signed a Road Map of NGV market development in the Republic of Belarus. The Memorandum of Cooperation is signed with AO KazTransGaz to boost the natural gas fuel expansion in the Republic of Kazakhstan.

Gazprom is boosting the natural gas fuel for road and waterborne transport in Europe through its subsidiary Gazprom Germania GmbH. The strategic objective of this work is leveraging the CNG and LNG supply for marine vessels, HDVs and LDVs. In 2015 Gazprom became an operator of 28 CNG FS in Germany, and an owner of 12 filling stations in the Czech Republic. An LNG filling station for buses is being operated in Poland.

In 2015 a new Russian and Vietnamese joint venture for natural gas fuel was set up by Gazprom International (35.5%), OOO Gazprom gazomotornoye toplivo (35.5%) and PetroVietnam Gas (29%). This joint venture is aimed at construction and commissioning of LNG plants, cryogenic and multifuel filling stations, marine transport fuel terminals; systems of loading, storage and LNG regasification; natural gas equipment retrofit and maintenance workshops.

To demonstrate the advantages of methane as engine oil and variety of vehicles running on gas, Gazprom organizes and participates in rallies and car races.

At the end of September 2015 PJSC Gazprom gave a start to the rally of trucks and special vehicles of, powered by natural gas Gas to Motors! in the direction of St. Petersburg from the East, the North and the South of Russia. The rally was attended by 12 subsidiaries of Gazprom (OOO Gazprom transgaz Saint Petersburg, OOO Gazprom transgaz Stavropol, OOO Gazprom transgaz Surgut, OOO Gazprom transgaz Tomsk, OOO Gazprom transgaz Ufa, OOO Gazprom transgaz Yekaterinburg, OOO Gazprom transgaz Kazan, OOO Gazprom transgaz Moscow, OOO Gazprom transgaz Nizhny Novgorod, OOO Gazprom transgaz Yugorsk, OOO Gazprom transgaz Krasnodar, OOO Gazprom gazomotornoye toplivo). The total length of the route was 7,203 km and the total mileage of all cars to St.-Petersburg — 27,618 km.

In 2015 OOO Gazprom export, OOO Gazprom gazomotornoye toplivo in cooperation with E. ON Global Commodities SE hosted the ninth international mileage of natural gas vehicles Blue Corridor.. In 2015 the participants of the rally overcame 6,800 km on the roads of Russia, Belarus, Poland, Germany, the Netherlands, Belgium and France. In the business part of the program of the rally were meetings with representatives of municipalities, trucking companies, gas companies and the media. The ceremony of finish of the rally was held in the framework of the World Gas Congress in Paris, where the crews of the rally became participants of the discussion session on prospects for gas engine fuel, and the vehicles were demonstrated at the exhibition area.

In the international rally-marathon Africa Eco Rase — 2015 for the first time in the Russian team participated sports heavy-duty KAMAZ powered by natural gas. At the finish of the route with a length of 6,000 km with areas of sandy deserts, rocky plateaus and savannas truck powered by natural gas came in second. Once again proven the efficiency and reliability of this environmentally friendly and cost-effective engine fuel even in extreme conditions.

Water use and protection of water resources

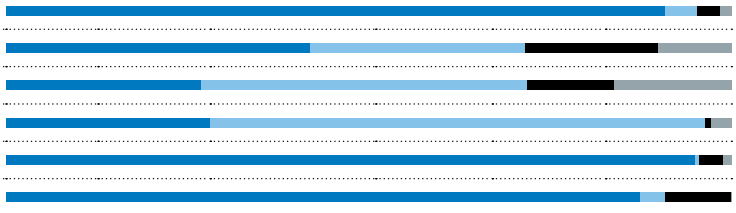
In 2015 the Gazprom Group companies withdrew (received) 4,511.81mmcm of water for the purposes of water supply, which is 7.8% less than in 2014.

Water discharge to surface water bodies over Gazprom Group was reduced by 7.8% and amounted to 3,853.75mmcm for repressuring. Water collecting areas, field irrigation and filtration fields made 16.48mmcm, underground horizons — 49.09mmcm, including 41.01mmcm for repressuring. In municipal and other system water discharge — 186.34mmcm. As much as 11,999.97mmcm of water was recycled or used in successive water supply systems.

Aggregated figures of Gazprom Group water use, 2011–2015, mmcm

	2011	2012	2013	2014	2015
Total water intake	5,793.00	5,462.45	5,130.18	4,895.38	4,511.81
including water from natural sources	5,572.42	5,212.95	4,890.63	4,410.68	4,290.12
Own needs	5,643.19	5,319.62	5,051.64	4,779.50	4,387.64
including process needs	5,550.79	5,209.31	4,919.51	4,506.18	4,149.04
Water discharge to surface water bodies	5,257.71	4,892.96	4,389.91	4,179.09	3,853.75
including clean and treated as per standards	5,096.23	4,691.55	4,227.86	3,991.59	3,660.57

Structure of water consumption in Gazprom Group by types of sources, 2015, mmcm



	Gazprom Group	Gas business	including PJSC Gazprom	Gazprom Neft Group	Gazprom Energo-holding	Gazprom neftekhim Salavat
Surface sources	**4,090.14**	44.90	16.67	57.97	3,952.96	34.31
Underground sources	**199.98**	31.89	27.97	141.06	25.62	1.41
Municipal water supply systems	**148.61**	19.50	7.49	1.60	123.87	3.64
Other water supply systems	**73.08**	11.10	10.11	6.09	55.89	0.01

The share of natural sources in the Group water withdrawal makes 95%, of which 95.3% are presented by surface sources, and 4.7% by underground sources. The structure however depends on the Group's specifics of production and location.

In 2015, Gazprom Group waste waters discharge into surface water bodies was reduced by 27% from 2011 to 2015. The water use for process needs has also decreased by 22% compared to 2011.

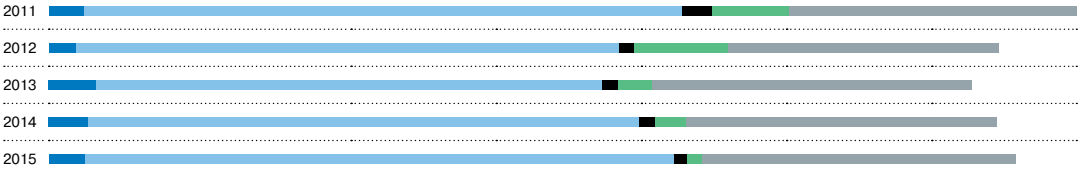
Water being clean as per specified standards without treatment and water processed at treatment facilities as per specified standards made up 95% of the total volume of the Group's discharge into surface water bodies.

In 2011–2015 waste waters discharge into surface water bodies was reduced by 27% in Gazprom Group.

Indicators of water discharge to surface water bodies in Gazprom Group, 2011–2015, mmcm

	2011	2012	2013	2014	2015
Gazprom Group	**5,257.71**	**4,892.96**	**4,389.91**	**4,179.09**	**3,853.75**
Gas business	36.55	36.63	34.00	40.35	34.09
including PJSC Gazprom	11.57	10.69	10.38	10.66	10.88
Gazprom Neft Group	0.09	0.10	0.08	0.32	27.20
Gazprom Energoholding	5,221.07	4,827.77	4,307.80	4,091.95	3,754.12
Gazprom neftekhim Salavat	–	28.46	48.03	46.47	38.34

Dynamics of water discharge to surface water bodies in PJSC Gazprom by activity types, 2011–2015, mmcm



	2011	2012	2013	2014	2015
Gas and gas condensate production	0.39	0.30	0.53	0.44	0.40
Gas transportation	6.73	6.11	5.69	6.20	6.63
Underground gas storage	0.34	0.18	0.19	0.18	0.15
Natural gas and gas condensate processing	0.87	1.05	0.38	0.35	0.17
Other (supporting) activity types	3.24	3.05	3.59	3.49	3.53

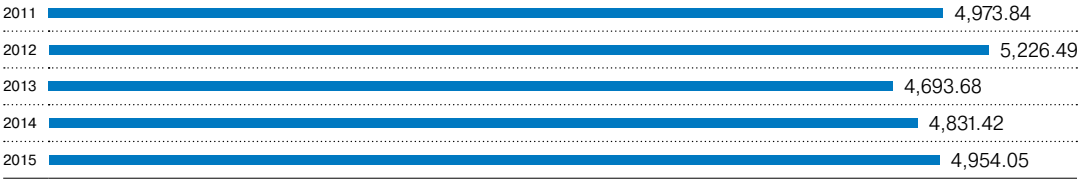
The Gazprom Energoholding Group companies accounted for 92% of the water consumption and 97% of the waste water discharges into the surface water bodies in the Group. The major driver of the total water discharges reduction was the Gazprom Energoholding Group decrease of the water consumption for own process needs (for cooling purposes) due to the lower heat and power generation. The Group gas business share in the water consumption is insignificant — approximately 2.4% (of which 1.4% is the share of PJSC Gazprom).

In Gazprom Group companies a great number of environmental events were held aimed at increasing water utilization efficiency both in industrial and in household sectors, decrease of waste waters environmental impact on water bodies. Such events and measures were: maintenance and repair of sewage treatment facilities, waste waters content monitoring, water quality monitoring, etc. A total of: 71 waste waters treatment facilities were put into operation, with total capacity of 293.9mmcmd, including PJSC Gazprom — 42 units, Gazprom Neft Group — 22 units, в Gazprom Energoholding Group — 3 units, OOO Gazprom mezhregiongaz — 3 units, OAO Severneftegazprom — 1 unit. Put into operation 15 recirculated water supply systems with total capacity of 8,773.7mmcmd, including PJSC Gazprom — 6 units, OAO Salavat — 3 units, OOO Gazprom Energoholding — 3 units, Gazprom Neft Group — 2 units, OOO Gazprom mezhregiongaz — 1 unit.

Production and consumption waste management

In 2015 Gazprom Group amounted for 4,954.046 kilotonnes of waste, which was 2.5% more than in the previous year. The increase was primarily caused by the growth of the Gazprom Neft oil drilling operations and drilling of side casing (a technique of old field output stimulation), as well as by the transfer of the liabilities for the OOO Gazpromneft-Khantos waste to the subcontractors. Additional increase of the waste amount was associated with the Gazprom neftekhim Salavat projects of decommissioning of shutdown facilities.

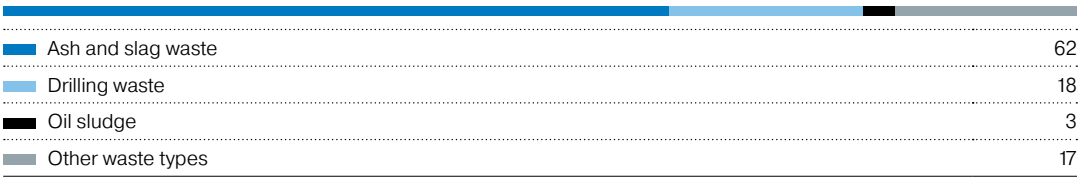
Dynamics of waste generation in Gazprom Group, 2011–2015, kilotonnes



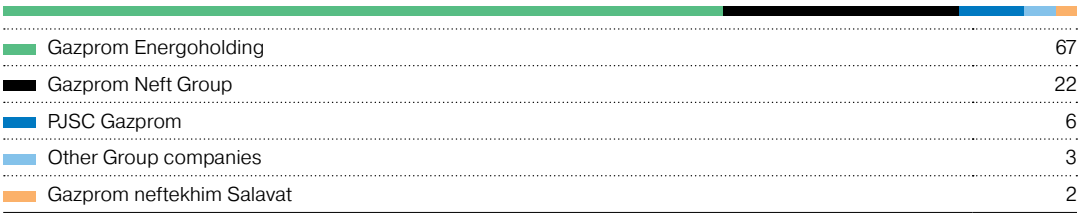
The major part (95.7%) of the Gazprom Group waste is represented by IV and V waste hazard classes, i.e. low-hazard or non-hazard waste. The share of I waste hazard class (extremely hazardous) was 0.004%, II waste hazard class (highly hazardous) — 0.16%, III waste hazard class (moderately hazardous) — 4.1%.

The main types of waste of the Gazprom Group waste is ash and slag waste from Gazprom Energoholding companies (solid ash from coal combustion at HPPs) as well as drilling waste and oil sludge generated at oil and gas production and refining facilities.

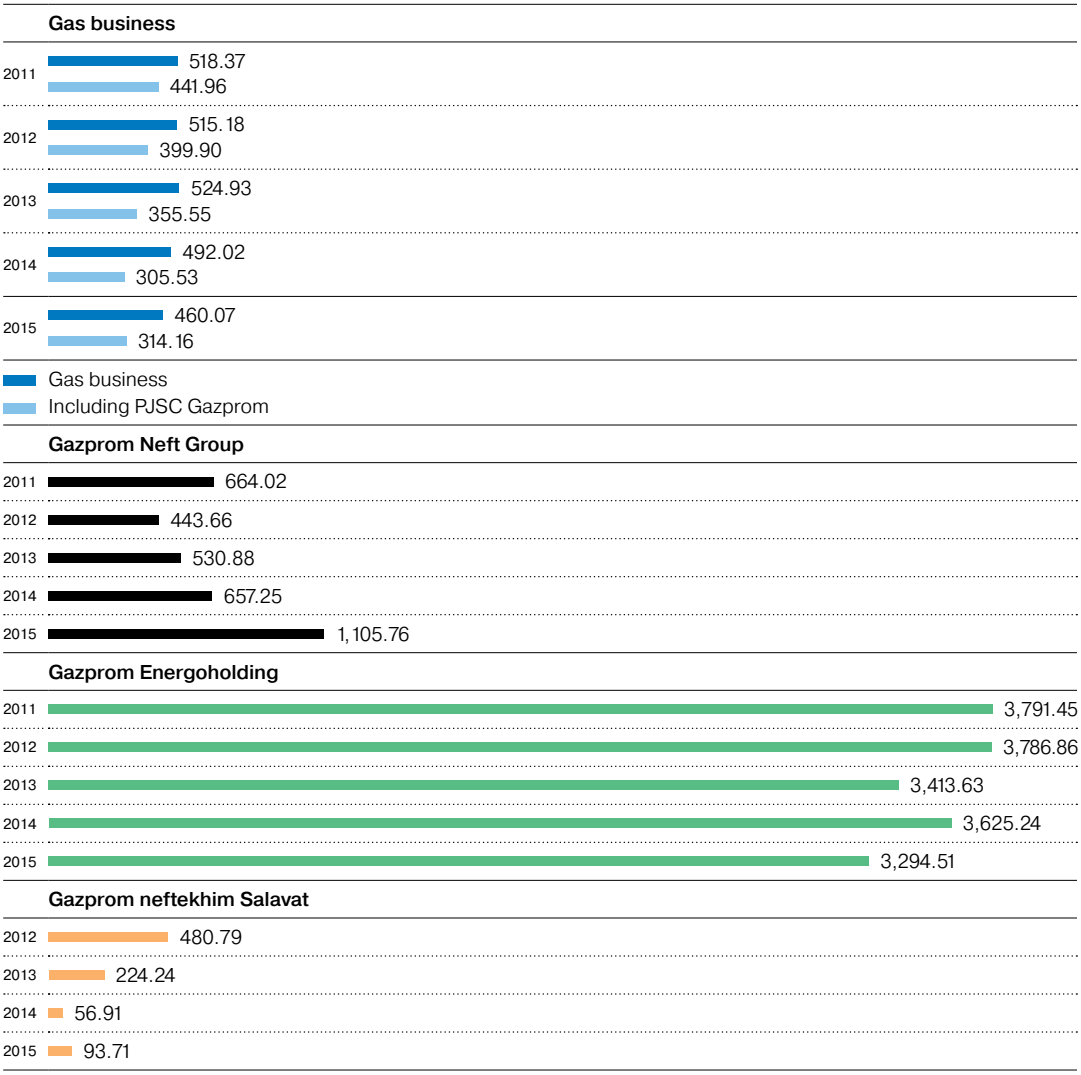
Structure of Gazprom Group waste by types, 2015, %



Share of Gazprom Group companies in waste generation volumes, 2015, %

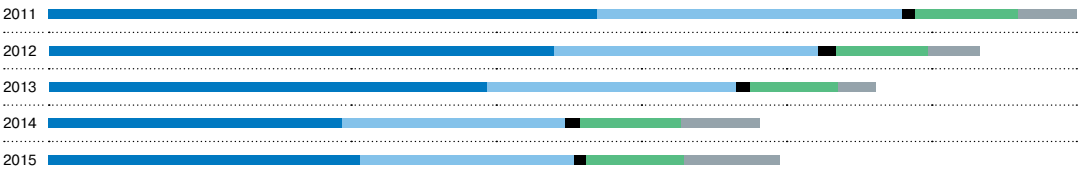


Dynamics of waste generation in Gazprom Group, 2011–2015, kilotonnes



In 2015 Gazprom Group launched eight waste utilization and neutralization units with a capacity of 3.38 kilotonnes/year each, including seven units in Gazprom Neft Group and one landfill for utilization, neutralization and disposal of production, household and other waste of OOO Novy Urengoy gas chemical complex.

Dynamics of waste generation by activity types in PJSC Gazprom, 2011–2015, kilotonnes

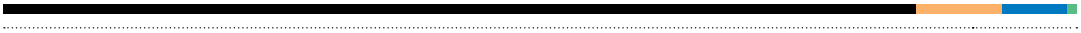


	2011	2012	2013	2014	2015
Natural gas and gas condensate production	235.70	217.00	188.07	125.99	133.73
Gas transportation	130.70	113.75	107.37	95.65	91.66
Underground gas storage	5.80	7.46	5.84	6.45	5.36
Gas and gas condensate processing	44.20	39.43	37.95	43.44	42.40
Other (supporting) activity types	25.55	22.27	16.32	34.00	41.01

In 2015 the PJSC Gazprom operations resulted in an increase of waste amount compared with 2014 — 314.16 kilotonnes. The opposite trends in waste generation are worth mentioning in different sectors. The 6% waste increase in gas production subsidiaries was caused by the construction of operation wells in OOO Gazprom dobycha Nadym; overhaul repair in OOO Gazprom dobycha Yamburg. In the PJSC Gazprom transportation sector the waste generation decreased by 4% primarily due to lower repair of pipelines. The storage and processing sectors also performed a slight decrease by 1.09 kilotonnes and 1.04 kilotonnes respectively due to a cut in production operations. The operations of auxiliary and supply businesses resulted in an increase of waste caused by: construction and modernization of CNG FS by OOO Gazprom gazomotornoye toplivo; oil sludge removal from pipelines and storage batteries; removal of sludge from waste water treatment units of OOO Gazprom energo; decommissioning and utilization of carriages, commissioning of the 5th launch unit in the Surgut subsidiary OOO Gazpromtrans; OOO Gazprom flot drilling operation on the Kirinskoye GCF.

The Gazprom Group companies pay much attention to environmentally safe management of oil contaminated waste. This waste type consists predominantly of cuttings from pipeline, vessels and oil separation units cleanings, supernatant fi lm from oil catching (gasoline catching) facilities. This is normally considered medium hazardous waste (III class of hazard).

Oily waste generation breakdown, Gazprom Group, 2015, %



Gazprom Neft Group	85
Gazprom neftekhim Salavat	8
Gas business	6
Gazprom Energoholding	1

In 2015, 164.54 kilotonnes of oily waste (including 19.70 kilotonnes available at the beginning of the year, 144.28 kilotonnes generated during the year and 0.56 kilotonnes supplied by other enterprises) were handled by the facilities of the Gazprom Group.

Of this amount, 90% were transferred to outside specialized licensed organizations for utilization, neutralization, storage and landfilling. 0.2% were used and neutralized on site.

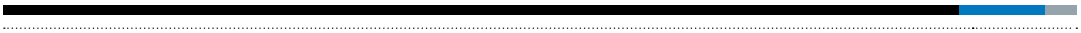
Breakdown of oil contaminated waste handling in Gazprom Group, 2015, %

Transferred to specialized organizations for storage and disposal	52,0
Transferred to specialized organizations for use and neutraization	38,0
Availability at the enterprise by the end of the reported year	9,8
Used and neutralized at the enterprise	0,2

The utilization of a large amount of drilling waste associated with completion and operation of wells is the major challenge of the Group oil and gas upstream companies.

In 2015 the drill waste turnover amounted for 915.88 kilotonnes (including the amount registered from the previous year — 52.90 kilotonnes and generated in the reporting year 862.98 kilotonnes), out of which 88% (807.04 kilotonnes) were utilized and neutralized in-situ and transferred to specialized organizations for the same purpose, 65.90 kilotonnes were delivered to disposal, and 42.93 kilotonnes — to landfilling and temporal accumulation.

Share of Gazprom Group companies in drilling waste generation, 2015, %



Gazprom Neft Group	89
PJSC Gazprom	8
Sakhalin Energy	3

Structure of drilling waste handling in Gazrpom Group, 2015, %

Transferred to specialized organizations for utilization and neutralization	83
Transferred to specialized sites for disposal	7
Availability at the enterprise by the end of the reported year	5
Used and neutralized at the enterprise	5

One of the main requirements for technological process of well drilling is prevention of drilling adverse environmental impact, especially in extreme climatic conditions of the Far North. For these purposes during the field infrastructure development some solutions that provide minimal environmental impact during drilling are implemented. For instance, during operational holes drilling, a pit-free drilling is used. The corporate upstream has been taking advantage of implementing the drill waste utilization technique producing a mineral by-product powder, which is used as a feed component of building materials for developing fields.

Protection of land and soil

As a result of geological survey, construction and repair works, operation of wells, pipelines and other facilities, mechanical soil disturbance and pollution take place. Gazprom Group pays constant attention to practical ways of resolving the issues of restoration and preservation of disturbed soils. Biological and technical remediation are conducted and aimed at restoration of land productivity and its economic value.

Parameters of land protection activities in the Gazprom Group, 2015–2015, ha

	2011	2012	2013	2014	2015
Area of disturbed lands during the year	11,853.11	14,402.15	13,065.47	15,407.40	58,054.53
including polluted areas	493.81	237.50	1,019.48	105.43	82.30
Area of rehabilitated lands during the year	11,549.23	9,717.18	13,977.04	12,589.34	18,220.34
including polluted areas*	–	278.26	839.18	464.39	187.37

* Accounting of contaminated lands for the rehabilitation purposes has been provided in the corporatereporting since 2012 as per the modified requirements of the federal statistical accounting of rehabilitated lands, removal and use of the land soil (Order of Rosprirodnadzor as of December 29, 2012 N676).

During the reported year, the Group companies disturbed a total of 58.05 thousand ha of soils, 13.30 thousand ha of them disturbed by PJSC Gazprom, 43.96 thousand ha — by Gazprom Neft Group, 0.79 thousand ha — by other Group companies. Soil disturbance was associated with development of hydrocarbon fields, as well as construction, repair and others. The significant increase in disturbed land area in 2015 was caused by the repair of the PJSC Gazprom trunk pipelines, extensive implementation of the Gazprom Neft Group construction projects, especially the OOO Gazpromneft — Angara seismic operations.

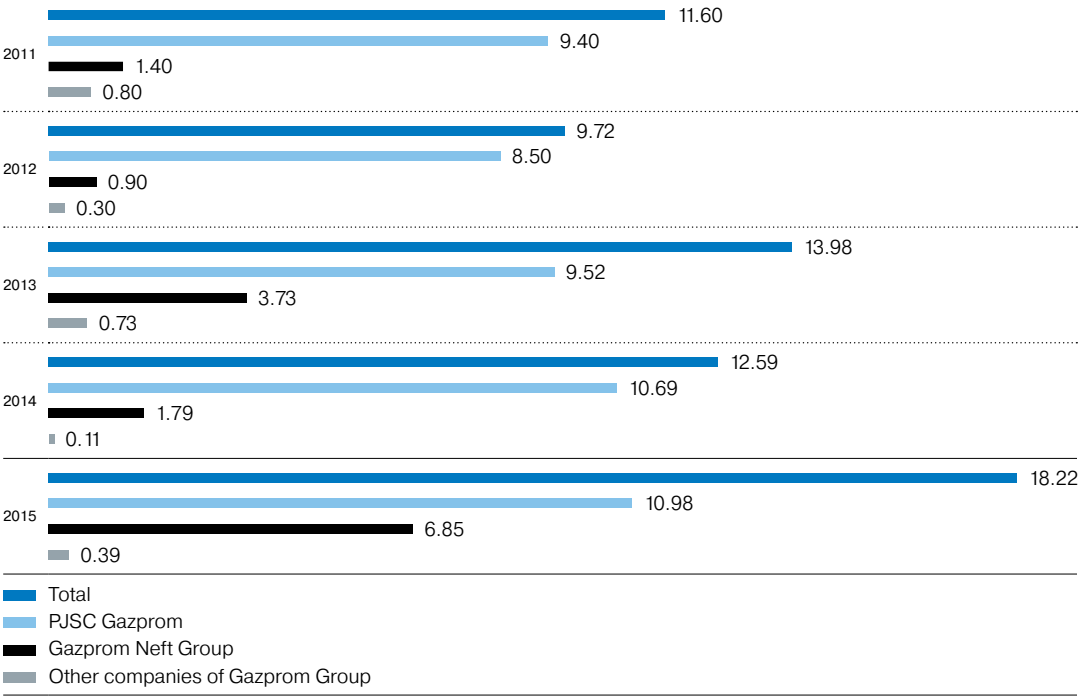
The land areas are subject to a full rehabilitation, where production operation are completed and the soil cover is damaged. The land rehabilitation scope in 2015 included 18.22 thousand ha, 10.98 thousand ha of which — by PJSC Gazprom, by Gazprom Neft Group — 6.85 thousand ha, by other companies — 0.39 thousand ha.

The majority of companies fully rehabilitated the lands disturbed during the year. Works on remediation and rehabilitation of the lands are performed in the areas of Group companies activities. The problem of disturbed land resources is not an acute environmental issue for Gazprom Group, for rehabilitation measures are undertaken to the extent required, and no damage accumulation is noted.

The measures undertaken by Gazprom are cost-efficient and up-to-date works aimed at prevention of negative erosion processes, they provide terrain stabilization conditions and enable restoration of pedogenic vegetation cover. These technologies stipulate usage of available materials, including recycled drilling waste, biocompatible materials, plant growth stimulants. Tailored soil microorganisms enable topsoil strengthening, including spoil heaps, they also increase the speed and intensity of root generation and plant growth.

The Group companies undertake every precaution to prevent pollutant penetration into the soil, surface and ground waters, avoid erosion and other types of the soil degradation. The environmental monitoring and control of the Gazprom Group construction and reconstruction operations provides for the inspection of the remediated soil compliance with environmental regulations on: soil state, geobotanics, agrochemical and others. The road transport and mobile process equipment of subcontractors operating within the assigned land areas is subject to the environmental control.

Land rehabilitation works dynamics in Gazprom Group companies, 2011–2015, thousand ha



The company implements its policy to identify and liquidate the accumulated environmental damage of previous land users. In 2015 OOO Gazprom dobycha Nadym decommissioned and liquidated some old production wells from the Bovanekovskoye OGCF, Medvezhie OGCF and Kharasoveyskoye GCF. The accumulated environmental damage was removed from the Urengoy OGCF (OOO Gazprom dobycha Urengoy). In the area of Novy Port and Mys-Kamenskoye OOO Gazpromneft-Yamal of Gazprom Neft Group made an inventory of contaminated and disturbed lands of "historical legacy" of the Ob Bay coastline.

Complex measures are implemented in Gazprom Neft Group for increasing piping system reliability, thus increasing the safety of environment. Scheduled replacement of unserviceable piping sectors, their protection by corrosion inhibitors, provided pipe breakage decrease by 13% to 2014 and by 28% compared to 2013 and excluded accidental oil pollution.

Protection of biodiversity

Being driven by the Order of the President of the Russian Federation as per the results of the session on the efficient and safe exploration of the Artic (June 5, 2014) Gazprom Group has developed the Program of preservation of the biological diversity of marine ecosystems of the Arctic of the Russian Federation. The program considers recommendations of an environmental community expertise, Ministry of Natural Resources and Ecology, the World Wildlife Fund (WWF) and the Global Environment Facility (GEF).

PAO Gazprom Neft in partnership with the Marine Mammal Council and WWF Russia carried out scheduled monitoring studies in the operation area of the offshore ice-resistant platform (OIRP) “Prirazlomnaya”, aimed at further studying of the Atlantic walrus status in the Pechora basin, identification of its key inhabitation areas. The study did not detect any negative environmental impact associated with the Prirazlomnaya platform operations.

In 2015 Sakhalin Energy ran a 4D-seismic study in the Piltun-Astokhskoye field. The gray whale protection measures were developed in association with the Western gray Whale Advisory Panel. The exploration vessel was surrounded with a safety zone avoiding a sonar impact on whales by means of an continuous acoustic and visual monitoring. During the entire study an independent observer from the International Union for Conservation of Nature (IUCN) was in the field camp to ensure the implementation of the measures. The observer did not register any incidents of presence of whales within the area the ongoing seismic exploration. The exploration period was completed by August — before the return of whales to the North-East of Sakhalin. Sakhalin Energy Investment Company Ltd. took the liability for the organization and funding of the mobile field camp equipment, ensuring the work of research groups during the scientific studies of gray whales.

OOO Gazprom dobycha Urengoy took a great consideration of a rare biota at the project and design stage of the infrastructure. The road construction was based on the techniques, which prevented the impact on the surface fauna. The laying of linear pieces of equipment along the river coast was carried out in winter time to perform a minimal effect on the soil cover. The alternatives of logistic vehicle routes are regulated in use. The animal penetration alert is installed at the household landfill sites of the Bovanenkovo OGCF and Kharasavey GCF. The company installed 83 bird protection devices on open air power cables. OOO Gazprom dobycha Urengoy regularly patrols the production areas to prevent illegal hunting (uncontrolled fishing and animal shooting) of subcontractors.

OOO Gazprom dobycha Kuznetsk replanted rare and valuable sorts of trees from the construction areas and continued monitoring the environmental of the local endemic species of Salair Ridge — Eisenia salairica (type of annelid worms, which are at the blink of extinction).

Since 2013 OOO Gazprom transgaz Tomsk has been providing a charity support to the state natural reserve “Lebediny”. This the only place in Russia, where whoopers stay for the winter period and become neighbors to 35 kinds of birds listed in the Altai Red Book. Thanks to this support in 2015 the bridges in the natural reserve were widened to allow more tourists and a beautiful view point with a power supply. This support became a huge contribution into raising the reserve tourist attraction and scientific value. The company has also set up a regular patrolling of the area to prevent illegal hunting. The shooting of whoopers is also monitored by the observation system provided by the gas company. The population of whoopers has significantly rose from 200 in 2008 to 500 in 2015 г.

Since 2013 OOO Gazprom dobycha Yamburg and OOO Gazprom dobycha Nadym have participated in a volunteer action of the Green Crew to the Bely Island. The Island is the farthest Northern territory of the Yamal-Nenets Autonomous District. The main goal is to remove the accumulated environmental damage of previous operations and restore the environmental balance of the unique ecosystem. Due to the development of the Novoportovskoye OGCF PAO Gazprom Neft continued monitoring of the local flora and fauna and reproduce marine biological resources in the Yamal region.

Gazprom Group takes a great part in preserving rare plants and animal in the regions of operation, as well as in federal regional and local special nature protection areas.

Gazprom Group participation in conservation of protected areas and objects in 2015	
SPNA	**Activity**
OOO Gazprom sotsinvest	
The National Park “Sochinsky” (Krasnodar Krai, Sochi)	Replanting of the Russian Red Book flora in the area of the Mountain Tourist Center construction. Over 850 Red Book species were replanted to non-operated areas. The offset reforestation included 4.8 thousand matured wild nurslings.
OOO Gazprom transgaz Tchaikovsky	
The National Park “Nechkinsky” (Perm Krai)	Greening and renewing the territory for visitors.
The State Complex Reserve “Preduralie” (districts of Kishert and Kungur of Perm Krai)	Support of the territory cleaning.
The Landscape Natural Sight — “Gora Kolpaki” (Gornozavodsky district of Perm Krai)	
The Geological Natural Sight — the Yermak Rock on the Regional SNPA “Kamenny Gorod”	
The Perm SNPA “Lipovaya Gora”	
OOO Gazprom transgaz Ukhta	
The National Park “Yugyd Va” (Vuktyl, Intin and Pechora districts of the Republic of Komi)	Green crew for cleaning of territory.
OOO Gazprom transgaz Moscow	
The National Park “Elk Island” (Moscow Region)	Planting of trees.
The State Biosphere Natural Reserve “Oksky” (Ryazan Region)	Repair and renewing of dendrarium.
The Prioksko-Terrasny Nature Biosphere Reserve named after Mikhail Zablotsky (Moscow Region)	Financial support under the program ”Adopt a Wood Ox”.
OOO Gazprom transgaz Saint Petersburg	
The National Park “Kurshskaya Kosa” (Kaliningrad Region)	Seed planting of the 2.5 ha area with feed grass for wild animal.
OOO Gazprom dobycha Urengoy	
The Upper Taz State Natural Reserve (Krasnoselkup district of the YNAD)	Financial support of the SNPA.
The State Regional Biological Reserve “Yamalsky” (Yamal district of the YNAD)	
The State Regional Biological Reserve “Pyakolsky” (Krasnoselkup district of the YNAD)	
OOO Gazprom dobycha Orenburg	
The Orenburg State Natural Reserve (Orenburg Region)	Assistance with transporting of Przevalsky’s horses from a French natural reserve under the project of reintroduction.
OOO Gazprom transgaz Samara	
The Zhiguli State Natural Reserve named after I.I. Sprygin (Samara Region)	Assistance with cleaning of territories under the program Clean Coast.
The Regional Park “Sosnovy Bor” (Orenburg region)	Assistance with cleaning of territories.
The Botanical Garden of the Samara State university (Samara)	
OOO Gazprom dobycha Astrakhan	
The State Astrakhan Natural Reserve (Astrakhan Region)	Charity support.

SPNA	Activity
Sakhalin Energy Investment Company Ltd.	
The Sakhalin Botanical Garden (Sakhalin Region)	Volunteer action Spring design — Saturday Cleaning.
OOO Gazprom gaznadzor	
The Regional Natural Sight — Park "Dinamo" (Khabarovsk)	Assistance with cleaning of territories.
OOO Gazprom mezhregiongaz	
The Natural Rural Areas "Kuzminki-Lyublino" (Moscow)	Assistance with cleaning of territories
"Khimki Les" (Moscow)	
OOO Gazprom transgaz Saratov	
The Regional SNPA of Saratov — Natural Park "Kumysnaya Polyana"	Assistance with cleaning of territories under the action of Clean Forest.
The Regional Nature Sight — Bosket of Manchurian walnut (Balashov district in Saratov Region)	
OOO Gazprom transgaz Tomsk	
The Regional State Natural Reserve "Lebediny" (Altai Krai)	Financial support of the SNPA infrastructure development.
The Baikal Natural Area	Participation in a green action of 360 Minutes for the Baikal.
The Regional State Natural Sight — Natural Dendrarium "Silinsky Les" (Komsomolsk-on-Amur, Khabarovsk Krai)	Planting of coniferous trees.
Gazprom Neft Group	
The Regional State Natural Reserve "Seidyavvr" (Lovozer district of Murmansk Region)	Financial support of creation of a green alley in the reserve.
OOO Gazprom dobycha Yamburg	
The Bely Island (YNAD)	Action of the Green Crew to the Bely Island. Main goal is to remove the accumulated environmental damage of previous operations and restore the environmental balance of the unique ecosystem.
OOO Gazprom dobycha shelf Yuzhno-Sakhalinsk	
The Regional Natural Sight — Lunsky Bay (Sakhalin Region)	Territory cleaning.

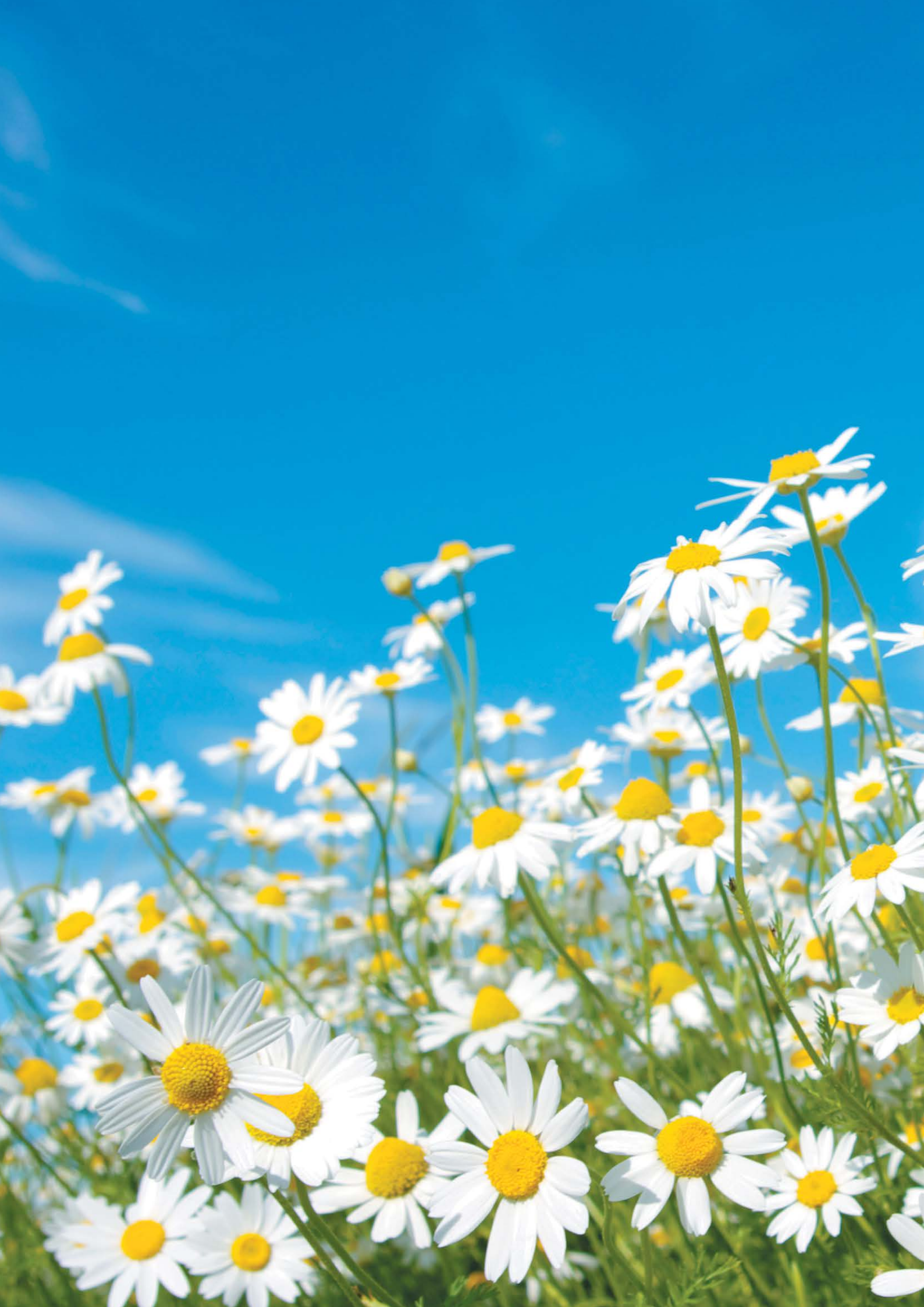
In 2015 the Gazprom Group subsidiaries implemented a large number of environmental protection measures aimed at protection and reproduction of fish, including rare species. For example, OOO Gazprom dobycha shelf Yuzhno-Sakhalinsk set up a strategy of preserving the population of a Sakhalin taimen in the area of the Kirinskoye GCF of the Nogliki district in the Sakhalin Region. The strategy provided for raising awareness of the local population about the state and rareness of the fish species resilience by means of a contest "Catch and let your taimen go!", open classes in the Nogliki schools, conferences held in Yuzhno-Sakhalinsk on the Sakhalin taimen preservation.

Protection and reproduction of fish reserves in 2015	
Water object	**Activity**
OOO Gazprom dobycha shelf Yuzhno-Sakhalinsk	
Rybovodny stream (Tym River, Sakhalin Region)	Farming and releasing of 730,477 pcs of juvenile calico salmon.
OOO Gazprom dobycha Nadym	
Yamal and Ob Rivers of the Irtysh basin	Farming and releasing of: 12,000 pcs. juvenile chum, 43,788 pcs. juvenile peled.

Water object	Activity
OOO Gazprom geologorazvedka	
The Yenissei River system (Krasnoyarsk Krai) Tym and Poronai Rivers (Sakhalin Region)	Release of: 22,303 pcs. juvenile grayling; 1125,000 pcs. juvenile calico salmon.
OOO Gazprom dobycha Kuznetsk	
Tom River (Kemerovo Region)	Release of: 167 pcs. pike; 9,700 pcs. grayling.
OOO Gazprom mezhregiongaz	
Saratov water reservoir (the Volga River system, Samara Region)	Release of 5,908 pcs. of a two-year old mirror carp.
OOO Gazprom transgaz Samara	
Saratov water reservoir (the Volga River system, Samara Region)	Release of 4,270 pcs. juvenile sterlet.
OOO Gazprom transgaz Nizhny Novgorod	
Volga River (the Republic of Chuvashia)	Release of 1,000 pcs. juvenile sterlet.
OOO Gazprom transgaz Krasnodar	
Krasnodar water reservoir (the Kuban River system, Krasnodar Krai)	Release of 4,300 pcs. juvenile mirror carp.
OOO Gazprom transgaz Yugorsk	
Ob-Irtysh fishery basin	Release of juvenile: 350 pcs. muksun; 25,796 pcs. whitefish.
OAO Gazprom neftekhim Salavat Group	
Nugush water reservoir (Nugush and Belaya Rivers, Meleuzovsky District, the Republic of Bashkortostan)	Release of over 6,000 pcs. juvenile common carp.
Gazprom Neft Group	
Gulf of Finland	"Homeland shore" — release of over 5,000 pcs. juvenile whitefish.
Gazprom Energoholding (PAO OGK-2)	
Shelon River (the Volkhov river system, Pskov Region)	Release of 740 pcs. juvenile pike perch.
Novomichurinsk water reservoir (the Oka River system, Ryazan Region)	Release of 9.5 tonnes of juvenile (white amur, black amur, silver carp, mirror carp).
Gazprom Energoholding (OAO TGC-1)	
Tuloma and Voronya Rivers (Murmansk Region)	Reconstruction of the HPS-13 fish way in the Tuloma and Serebryansk HPS.
Neva River (Saint-Petersburg)	Completion of the construction of a pump station with a fish protection unit at Pravoberezhnaya HPP-5.
OOO Gazprom transgaz Stavropol	
Volga River (Astrakhan Region)	Volunteer action of saving juvenile fish in the high water from small streams.

Gazprom realizes that a key aspect of the sustainable development is driven by the care for the biological and landscape diversity, preservation of inhabitation of rare species and flora and fauna at the risk of extinction.

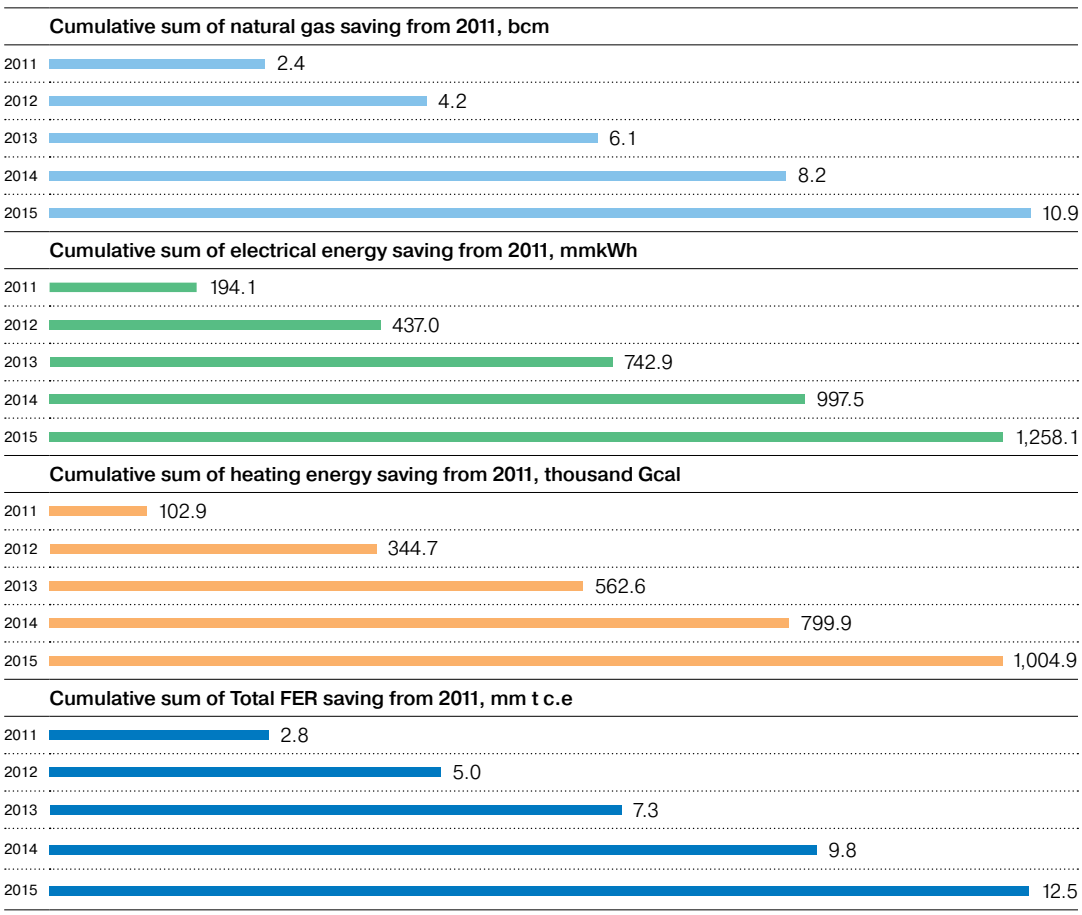
In 2015, a total of RUB 318mm was invested in biodiversity conservation and environmental protection, protection and reproduction of fish stocks.



Energy saving

In 2015, PJSC Gazprom Energy Saving and Energy Efficiency Improvement Policy implementation continues as per the Concept of JSC Gazprom Energy Saving and Energy Efficiency Improvement for 2011–2020 and energy saving and energy efficiency improvement programs.

Energy saving and energy efficiency increase objectives fulfillment for the PJSC Gazprom for the period 2011–2020



Fuel and power resources saving
Planned saving for the period through 2020 —28.2mm t c.e.
Actually reached saving in the period of 2011–2015 — 12.5mm t c.e.
Objective fulfillment — 44.3%.

Decrease of natural gas specific consumption for OPN
Planned annual reduction relative to previous year — 1.2%.
Actually reached annual saving in the period of 2011–2015 — 4.4%.
Objective fulfillment — the objective is achieved.

Greenhouse gases reduction
Planned decrease for the period through 2020 — 48.6mm tons.
Actually achieved reduction before 2011–2015 — 22.5mm tons.
Objective fulfillment — 42%.

Main areas of natural gas savings in a gas pipelines in 2015, %

Reduction of gas consumption for process needs of LP, GDS	31.7
Optimization of operating modes of GTS process facilities	24.2
Improvement of GPU technical state by means of repair	13.9
Reconstruction and upgrade of CS facilities	13.7
Reduction of gas losses at the CS, LP, GDS facilities	10.8
Other activities	5.7

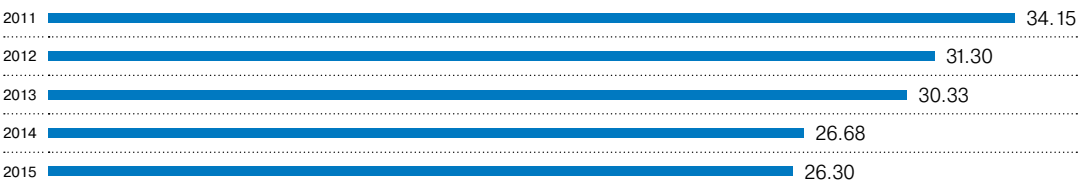
Main areas of energy saving in a gas pipelines in 2015, %

Optimization of operating modes of electric equipment	39.8
Management operational arrangements	24.7
Increasing the equipment technical condition by means of repair	17.1
Introduction of variable frequency drives and electric engine cushion start	8.8
Other activities	9.6

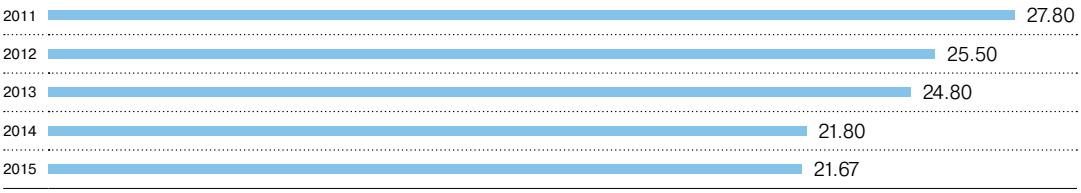
Based on the 2014 results, specific rate of FER consumption (natural gas and electrical energy) for gas pipeline transportation amounted to 26.30 kg c. e. /mmcm·km, which was 1.4% lower than in 2014, and 27% below the performance indicator fpr FER — 36.00 kg c. e. /mmcm·km, set up for 2015 by the Federal Rates Service of the Russian Federation (Order of March 30, 2012 № 214-e).

Energy saving and energy efficiency improvement targets fulfillment of PJSC Gazprom for the period of 2011–2020 in gas transport

FER specific consumption, 2011–2015, kg c. e./mmcm·km



Gas specific consumption and losses at OPN, 2011–2015,cubicmeter/mmcm·km



In order to provide further development and improvement of the energy saving management system, the PJSC Gazprom Energy Saving and Energy Efficiency Improvement Program for 2016 was elaborated in 2015 (is currently under consideration and approval by the leadership of Gazprom PJSC), along with several corporate standardization system documents R Gazprom. In accordance with GOST R ISO 50001:2012 a regulative documents on energy management systems elaboration process began.

Results of the PJSC Gazprom Program of Energy Saving and Energy Efficiency Improve in 2015

Activity types	Natural gas, mmcm	Electrical energy, mm kWh	Thermal energy, thousand Gcal
Gas, gas condensate, oil production	315.7	14.9	15.4
Gas transportation	1,906.0	203.3	60.7
Underground gas storage	11.7	0.9	0.0
Natural gas and gas condensate processing	17.0	36.8	127.8
Distribution of gas	4.9	4.7	1.1
Total	**2,255.3**	**260.6**	**205.0**
Total, thousand t c. e.	**2,571.0**	**84.7**	**29.3**

The major fuel and energy resource savings (83.73%) were reached in the natural gas pipeline transportation by means of energy saving practices and measures fulfilled.

The implementation of a number of innovative projects was continued in 2015 for further energy efficiency improvement. For example, OOO Gazprom transgaz Yugorsk has started a waste heat recovery project at Oktyabrskaya compressor station, OOO Gazprom transgaz Tchaikovsky is expanding the use of turbo expanders unit to harvest energy from the inlet gas surplus pressure.

Pipelines operators are taking advantage of vented gas recovery technologies for the pipeline repair, including mobile compressor stations. The remote facilities are fed with the energy supplied by autonomous power units.

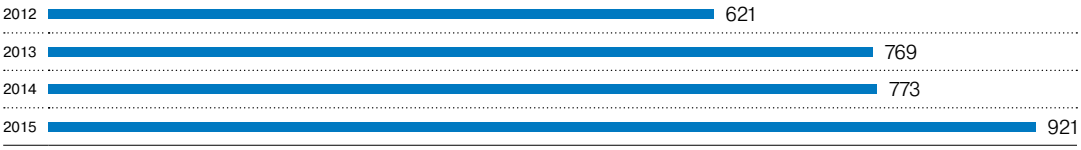
Gazprom Neft Group is continuously developing its energy management system to allow complex energy saving solutions across the energy business instead of discrete measures.

In order to meet the current state regulation all the Gazprom energoholding companies have introduced program technical guidelines on energy efficiency and energy saving. PAO Mosenergo, PAO MPIC and OAO TGC-1 have not only endorsed but they have been updating the medium term program documents on the yearly basis. Since 2013 PAO OGK-2 has been implementing the program of operation efficiency improve (project Efficiency), which provides some energy efficiency measures. The major objectives of the program are implementation of modernization and reconstruction projects (operation of new capacities); improve of the equipment cost effectiveness, other engineering measures (modernization of lighting and others); energy studies, development of guiding documents on introducing energy saving principles in the operations.

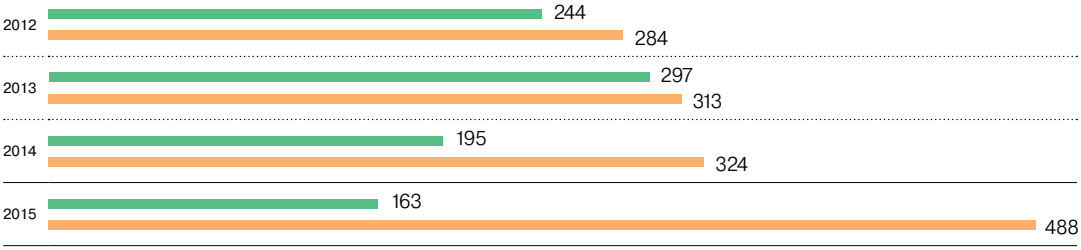
Results of the Gazprom Energoholding Group programs on energy saving and power efficiency improve, 2015

Company	Fuel economy, thousand t c. e.		Energy saving, mm kWh	Thermal energy saving, thousand Gcal
	total	including natural gas		
PAO Mosenergo	821	797	419	14
PAO OGK-2	87	57	67	60
OAO TGC-1	13	13	2	0
PAO MPIC	0	0	0	89
Total	**921**	**867**	**488**	**163**

Dynamics of fuel economy in Gazprom Energoholding Group, 2012–2015, thousand t c. e.



Dynamics of electrical and heating energy economy in Gazprom Energoholding Group, 2012–2015



Parameters of environmental activity and environmental impact of PJSC Gazprom abroad

Republic of Armenia

ZAO Gazprom Armenia is a 100% subsidiary of PJSC Gazprom, which operates in transportation, storage, processing, distribution and marketing of natural gas, as well as power generation and sales on the territory of the Republic of Armenia.

In 2015, the total pollutant emissions into the atmosphere made 80.07 kilotonnes (2014 — 86.13 kilotonnes); the wastewater discharges into surface water — 105.00mcm (2014 — 265.7mcm), 100% of which were processed through physical and chemical treatment facilities to meet the water regulation. The Waste production amounted to 0.361 kilotonnes (2014 — 0.128 kilotonnes). The pollution fee were paid under the established standards and amounted to RUB 360.265 thousand (2014 — RUB 301.65 thousand).

Republic of Belarus

OAO Gazprom transgaz Belarus is a PJSC Gazprom owned natural gas transportation operator in the Republic of Belarus. The company is subject to the scope of the PJSC Gazprom Environmental management system. Total pollutant emissions into the atmosphere were 24.85 kilotonnes (2013 — 21.55 kilotonnes; 2014 — 25.70 kilotonnes). Wastewater discharges into surface water amounted to 167.42mcm (2013 — 65.85mcm; 2014 — 37.47mcm), 100% of which were treated to meet the local water regulation. Waste production amounted to 5.00 kilotonnes (2013 — 3.37 kilotonnes, 2014 — 2.29 kilotonnes). In the reporting year, 41 ha of land was disturbed, 27 ha was rehabilitated. In 2015, pollution fees amounted to RUB 25,600.88 thousand (2013 — RUB 24,150.82 thousand, 2014 — RUB 30,441.11 thousand).

Kyrgyz Republic

OsOO Gazprom Kyrgyzstan is a PJSC Gazprom 100% subsidiary operating in transportation, storage, distribution and marketing of natural gas on the domestic market of the Republic of Kyrgyzstan.

In 2015, the total pollutant emissions into the atmosphere amounted to 1.876 kilotonnes (2014 — 1.671 kilotonnes); the wastewater discharges — 27.58mcm (2014 — 27.42mcm). The waste production amounted to 163.34 t (2014 — 158.34 t). Pollution fees were paid under the established standards and amounted to RUB 166.95 thousand. Fines and other sanctions against OsOO Gazprom Kyrgyzstan by the Supervisory environmental authorities of the Kyrgyz Republic were not imposed.

Far abroad

Gazprom EP International B.V. is the PJSC Gazprom operator of projects on exploration and development of hydrocarbon deposits outside the Russian Federation and operates in 16 countries of the near and far abroad. The company sees its mission as facilitating economic development and strengthening the energy potential of its partners by offering a range of high-quality services: geological exploration, drilling, and the construction of pipelines, compressor stations, and many other things. Gazprom international makes a lot of effort to implement the technological and scientific innovations, aimed, in particular, at minimizing the environmental impact. Environmental monitoring of production is carried out at all sites.

Vietnam

During the exploratory wells construction in the 130 and 131 blocks of the Vietnam continental the shelf Environmental Protection Plan and Oil Spill Response Plan were developed. PVD Offshore is a company contracted to response to accidental first- and second-level oil spills, Oil spill Response Ltd contracted to response to accidental third-level oil spills. In November 2015 training exercises on oil spill response were held.

During the exploratory wells construction a number of measures were undertaken to prevent the dumping of the waste drilling mud into the sea (in compliance with the Vietnam law — QCVN № 36:2010/BTNMT), as well as to monitor discharges of drill cuttings. The Vietnam regulation allows the dump of drill cuttings with a less than 9.5% petroleum content. Throughout the construction of the two wells the average value did not exceed 5%. All wastes were brought from the drillship to the shore base for recycling. In 2015 the cost of waste recovery amounted to USD 56.1 thousand.

Algeria

In 2015 within the environmental action, oil-based drilling muds from ZERN-2 and RSHN-2 wells in the Algerian People's Democratic Republic were processed and the obtained product was subsequently used for the site reclamation with the total area of 8 hectares. Drilling was carried out by a contractor, which, under the contract, was responsible for the whole waste treatment. Total operating costs for the environmental protection amounted to DZD 60.913 million in 2015.

The contractor's employees took a number of environmental actions aimed at water management and waste reduction, for example, use of scrapers for cleaning equipment instead of a water jet; water circulation and reuse of water for drill pumps cooling; regular cleaning of grooves for water circulation outside the pits; reuse of oil-based drilling muds, used in cementing, instead of dumping into the pits.

The amount of oil-based drilling muds, processed in the wells before, during and after the implementation of environmental actions: November, 2014 RSHN-1 — 4,572 cubic meters, May, 2015 ZERN-2 — 4,766 cubic meters, October, 2015 RSHN-2 — 3,790 cubic meters.

The total water consumption for own household and production needs was reduced from 65.93mcm in 2014 to 49.48mcm in 2015.

A system of separate collection of different kinds of waste — metal, plastic, wood, paper, food waste, packaging is functioning on the industrial and residential sites of the wells. Medical waste from the field clinics were taken away by the contractor responsible for providing medical services — ISOS company, and were placed for the purpose of rendering it harmless in the possession of the organization licensed to dispose such kinds of waste. Separate collection, registration and disposal of different kinds of waste were set up during seismic operations along the perimeter of the El Assil of the Algerian People's Democratic Republic.

Environmental assessment of projects

According to the requirements of Russian and international laws, the Gazprom Group companies perform environmental assessment of planned business activities at all the investment life cycle stages — from and investment idea to construction projects. The major stages of an environmental assessment of projects are an environmental impact assessment (EIA) and environmental expertise.

The EIA procedure is performed by the Gazprom Group companies based on the engineering and environmental research in the areas of the intended construction. This research studies and analyses the environmental conditions of the components (i.e. the atmospheric air, surface and ground water, the vegetative ground cover, wild animals, and subsurface resources) and the levels of the existing environmental footprint. The results of this research contain an assessment of the anticipated impact of the intended business operations, possible changes in the environment and the related effect on the society. The obtained data is then considered when providing design solutions based on the selection of the most environmentally and economically feasible options out of the existing alternatives. When developing a project design affecting the interests of other countries the EIA is conducted in a transboundary context according to the Espoo Convention.

Land rehabilitation, preservation of environment and sustaining the natural resilience in special protected areas or objects referring to the national heritage are the priority criteria of project options of trunk gas pipeline (TGP) routes, utility lines and development of production sites. Environmental aspects of the proposed activities are discussed with the public.

Environmental components are permanently monitored during the period of construction and operation in order to detect negative tendencies leading to the deterioration of the environmental state and take necessary preventive measures at the right time.

In 1994 the Company proactively started to carry out corporate review before submitting the documents to the State expert review making it possible to improve the quality of the project deliverables. The corporate appraisal procedure is governed by the STO Gazprom 2-2.1-031-2005 “Regulations on the review of preliminary and detailed project design documentation in JSC Gazprom”.

The review of the design object is carried out to verify the compliance with the requirements of the existing Environmental Regulations of the Russian Federation, energy-saving legislation, STO Gazprom, international rules and regulations.

The technical design tasks and specifications of 162 reconstruction, modernization and construction objects, as well as predesign and design documentation on 211 projects of reconstruction, modernization and construction were reviewed in 2015 within the framework of the corporate environmental appraisal.

The technical design tasks, predesign and design documentation were reviewed and endorsed on a number of fundamental manufacturing entities, such as:

— The investment plan of OOO Gazprom transgaz Ufa’s gas-transport system long-run prospect development, taking into account operation modes of Kanchurinsko-Musinsky UGS complex;
— Investment feasibility studies on gas-transport system development in the Republic of Belarus;
— Kaliningrad UGS’s reconstruction of existing and construction of new water-brine complex facilities, the water intake and brine discharge facilities into the Baltic sea up to the designed 800mmcm of the active volume;
— The LNG production, storage and shipment complex in the area of Portovaya compressor station.

The documentation packages on gas-main pipeline and UGS projects, gas-field construction and the capacity extension of Russian Unified gas supply system were expertised. In particular, investment feasibility studies were expertised: the North-Kamennomysskoye gas-field construction; the project of the offshore section of the pipeline from the Russian Federation to the Republic of Turkey through the Black sea; the project of gas pipeline from the Russian Federation to the Republic of Turkey and further to the Greece border; coal bed methane industrial development and utilization on the basis of the pilot and experimental-industrial development results of prime

areas in 2010-2012. Predesign documentation of the investment plan “Development of Kara sea resources” was expertised.

Projects reviewed: gas transportation facilities reconstruction to ensure the gas injection into Kasimov UGS and gas extraction from Kasimov UGS and Uvyazov UGS in the amount of up to 183mmcm; Peschanoe gas-field construction; the construction of Botuoba deposits oil rims of Chayanda oil and gas condensate field with the stage of experimental-industrial works. Phase III. Construction of Chayanda-ESPO oil pipeline; the Cenomanian-Aptian deposits construction in Kharasaveiskoye gas condensate field; the construction of the fourth section of Achimov deposits in the Urengoy oil and gas condensate field; the final constraction of the second Achimov deposits’ experimental plot in the Urengoy oil and gas condensate field; the final contraction of Urengoy oil and gas condensate field’s oil rims (3,4,5,6 plots); the linear part reconstruction of Ukhta-Torzhok gas pipeline system. Phase II; the reconstruction of Izborsk-Tartu gas pipeline etc.

Production environmental monitoring and control

Production environmental control (PEC) is being exercised at the level of each subsidiary of Gazprom Group. Besides that, an Environmental Inspection functions in PJSC Gazprom, which exercises control of the requirements observance, on part of the subsidiaries and contracting agencies, of the environmental protection legislation, corporate norms and rules in the field of Environmental Protection, as well as implements internal audits of the EMS of PJSC Gazprom's subsidiaries. Corporate environmental control at the facilities of PJSC Gazprom is exercised according to Industry Standard of Gazprom 2-1.19-275-2008 “Environmental protection at enterprises of PJSC Gazprom. Production environmental control. General requirements” and others.

In 2015 the PJSC Gazprom Environmental Inspection performed 539 audits of production units verifying the compliance with the environmental protection legislation and corporate EMS standards, including operation sites — 321, major sites of constriction, reconstruction and repairs — 218, The latter proved to have the biggest share of inconsistencies — 63%. The results of the audits and recommendations for further improvement were brought to the notice of the senior management of the auditable entities, the arrangements for elimination of the inconsistencies were identified, which enabled to complete 98% of all the correction work by the intended deadline.

In order to ensure environmental safety when constructing and operating the production activity facilities, the companies of Gazprom Group lodge also the stringent requirements to their contracting agencies. Audits of the environmental protection measures fulfillment, planned in construction and upgrading projects, are being implemented within the framework of PEC. A compulsory requirement to a contractor is a license availability for activity in hazardous waste management on types of the rendered services.

The production environmental monitoring system of the Gazprom Group has a high level of equipment capability and it constantly evolving. Rules, procedures and peculiarities of development and introduction of environmental monitoring systems for different production facilities are specified in a number of industrial and departmental regulatory documents, including corporate standards.

Environmental monitoring system comprises stationary and mobile laboratories, meteorological and aerologic stations, automated control stations and monitoring wells. The above allows for monitoring of pollutant emissions into the atmospheric air from stationary sources, quality of atmospheric air at the sanitary protection zone boundary and in settlements, noise level, quality of surface and waste water, quality of underground water of utility and drinking purposes, state of geological environment and soil cover, waste.

Any specially protected area or facility of a special ecological status located in the area of production operations shall be subject to the Gazprom Group Production Environmental Monitoring programs. For example, in 2015, OOO Gazprom transgaz Ukhta continued monitoring the state of protected species of plants and animals of the Southern districts of national park “Yugyd va”, the activity influence upon the fish fauna of the Pleshcheevo lake and on the specially protected territory of National park “Pleshcheevo lake” was monitored.

In OOO Gazprom transgaz Krasnodar they continued the observations of the water area state of the Gulf of Taganrog of the Azov Sea and sea waters quality.

Gazprom Neft is implementing an environmental monitoring of the marine biota near OIRP “Prirazlomnaya”, as well as an investigation of a walrus population on the Dolgiy island coastline.

In view of development of Novoportovskoye oil/gas/condensate field, they are monitoring of the flora and fauna of Yamal.

OOO Gazprom flot examined the sea water at the site of the fleet deployment, in the water area of the Kola Bay of the Barents Sea (a place of long-term storage of floating drilling unit “Obskiy-1”).

Methane emissions mitigation in the PJSC Gazprom gas transportation subsidiaries is ensured by helicopter inspections of TGP using laser gas leakage detectors, gas leakage detection of CS using infrared visualizers, as well as pipeline pigging which prevents gas losses and reduces risks of affecting the environment.

In 2015, the complex environmental monitoring was continued within the framework of project “Nord Stream”, which after the gas pipeline launch in 2012, is focused on the aspects related with an operation of pipeline and recovery after construction. The monitoring works are being performed according to the national programs in Russia, Finland, Sweden, Denmark and Germany. In Russia the monitoring observations are implemented in relation to quality of water and air, noise exposure, topography of the sea bottom, lands and landscapes, birds, marine mammals and other hydrobionts. Based on the monitoring results, no negative influence upon the environmental components has been revealed. The permanently updated information is made available on the website: www.nord-stream.com.

The automated systems of the production environmental monitoring for the facilities in operation are operated as the element of the integrated system of the operational dispatch management. For example, the main goal of the automated system of the production environmental monitoring of OOO Gazprom dobycha Astrakhan, is safety arrangement of the production personnel and population, living in close proximity to the Astrakhan gas complex. In 2015 the monitoring of the environmental state was carried out at 15 automatic stations equipped with the most advanced for meteorological observations and chemical and analytical contamination control systems. The gathered information is transferred through a radio channel to the monitoring Center every 20 minutes, where it's processed, kept on a database and through a local area network comes to the terminals of the Central station on duty of gas safety and environmental protection laboratory. In case of excess of the maximum allowable concentrations of contaminators or another emergency situation, an alarm to such effect shall be transmitted immediately.

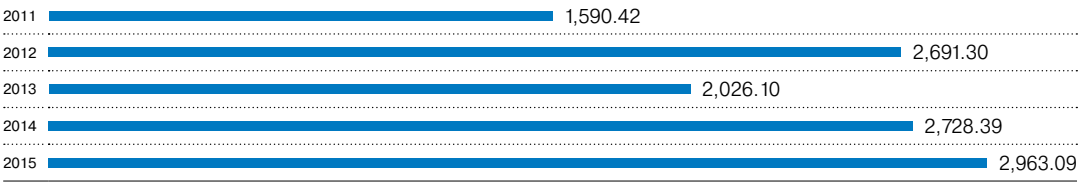
In OOO Gazprom dobycha Orenburg, the integrated monitoring system of atmospheric air also functions successfully, which includes the automated control stations in 24 populated localities and 7 mobile environmental laboratories. In order to increase the environmental safety, an additional level of control has been created — the Center of gas and environmental safety of OOO Gazprom dobycha Orenburg.

In a number of cases, the production environmental monitoring systems of Gazprom Group are integrated with the regional monitoring systems of the ecological situation. For example, the automated systems of environmental monitoring of PAO Mosenergo (Gazprom Energoholding Group) and those of the Moscow oil refinery plant (Gazprom Neft Group) transmit the data online concerning emissions to atmospheric air to the Integrated system of environmental monitoring in city Moscow system (GPBU Mosecomonitoring).

In the period 2011–2015 expenditures on production environmental monitoring and control of Gazprom Group amounted to RUB 12 bn.

Gazprom Group increases annually expenses for ensuring the functioning of the PEC systems and production environmental monitoring .

Gazprom Group expenditures on production environmental monitoring and control, 2011–2015, RUB mm



Structure of expenditures on production environmental monitoring and control of Gazprom Group, 2015, %

PJSC Gazprom	77
Gazprom Neft Group	8
Sakhalin Energy	8
Gazprom Energoholding	4
Gazprom neftekhim Salavat	2
Other Group companies	1

Prevention of accidents

In 2015 the Gazprom's companies reported 13 accidents with environmental consequences at their facilities, including: OOO Gazprom transgaz Yugorsk — 3; OOO Gazprom pererabotka — 2; OOO Gazprom transgaz Yekaterinburg — 2; by one accident in OOO Gazprom transgaz Krasnodar; OOO Gazprom dobycha Urengoy; OOO Gazprom dobycha Yamburg; OOO Gazprom transgaz Saint Petersburg и OOO Gazprom transgaz Samara, Gazprom neftekhim Salavat.

The damage was indemnified by AO SOGAZ. There were no accidents at the facilities of other Gazprom Group companies in 2015.

In recent years no accidents with significant environmental consequences were registered at the Gazprom Group facilities.

The Gazprom Group companies take accident preventive measures on a yearly basis allowing for the improvement of equipment performance reliability and reduction of risk of accidents at Gazprom Group production facilities. They involve technical diagnostics of pipelines at fields, injection of corrosion inhibitors, timely repair and preventive maintenance works, flood resistance practices, regular inspection of abandoned plugged wells, regular helicopter inspections of TGP LPs and pipeline extensions to detect flaws and gas leakages, including laser detection, equipment of facilities with required devices and units to eliminate petroleum spills.

Environmental risks insurance

The Gazprom Group environmental insurance covers the liability for emergency environmental contamination and aimed at provision of environmental safety, compensation of the environmental damage and compensation of losses of third parties. In 2015, as in 2014, PJSC Gazprom and AO SOGAZ signed a complex insurance contract providing for coverage of risks of damage to environment, life, health and property of third parties in the process of land and marine exploration and drilling, hydrocarbon production, transportation, refining, storage, operation of sources of increased hazard, construction and other associated operations in the territory of the Russian Federation and continental shelf of the Russian Federation.

The insurance contract is voluntary and serves as an addition to obligatory general liability insurance contracts of a hazardous facility owner (as per Federal Law No. 225-FZ dated July 27, 2010). The insurance contract replaced all voluntary general liability insurance contracts of legal persons who operate sources of increased hazard, signed earlier by each subsidiary company.

The insurance covers PJSC Gazprom and its 30 subsidiary companies. The insurance benefits sum in 2015 amounted to RUB 23.87mm, of them RUB 17.78mm for the past years damage.

State environmental supervision

In 2015 there were conducted 485 state inspections of the Gazprom Group companies. Based on the results of more than 100 audits (over 20% from the total number of the audits) no violations have been detected. In the reporting year, within the established term, totally — 384 violations have been eliminated, of them 42 violations based on the results of the past years audits; the instructions fulfillment term as regards, the rest violations — has not expired. Among the revealed violations 39% didn't constitute a threat of harm infliction to the environment and haven't brought about any penal sanctions.

The penalties have been presented at the sum of RUB 26.22mm, RUB 21.42mm have been paid out, based on the results of the past years audits — RUB 4.10mm.

Five lawsuits for compensation of the inflicted harm to the environment have been brought in at the sum of RUB 10.5mm, two of them were brought in for harm as a result of accidents at the sum of RUB 3.12mm. RUB 79.62mm have been paid out as the compensation of the inflicted harm to the environment (with due regard to the past years), including: RUB 60.64mm — Gazprom Neft; RUB 15.31mm — PJSC Gazprom, RUB 2.21mm — PAO OGK-2 (in the Republic of Kazakhstan) and RUB 1.46mm by other subsidiaries.

Scientific research and development

In order to increase the work efficiency of the companies in Gazprom Group, the scientific researchers are being carried out, new technologies are being developed and implemented decreasing a negative impact on the environment.

During 2015, 10 scientific and research works and development works in the field of the environmental protection and energy saving were fulfilled for PJSC Gazprom.

The following works were continued:

— for the recommendations on forming and maintaining a registry of the best available techniques ensuring environmental friendly development, processing, transportation, storage and refining of raw hydrocarbon deposits (OOO Gazprom VNIIGAZ);
— elaboration and substantiation of recommendations on costs decrease in PJSC Gazprom by means of efficient use of the state stimulation in the environmental protection and energy saving through 2020 (OOO NIIgazeconomika);
— the recommendations development for the options theory use for the economic efficiency study of the environmental protection measures (OOO NIIgazeconomika);
— creation of an experimental prototype for production of methane-hydrogen blend (OOO Gazprom geotekhnologii) and biosorbent for removal of petroleum contamination of natural objects (OOO Gazprom VNIIGAZ);
— assessment of the complex environmental impact of motor transport switch to natural gas vehicles in the Russian Federation (OOO Gazprom VNIIGAZ);
— development of recommendations for oil spill response in ice conditions (OOO Gazprom VNIIGAZ);
— methods of identification and assessment of the environmental aspects considering the scaling of the PJSC Gazprom environmental management system scope (OOO Gazprom VNIIGAZ).

Within the framework of the scientific and research work, the following was created:

— Program of the energy saving and energy efficiency increase of PJSC Gazprom for the period of 2014–2016 and statutory documents in the field of energy saving management in PJSC Gazprom (OOO Gazprom VNIIGAZ);
— Road map of the specific consumption reduction of fuel and auxiliary energy / energy used for internal technological needs in PJSC Gazprom due to the innovative technologies implementation for the period till 2030 (OOO NIIgazeconomika);
— Water strategy of PJSC Gazprom for the period till 2020 (OOO Gazprom VNIIGAZ);
— Conception and plans of the environmental friendly development of the licensed sites located within the bounds of the specially protected areas (OOO FRECOM);
— Reference schemes of production and consumption waste management for the facilities of PJSC Gazprom, located in different regions of Russia (OOO Innovative oil and gas technologies);
— Regional and branch-wise management system of the environmental protection of the Yamalo-Nenets Autonomous District (OOO FRECOM).

In the subsidiaries of PJSC Gazprom and other companies of Gazprom Group the scientific and research and development works were also carried out, aimed at increasing the environmental safety and energy efficiency.

OOO Gazprom dobycha Astrakhan updated and improved the methods of air pollution emissions calculation, based on the results of an analysis of a an estimated and actual concentration of contaminators in the points of reference of the sanitary protection zone.

In OOO Gazprom dobycha Orenburg, in order to increase efficiency and reliability of pipelines, the rules have been elaborated setting forth the technical and organizational norms and requirements to the pipelines operation that transport hydrogen sulfide-containing substances.

OOO Gazprom VNIIGAZ by an order of OOO Gazprom dobycha Yamburg, has elaborated the solutions for the reclamation process optimization of lands and grounds, with use of the natural growth stimulators on basis of peat. Besides that, the examinations of the mechanisms of the plants resistance to unfavorable factors of environment of the Extreme North, were

carried out (stage 2 of the scientific and research work “Elaboration of the innovative technology of rehabilitation of the disturbed and contaminated lands and soils in the territory of OOO Gazprom dobycha Yamburg”).

By an order of OOO Gazprom transgaz Kazan, the technical documentation was elaborated and an experimental prototype of a mobile compressor station was manufactured to move of the remaining original gas volume to the pressurized gas pipeline in operaton. An experimental prototype of a frequency inverter was elaborated and manufactured for an auxiliary generator of gas pumping unit GPU-25I, as well as the necessary design documentation to install it. This elaboration implementation will make it possible to increase energy efficiency and reliability of power supply of the GPU.

OOO Gazprom transgaz Samara has continued the work for creation of a experimental-industrial complex for neutralization of waste and remainder of natural gas odorant.

Within the framework of the scientific and research work for OOO Gazprom transgaz Stavropol, the recommendations have been elaborated as to drainage discharges disposal, being removed from the territory of the facilities of OOO Gazprom transgaz Stavropol to the hydro-system of the Chibrik River. Identification of contamination resources of subsoil and waste waters has been carried out in the territory of the Northern Stavropol UGS (underground gas storage), the analysis and assessment of the season changes of expenses, the release regimen of the drainage discharges and their chemical composition.

The technological complex has been elaborated in OOO Gazprom transgaz Tomsk for purification of the industrial and utility-sanitary effluents. The purification technology is based on use of the physical-chemical processes, emerging in water solutions driven by impulse radiation. The methodology and standard or organization for the ecological state assessment of the territory of the trunk gas pipelines on basis of the satellite data, have been also elaborated.

In OOO Gazprom transgaz Tchaikovsky they continued elaborating a technology of catalytical waste gas purification of GPU.

OAO Chechengazprom has completed the scientific and research work for calculation of harm amount to the biological resources of the Rivers Belka, Chernaya, Dzhalka, Argun, Sunzha, Martan. The goal of the work — is to preserve the water biological resources and conditions of their reproduction.

In Gazprom neftekhim Salavat they continued the researches in the field of the technological solutions search for neutralization of acid wastes of oil refinery plants, purification of sulphide and alkaline waste. The ways of the sulphates contents reduction in waste waters were elaborated, discharged on the treatment plants of a water service company and others.

By an order of Gazprom Neft Group, they have carried out an assessment of efficiency of use of the biological reclamation technologies of the disturbed soils of the exploratory sites of the Eastern-Messoyakhsk and Western Messoyakhsk fields, disturbed territories of Novoportovskoye licensed site.

Gazprom Energoholding Group (PAO Mosenergo, PAO OGK-2) has developed standards of the organization: “Rules to arrange for control of emissions into atmosphere at thermal power plants and boiler houses. RD 153-34.0-02.306-98”, “Guidelines on inventory of pollutant emissions into atmosphere at thermal power plants and boiler houses. RD 153-34.0-02.313-98”, “Guidelines on rate setting of pollutant emissions into atmosphere for thermal power plants and boiler houses. RD 153-34.0-02.303-98”.

Implementation of the best available techniques for environment

Improvement of environmental safety and energy efficiency of the Gazprom Group companies' operational activity is achieved largely due to the implementation of innovative technical and process solutions.

In 2015, the modern combined cycle power units were put into operation at the facilities of the companies of PAO Mosenergo and PAO OGK-2 Gazprom energo holding (at CHPP-12 and CHPP-20 in Moscow, at Serov State District Power Plant in Sverdlovsk Region) with the efficiency coefficient — of about 58%. The combined cycle power units have the productive and economic efficiency confirmed by many years of operation, make it possible to save natural gas and decrease significantly air pollution emissions.

The equipment was installed in OOO Gazprom transgaz Moscow at a reconstructed dispatching control station, that has never been applied before at the gas-distribution stations (GDS) and DCS, which includes an installation of a pulse gas processing, a membrane unit of nitrogen production of air, which will be pumped into gas pipelines when taking them out of service for repair. Besides that, to provide indoor lighting and power supply of DCS, a modular solar-wind power plant with the capacity of 5 kW has been put into operation.

In 2015 at a facility of OOO Gazprom transgaz Samara, the acceptance tests of the autonomous power supply system of "SAE-110" (elaboration by OOO Gazprom georesurs) was completed, which was unique for Russia. All through the year, the installation supplied the electric power to control telemechanic point No.110 of trunk gas pipeline "Mokrous — Samara — Tolyatti". "SAE-110" — is a hybrid system based of two interchangeable sources of power — solar and chemical. This system is required for power supply of the devices with a capacity of up to 100 W, in case of an external power feed shortage. Based on the test results the energy installation was recommended for use at the process facilities of PJSC Gazprom. To provide a high reliability level of the gas transportation facilities in the territories characterized by seismic manifestations and an availability of active tectonic subductions, when constructing gas pipeline Power of Siberia, the new high deformable pipes have been elaborated and are being implemented, they are capable of keeping hermiticity in seismic impacts during earthquakes.

Gazprom Neft keeps implementing a method, being new for Russia, of carrying out "green" seismology. The company has completed seismic exploration works at the Western-Luginetsk licensed site in Tomsk Region (it's being elaborated by "Gazpromneft-Vostok"), which have been performed by applying a new environmentally efficient technology, which has made it possible to reduce two-fold the forest volume, that is cut down when carrying out seismology in a traditional way. A peculiarity of "green" seismology technology — consists in utilization of modern wireless equipment, to place which there is no necessity in cutting down forest corridors.

Within the framework of project of reclamation of the Messoyakhsk cluster of fields, the northmost in Russia underwater crossing of the pipeline is constructed at the Gydan peninsula in YNAD, across the river, using the controlled directional drilling method. This method usage has made it possible to preserve virginal the natural landscape of the Indic'yakha River, having decreased maximally the man-caused impact on flora and fauna when routing pipework.

Gazprom Neft has completed successfully the pilot trials of the innovative technology of soft steam reforming for processing of APG, that has been elaborated by the Catalysis Institute named after G.K. Boreskov SO RAN. The new technology is recommended for implementation at the company enterprises, to enhance utilization of AGP at small and remote fields.

The trials of new drill fluid Kla-Shield at the South-Priobskiy field (OOO Gazpromneft-Khantos) have also been performed successfully. They have resulted in the drilling efficiency enhancement — time reduction of the horizontal boreholes construction and volumes of drill fluid production due to a possibility of its reuse. The new technology implementation has made it possible to enhance significantly the drilling efficiency of difficult wells with extended clay areas, since the unique composition of the drill fluid system decreases clay swelling, restricting its penetration into fluid due to triple inhibition. During the trials, they have managed to reduce by 20% the volume of the drill fluid production, in doing so, to reduce costs for drilling waste neutralization. The company keeps

implementing and adapting the new technologies in order to make the drilling process even more effective, expeditious and maximally safe.

In the renovation process, Omsk oil refinery plant is implementing the qualitatively new standards of industrial and environmental safety. The essential upgrading of the primary crude oil processing complex AT-9 has been completed, where the technical solutions have been realized making it possible to enhance the depth of oil processing, while reducing energy intensity and enhancing the environmental compatibility of the process. The enclosed flare system, that is unique for the Russian oil refinery plants, is installed at AT-9, the advantages of which are smoke absence, low noise level, simple and reliable controlling system. The water supply plan without draining, with return of water and oil products into a production cycle, has been realized.

The most large-scale, in the plant history, integrated renovation program is being realized at the Moscow oil refinery plant. Intended for the period from 2011 to 2020, the program is aimed at achieving the European standards of production and environmental safety and assumes a scheduled replacement of the obsolete capacities and implementation of the new, eco-friendly manufacturing complexes.

Gazprom Prize in science and technical engineering

The Gazprom Prize in science and technical engineering has been awarded annually since 1998 and is an important component of the corporate scientific and engineering policy of Gazprom, aimed at the stimulation of using innovations in the Company's activity and provision of its technological leadership in the world energy business.

The prizes are granted for major developments in the spheres of natural gas production, transportation, storage, refining and use, completed by formation or improvement, and — which is most important — efficient use of new machinery, devices, equipment and materials specimens. As a rule, most of the nominated scientific and technical works are directly or indirectly related to the environmental effect.

Among the winners in year 2015, among others, there were the following elaborations making it possible to attain an environmental effect.

Elaboration and implementation of the controlling system of technical state and entirety of linear part of trunk gas pipelines of PJSC Gazprom

O.E. Aksyutin, G.A. Mil'ko-Butovskiy, S.V. Ovcharov, V.P. Stolov, S.V. Alimov, O.N. Melekhin, A.N. Pasechnikov, I.A. Ivanov, A.M. Rudenko, M.B. Basin

Computational complex GIS MG has been created and implemented in OOO Gazprom transgaz Surgut, it performs an estimated assessment of: the working capacity and repair capability of the areas of Linear Parts of Trunk Pipelines; assignment of volumes and terms of diagnostics and repairs; technology related risk of operation etc.

Improvement and implementation of import substituting fiberglass couplings with threaded torque for repair of gas pipelines without gas transport stop

A.V. Ktyukov, V.V. Zorin, Yu.M. Sharygin, A.I. Filippov, R.R. Alaberdin, V.M. Sharygin, M.Yu. Danilov, A.N. Ponomaryov

The safe and efficient technology of selective repair of gas pipelines without gas transport stop, has been elaborated and implemented. The technology makes it possible to avoid methane outburst in repairs.

Elaboration and implementation of high-performance scientific and technical solutions for production of environmetally friendly motor fuels of class K5 of Technical Regulation of Custom Union 013/2011

I.P. Afanassiev (the work head, PJSC Gazprom), A.B. Doroschuk, S.L. Ivanov, I.V. Leushin, M.F. Minkhairov, M.V. Ovsyankin, P.A. Solodov (OOO Gazprom pererabotka), S.Yu. Talalaev (OOO The Surgut condensate stabilization plant named after V.S. Chernomyrdin — a branch of OOO Gazprom pererabotka)

The improved technology of catalytic reforming unit makes it possible, when manufacturing motor fuels, to attain a level of characteristics that conform to the requirements of class K5 of Technical Regulation of Custom Union 013/2011. Production of motor fuels as per new, economically efficient recipes has been commenced. The elaboration will promote to toxicity reduction of motor transport emissions.

Elaboration and creation of the integrated automated monitoring system of hazardous geological processes at gas pipeline "Dzuarikau — Tskhinval" of OOO Gazprom transgaz Stavropol and at the underwater crossing across the Kama River of trunk gas pipeline "Urengoy — Pomary — Uzhgorod", 1852 km of OOO Gazprom transgaz Tchaikovsky

A.V. Zavgorodnev (the work head), A.Yu. Astanin (OOO Gazprom transgaz Stavropol), R.N. Khasanov, V.A. Chichelov (OOO Gazprom transgaz Chaikovskiy), M.M. Zaderigolova (OOO Geo TEK), A.S. Lopatin (Russian State University of oil and gas named after I.M. Gubkin)

The scientific methodological framework of the integrated approach to provision of geodynamical safety of gas pipelines, has been created. The apparatus and methodic complex and automated control system of the geological processes have been elaborated to monitor the

parameters of gas pipeline locations at areas where there exists a risk of a sudden activation of hazardous geological processes in real-time mode. The created system makes it possible to take quickly managerial decisions, aimed at preventing development of hazardous natural technology related processes at early stages; a series of emergency situations for the period of the system function, is prevented.

In 2015, PJSC Gazprom continued an active international cooperation on the environmental protection and energy efficiency.

In the reporting year a big work was carried out within the framework of the activity of the International Business Congress (IBC) — an international non-governmental non-commercialentity. The cooperation with the largest fuel and energy companies of the world was continued in a format of technical dialogues.

In March of 2015 in Soloniki (Greece), the Committees of IBC "Ecology and Healthcare" and "Industry and construction" carried out a joint meeting on the topic "Economic and environmental efficiency of gas transport alternatives". The comparative analysis of the environmental efficiency of different technologies of the natural gas deliveries was submitted to the attention of the participants. The experts have arrived at a conclusion to the effect that greenhouse gases emissions and toxic matters emissions in pipeline transportation and in sea transportation of compressed gas (CNG) are much lower, than in carriages of liquefied natural gas (LNG). For a more detailed study of this issue and facilitation of public access to the research results, the Presidium of IBC approved an application for project "The environmental and economic assessment of the sea transportation of compressed gas". The gas supply efficiency by different ways, depending on the supply scopes and routes length, is assumed to be assessed in view of the economic and ecological criteria with due regard to the asserted national goals for reduction of greenhouse gases emissions. The researches will be carried out using the example of real conditions: when supplying gas to the near shore European countries, Asian and Oceanian countries and others.

Issue "Role and place of natural gas and renewable sources in electric power industry" was dwelt upon at a meeting of the IBC Committee "Industry and construction" in May, 2015 in city of Belgrade. Following the results of discussion it was specified that methane and renewable sources can become the most optimum combination, especially during peak loads, providing stability of power deliveries and minimizing the negative impact on the nature. In the modern conditions coal replacement by natural gas is the most effective solution both from the economic and ecological point of view.

In October, in Bratislava, the IBC Committee "Industry and construction" (renamed later into Committee "Industry, innovations and prospective development") within the framework of the meeting on the topic "R&D as the fundamental of would-be technical solutions", submitted the most interesting innovative developments of companies members of IBC, including in the field of the environmental protection and energy efficiency.

Committee "Ecology and Healthcare" of IBC held the meetings devoted to the themes of the European energy sector impact on the environment (January, city of Berlin, Germany); advantages of the natural gas use as motor fuel (October, city of Istanbul, Turkey).

Within the framework of the scientific and technical cooperation of PJSC Gazprom and BASF/Wintershall Holding GmbH they discussed the issues of the quality improvement of gas that is processed for transportation, by way of monitoring and work optimization of adsorption plants, the work in the field of technologies of gas engine fuel production (CNG and LNG), innovative technologies application, including valuable components appropriation.

The IX meeting of the Joint Coordination Committee (JCC) of PJSC Gazprom and Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry of Japan, took place on February 6, 2015, in Moscow. Based on the results of the meeting, the Program of the scientific and technical cooperation was approved for the period of years 2015–2017. The Program provides for a cooperation with companies Mitsubishi Corporation and Azbil Corporation for a technical dialogue in order to enhance energy efficiency and to reduce a negative impact on the environment. On February 9, 2015, the Program of the scientific and technical cooperation of PJSC Gazprom and E.ON SE. was approved for the period of years 2015–2017. The Program provides for implementation of a joint scientific and technical project for use of the utilization heat power complex, aimed at efficiency enhancing of the natural gas use and power supply reliability at compression plants, and a technical dialogue for elaboration and use by oil and gas compa-

nies of the information and technical reference handbooks of the best available techniques (BAT) in the field of energy- and resources saving technologies.

A business team meeting took place on June 24–25, 2015 in Moscow, for the scientific and technical cooperation of PJSC Gazprom and China National Petroleum Corporation. The parties specified a mutual wish to expand cooperation in the field of provision of environmental safety facilities of transport and natural gas underground storage, in particular, in the field of methane leaks detection and their parameters measurement, applying of bio-preparations for consequences liquidation of contaminations of land and water entities with oil products.

On December 2, 2015 within the framework of IV International Conference "Environmental safety in the gas industry", a business meeting of the representatives of PJSC Gazprom and concern Shell took place. The meeting participants discussed the issues of the environmental protection and energy saving. The parties specified a mutual interest in the field of greenhouse gas emissions controlling (an inventory of sources and accounting of methane emissions; technologies of emissions prevention); new oil spills response technologies for ice conditions; provision of safety when developing fields of hydrocarbons in the climate of the Extreme North, in terms of the best available techniques implementation.

Work within the framework of the technical dialogue with N.V. Nederlandse Gasunie was continued, for energy efficiency increase and reduction of greenhouse gas emissions at the facilities of gas extraction and transport.

Information disclosure in respect to environment protection is one of the principles the Gazprom Group companies to follow in their activities.

The main criteria for the implementation of information transparency principle are: reliability and completeness, regularity and timeliness of the information presentation, and its availability to the state authorities, shareholders and investors, the public and other interested parties.

Information on the Gazprom Group on the whole is available on the official website of PJSC Gazprom http://www.gazprom.ru/ in the sections “Environment”, “Media”, “Investors”.

Sections on the environment protection and energy saving are provided in the Annual Report of PJSC Gazprom, in the corporate edition “Gazprom in Figures”. Information on the current and proposed Gazprom activities in environment protection and energy efficiency sphere is constantly published in corporate magazines “Gazprom”, “Gas Industry”, newspapers and other periodicals of Gazprom Group subsidiaries, special industrial publications.

According to the requirements of the UNFCCC and Kyoto protocol, Gazprom submits information documents to the National Communications of the Russian Federation as per the UNFCCC The reports disclose data on GHG emissions up to 2030 and on activities to reduce the emissions. Participation of PJSC Gazprom in the international project CDP (Carbon Disclosure Project) on the disclosure of information on GHG emissions is an important indicator of success in the work to improve the transparency of the Company’s activities and one of the factors of its investment attractiveness increase.

Since 1995 Environmental Report of the Company has been issued annually. Since 2010 the Company’s Report on sustainable development activities has been issued, its sections “Environmental impact” and “Rational use of resources” give detailed information on the strategy and tactics of rational nature use, environment protection, climate change.

Following the information transparency principle, many Gazprom Group companies furnish their websites with news environmental information, environmental reports and sustainability reports, plans of activities to preserve biological diversity, environmental monitoring reports, EIA, data on public hearing of projects, OSRPs and other materials. The following websites can be mentioned as examples: www.energoholding.gazprom.ru/investors/reports/; gazprom-neft.ru/social/,moskva-r.gazprom.ru/ecology/;stavropol-tr.gazprom.ru/ecology/;www.sakhalinenergy.ru/ru/safety/enviroment.

Annually the Group’s subsidiary companies draw up and submit reports on the parameters of production activity impact on the environment, implemented activities and volume of their financing, negative environmental impact charges to the state executive authorities and state statistics bodies of the Russian Federation.

Holding of public discussions for the majority of the facilities of the investment activity of PJSC Gazprom is compulsory according to the Russian laws, however the statutory requirements to the procedure of such discussions holding, don't exist. In order to replenish this legal gap, a document of the corporate standardization system is in force in the Company since year 2014, that contains the recommendations for provision of public discussions and public hearings in materials of assessment of the impact on the environment for the planned economic activities.

Arrangements for interaction with parties concerned as regards the Environmental protection issues		
Responsible company Date and place of holding	**Project**	**Arrangement**
OOO Krasnoyarskgazprom neftegazproject		
27.01.2015 settlement Tazovskoye, Settlement the Mys Kamenniy, settlement Novy Port, City of Nadym, YNAD	Field infrastructure development Kamennomysskoye-sea	Holding of public hearings for engineering surveys for sea legs in the water area of the Gulf of Ob
JSC Gazprom		
25.03.2015 Administration of the Tyndinskiy District	Facility construction "Trunk gas pipeline "Power of Siberia". Stage 2.6. plot "CS-5 "Nagornaya" — CS-6 "Skovorodinskaya"	Holding of public hearings for the materials discussion of the Environmental Impact Assessment Study of the construction project of area "KS-5 "Nagornaya" — KS-6 "Skovorodinskaya"
OOO Gazprom geologorazvedka		
08.04.2015 Settlement Nogliki, the Sakhalin Region	Infrastructure development of Kirinskoye GCF	Holding of public hearings for performance of geological prospecting works at Kirinskiy prospective area in the shelf area of the Sea of Okhotsk in order to specify its geologic structure and volume of stocks
OOO Krasnoyarskgazprom neftegazproject and OOO Gazprom dobycha Krasnodar		
22.04.2015 Settlement Tselinniy, the Slavic District, Krasnodar Krai	Exploration well No.1 of the Western-Varavenskaya Square	Holding of public hearings for materials of the Environmental Impact Assessment Study of the construction project of new well No. 1 of the Western-Varavenskaya Square and in connection with the plot location of the planned works in the boundaries of the specially protected natural sites — a State nature sanctuary of federal significance "Priazovskiy"
OOO Gazprom SPG Vladivostok		
23.05.2015 Settlement Slavyanka, Khasanskiy District, Primorsky Krai	LNG plant construction Vladivostok	Holding of public hearings as regards a project of an LNG plant near the Perevoznaya Bay at the Lomonosov Cape
OOO Gazprom geologorazvedka		
08.08.2015 Settlement Vanavara, the Evenki Municipal District, Krasnoyarsky Krai	Well drilling within the boundaries of the Teterskiy licensed site with the goal of geological survey, exploration and production of raw hydrocarbon deposits	Holding of public hearings for construction of prospecting and appraisal well of Teterskiy area as to allocation of drilling waste in a mud pit
OAO VNIPIgazdobycha and OOO Gazprom pererabotka Blagoveshchensk		
23.09.2015 Settlement Chernigovka, the Svobodnenskiy District, the Amur Region	Construction of the Amur gas processing plant	Holding of public hearings as regards the issues of organization of wastes burial, measures for prevention of water contaminations, atmosphere and lands
OOO Gazpromnneft-Vostok		
06.11.2015 City of Tomsk	Activity of companies of OOO Gazpromnneft and OOO Gazpromnneft Vostok	Holding of public hearings on the theme: "Activity of Gazprom Neft and sustainable development of regions of presence"

Commitment of the managers of the Gazprom Group companies to information transparency is reflected in annual meetings with the representatives of national and regional media. Gazprom monitors the media to analyze the public opinion on its environment protection activities and considers it in its future planning and timely making of management decisions.

In 2015 there were more than 6,500 positive publications in media and on the Internet related to the ecological aspects of Gazprom Group activities.

The activities of Gazprom in the field of the environmental settlement improvement in the regions of presence was honored with a significant number of encouragements — rewards, honorary certificates, diplomas, letters of gratitude from the federal, regional and local authorities, educational institutions and public entities.

In international rating Carbon Disclosure Project (CDP) throughout the duration of years 2011–2015, the Company is recognized to be the best Russian energy company in the field of the corporate climatic reporting and strategy for reduction of greenhouse gas emissions.

In the rating of the environmental responsibility of the largest oil and gas companies of the Russian Federation, organized by the World Wildlife Fund (WWF of Russia) and analytical and consultative group in the field of the Fuel-Power Complex CREON Energy, in 2015 PJSC Gazprom took the second place and was recognized to be the best company in category “Impact on the environment”. Sakhalin Energy Investment Company Ltd. took the third place and was honored with the diploma in a special nomination for the contribution to the development of the corporate programs of the conservation of biodiversity.

Main results of implementation plan for voluntary environmental activities

In accordance with the positive experience of the Year of Ecology and the Year of Environmental awareness implementation in PJSC Gazprom in 2015, voluntary environmental activities were also planned, organized and carried out.

Gazprom's Plan stipulated carrying out 9 912 activities, 19 239 — was actually performed.

The voluntary environmental activities involved 62 subsidiaries and some of the Gazprom Group subcontractors.

In 2015, more than 140,000 trees and bushes were planted, more than 28,000 hectares of land were cleared of debris, over 330 water bodies were rehabilitated, 20 specially protected natural areas were provided help, the works on the restoration of fish stocks were carried out.

Gazprom Group's activities have been held in more than 3 500 cities and towns of the Russian Federation, in the Republic of Armenia, Republic of Belarus and in far abroad countries. The number of participants amounted to a total of 308 thousand people, including 100 thousand employees of Gazprom and 40 thousand students.

Gazprom employees held a series of activities under the auspices of "Green Spring" and "Green Russia" public initiatives aimed at the rehabilitation of forest land, water resources and specially protected natural territories (actions "Clean coast", "Clean shores to our rivers", "Operation "Delta" — saving native river", "Environmental force", "River band", "Clean forest", "Let's save nature of Stavropol Krai", etc.). Voluntary work on populated areas landscaping, garbage disposal and elimination of illegal dumps, promotion of separate waste collection ("Green leaf", "Save a tree!", "The batteries, give up!", "Make the world cleaner!" etc.) were done.

Special attention in the year of the 70th Great Victory anniversary was paid to the improvement of memorials and monuments to soldiers of the Great Patriotic war. On the eve of May, 9 "The Avenues of Victory" and "Walks of Fame" were laid down in the regions as part of the national project "Victory Forest".

During the year ongoing efforts were made towards the promotion of NGV vehicles via the Internet, publications in print media, on radio and TV in Russia and abroad. The Atlas on the environmental effect of transfer of vehicles to natural gas in Russian regions was prepared for publication.

In 2015 dozens of press and study tours were held to industrial sites of PJSC Gazprom, Gazprom Neft, Gazprom Energoholding. To publicize the activities for environmental protection in Gazprom Group companies more than 6 500 reports in printed corporate, local and regional media, on Internet sites, on radio and television were published.

Informational and promotional stands ("Protect the nature", "World Car free day", "World No Smoking day", etc.) were placed in cities and villages public places.

A total of more than 4,5 thousand lessons of environmental awareness, competitions, trips, exhibitions and other environmental education activities were organized for preschoolers, school students and students. The major event were Days of environmental education in the Yamal-Nenets Autonomous District, Stavropol Krai, Chelyabinsk and Tambov Regions, in the Republic of Belarus, in Moscow, Samara, Ulyanovsk, Astrakhan and Kazan. Within the framework of the Days the environmental Olympics "Eco erudite", thematic exhibitions, conferences and round tables, lectures of scientists of the Russian Academy of Sciences were organized for students. The Days were organized by Non-governmental Ecological V. I. Vernadsky Foundation with the active participation of the Gazprom Group subsidiaries.

All this voluntary work was carried out by Gazprom Group in active interaction with federal and local authorities, public environmental organizations, educational institutions of different levels. The main outcome was the increased level of environmental literacy of the Group employees and contractors and broad layers of the population in the regions of coverage. Gazprom Group has once again demonstrated its interest in the development of voluntary mechanisms of environmental responsibility and the real commitments to the corporate Environmental policy.

Gazprom Group's environmental impact on the whole is determined by the volumes of actual production, scope of construction and repair of main production assets, intensity of investment project implementation.

The main and most efficient instruments for the Group to achieve the strategic environmental goals on the reduction of anthropogenic impact on the environment are:

— introduction and support of efficient environmental management system based on ISO 14001 international standard requirements;
— target planning of actions to reduce environmental risks and of activities to implement the environmental policy;
— consideration of ecological and economical nature protection aspects together with the traditional financial and economical parameters at project design and implementation stages;
— allocation of sufficient organization, material, staff and financial resources to ensure the fulfillment of undertaken liabilities;
— performance of reclamation and other technical and organizational activities to liquidate the damage to the environment;
— usage of best available techniques in all business sectors;
— conducting and promoting of scientific researches aimed at the increase of energy efficiency, reduction of negative environmental impact and environmental risks.

The complex projects aimed at mitigation of adverse impact on the environment, preservation of natural ecosystems and ensuring efficient use of natural resources will be continued.

Glossary of main terms and abbreviations

Adverse environmental impact	Impact of economic and other activity, the consequences of which lead to adverse changes in environmental quality
AGFCS	Automobile gas-filling compressor station
APG	Associated petroleum gas. Mixture of gases and vaporous hydrocarbon and non-hydrocarbon components emitted from oil wells and in-place oil in the process of its separation
Biodiversity (biological diversity)	Diversity of living organisms in all spheres including onshore, marine and other water ecosystems and ecological complexes forming them
CNG	Compressed natural gas
CRP	Control regulating point
CS	Compressor station
Energy saving	Implementation of legal, management, scientific, production, technical and economic measures aimed at efficient (rational) use of fuel and energy resources and involvement of renewable energy sources into economic turnover. Energy saving is an important task for natural resources preservation
Environment	System of nature components, natural and natural-anthropogenic, as well as anthropogenic objects
Environmental audit	Independent complex documented assessment of fulfillment by the economic or other activity entity of requirements, including norms and regulatory documents, in the environmental protection sphere, requirements of international standards and preparation of recommendations for such activity improvement
Environmental control	System of measures aimed at prevention, detection and elimination of legislation violation in the environment protection sphere, provision of fulfi llment by entities of economic or other activity of the requirements, including norms and regulatory documents, in the environmental protection sphere
Environmental damage	Negative environmental change as a result of pollution, caused degradation of natural ecological systems and depletion of natural resources
EIA (environmental impact assessment)	Type of activity aimed at detection, analysis and accounting of direct, indirect and other environmental impact consequences of planned economic and other activity to make a decision on possibility or impossibility of its implementation
Environmental management	Part of the general corporate management system with a clear organization structure and aimed at reaching the objectives indicated in the environmental policy by means of environmental programs implementation
EMS	Environmental management system
Environmental monitoring	A complex system of environment monitoring, evaluation and forecast of environmental changes under the impact of natural and anthropogenic factors
EP (environment protection)	Activity aimed at preservation and recovery of the environment, rational use and reproduction of natural resources, prevention of the adverse environmental impact of economic and other activity and liquidation of its consequences (hereinafter — environmental activity)
Environment protection control (environmental control)	System of measures aimed at prevention, detection and elimination of legislation violation in the environment protection sphere, provision for fulfi llment of the requirements, including norms and regulatory documents, in the environment protection sphere by entities of economic or other activity
Environmental requirements (nature protection requirements as well)	Any obligatory conditions, limitations or their combination for economic or other activity, established by laws, other regulatory legal acts, environmental norms, state standards and other regulatory documents in the environmental protection sphere
Environmental safety	Condition of protection of the environment and vital interests of humans from possible adverse impact of economic and other activity, natural and industrial emergencies, and their consequences
FER	fuel and energy resources
GCF	Gas condensate field
GDS	Gas distribution station
GHG	Greenhouse gases. Presumably they cause the global greenhouse gases effect. The main greenhouse gases in the sequence of their estimated impact on the earth's heat balance include water steam, carbon dioxide, methane, ozone, sulphuryl-fluoride, halocarbons and nitrogen oxide
GPU	Gas pumping unit
GWP	Global warming potential. The index of GWP is the ratio of global warming from one unit mass of a greenhouse gas to that of one unit mass of carbon dioxide over a period of time
LNG	Liquefied natural gas
OGCF	Oil gas condensate field
OPN	Own process needs
SPZ	Sanitary protection zone

Specially protected natural area (SPNA)	Areas of land, water surface and air space above them where natural complexes and objects are located, having specific nature-protecting, scientific, recreational, health-improving and other values, withdrawn partially or in full from economic use based on the decisions of the state authorities, and for which a special protection mode has been established. Specially protected natural areas are referred to national endowments
TGP	Trunk gas pipeline
UGS	Underground gas storage/facility
Waste management	Collection, accumulation, use, neutralization, transportation and disposal of waste

Russian business structures

AO	Joint Stock Company
OAO	Open Joint Stock Company
OOO	Limited Liability Company
PAO	Public Joint Stock Company
ZAO	Closed Joint Stock Company

Measurement of units

cm	cubic meter
Gcal	billion calories
ha	hectare (ten thousand square meters)
mm	million
mcm	thousand cubic meters
mcmd	thousand cubic meters per day
mmcm	million cubic meters
bcm	billion cubic meters
t	tonne
kilotonne	thousand tonnes
t c.e.	tonne of coal equivalent
W	watt
Wh	watt hour
kW	thousand watts
MW	million watts

Addresses and contacts

PJSC Gazprom
Nametkina str., 16, Moscow, GSP-7, 117997
www.gazprom.ru
Phone: (495) 719-27-51. Fax: (495) 719-69-65

OOO Gazprom VNIIGAZ
Centre of Environmental Protection, Energy Efficiency and Labour Safety
P. Razvilka, Moscow oblast, Russian Federation, 115583
Phone: (498) 657-42-06. Fax: (498) 657-96-05

www.gazprom.com