

ENVIRONMENT
PROTECTION
ENVIRONMENTAL
REPORT 2008



THE ENERGY OF NATURE



THE NATURE OF ENERGY

**ОАО ГАЗПРОМ
ENVIRONMENT PROTECTION
ENVIRONMENTAL REPORT 2008**

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LETTER OF A.G. ANANENKOV DEPUTY CHAIRMAN OF ОАО ГАЗПРОМ MANAGEMENT COMMITTEE



Dear readers!

Since 1996 OAO Gazprom has been annually publishing its Environmental reports, which include basic performance of the company's environmental protection activities.

By means of these voluntary publications, we intend to provide our stockholders, partners, public and social organizations or other stakeholders with reliable information about the environmental impact of the *Gazprom* production complex as well as the achievements made and the measures undertaken to decrease the impact. At present *Gazprom* is implementing large scale transnational projects on gas transportation, intensively exploring the resources of the Northern and Eastern territories of our country, including the Arctic shelf. The ecosystem in these regions is highly vulnerable and requires an especially careful attitude. That is why the strongest environmental restrictions are imposed at development stages, and all new projects and programs of acting production facilities modernization stipulate the application of the latest progressive technologies, which enable to minimize environmental risks.

Understanding the scale of our activity, we realize the high responsibility for its results before the present and future generations. In 2008 the new Environmental policy was endorsed by the Management Committee of OAO Gazprom, which was based on the Sustainable Development Principle that implies the provision of *Gazprom* dynamic development under highly rational use of natural resources and conservation of propitious environment.

In conclusion I'd like to have your attention to the fact that the Environmental report of 2008 is the first consolidated report of *Gazprom Group* companies, which reflects the diversification of our business and the scale growth of the production activity.

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

A handwritten signature in blue ink, appearing to read 'Ananikov', written in a cursive style.

A.G. Ananikov

INTRODUCTION

The Report presents the data of *Gazprom Group* about environmental aspects of its production activities in 2008, including organization of environmental management, indicators of environmental negative impact and measures undertaken to decrease the impact, environmentally oriented scientific researches and technical modernization, account of social and ecological interests and other information.

The production of *Gazprom Group* companies have got a broad range of activities, which are tightly linked to the natural resources extraction, processing, utilization and environmental impact.

The companies of *Gazprom Group* provide environmental security of their facilities and decrease environmental risks by means of:

- developing and introducing of effective technologies of energy resources saving and environmental protection;
- considering of weather and climate, social and economic specifications of regions attached to the decision of a new construction allocation and modernization of existing facilities;
- applying of latest methodologies for factors and possible environmental impact level assessment;
- complex restoring of disturbed ecosystems at construction and exploitation sites;
- timely conducted technical diagnostics, corrective and preventive maintenance;
- improving of self environmental inspection and monitoring systems.

In order to enhance the efficiency of environment protection activity *Gazprom Group* cooperates with:

- federal legislative and executive authorities on improving of the environment protection legislation;
- regional legislative and executive authorities on improving of the regional environment protection legislation, development and implementation of environmental programs, improvement of environmental monitoring systems;
- public organizations, population and local state authorities, in those locations, where *Gazprom Group* has its facilities.
- mass media to provide additional information disclosure of the environmental protection activities.

The present report contains the data about the *Gazprom Group* production performance in the field of environmental protection in 2008. The indicators of *Gazprom* were analyzed towards *the Group* and retrospectively. Hereinafter *Gazprom* will stand for OAO Gazprom and organizations, which are the former's 100% subsidiaries, involved in production activities:

Gazprom dobycha Astrakhan
 Kubangazprom
 Krasnoyarskgazdobycha
 Gazprom dobycha Nadym
 Gazprom dobycha Noyabrsk
 Gazprom dobycha Orenburg
 Gazprom dobycha Urengoy
 Gazprom dobycha Yamburg
 Burgaz
 Sevmorneftegaz
 Gazprom pererabotka
 Gazpromenergo
 Gazflot
 Gazpromavia
 Gazprom yugpodzemremont
 Gazprom severpodzemremont
 NGCC
 Gazprom transgaz Volgograd

Gazprom transgaz Yekaterinburg
 Gazprom transgaz Kazan
 Gazprom transgaz-Kuban
 Gazprom transgaz Makhachkala
 Gazprom transgaz Moscow
 Gazprom transgaz Nizhniy Novgorod
 Gazprom transgaz Samara
 Gazprom transgaz Saratov
 Gazprom transgaz St. Petersburg
 Gazprom transgaz Stavropol
 Gazprom transgaz Surgut
 Gazprom transgaz Tomsk
 Gazprom transgaz Ufa
 Gazprom transgaz Ukhta
 Gazprom transgaz Chaikovsky
 Gazprom transgaz Yugorsk
 Gazprom UGS

Hereinafter *Gazprom Group* will stand for OAO Gazprom and the following companies, which have presented their data on environmental performance:

ArmRosgazprom	Kaunasskaya HPS
Vostokgazprom	Mosenergo
<i>Gazprom Neft Group</i>	OGK-2
Severneftegazprom	OGK-6
Krasnoyarskgazprom	TGK-1
Gazpromneft Orenburg (Stimul)	Lengazspetsstroy
Gazpromtrans	Purgaz
Gazpromtrubinvest	Spetsgazavttrans
<i>Sibur Holdign Group</i>	Sakhalin Energy
Zapsibgazprom	Tsentrgaz





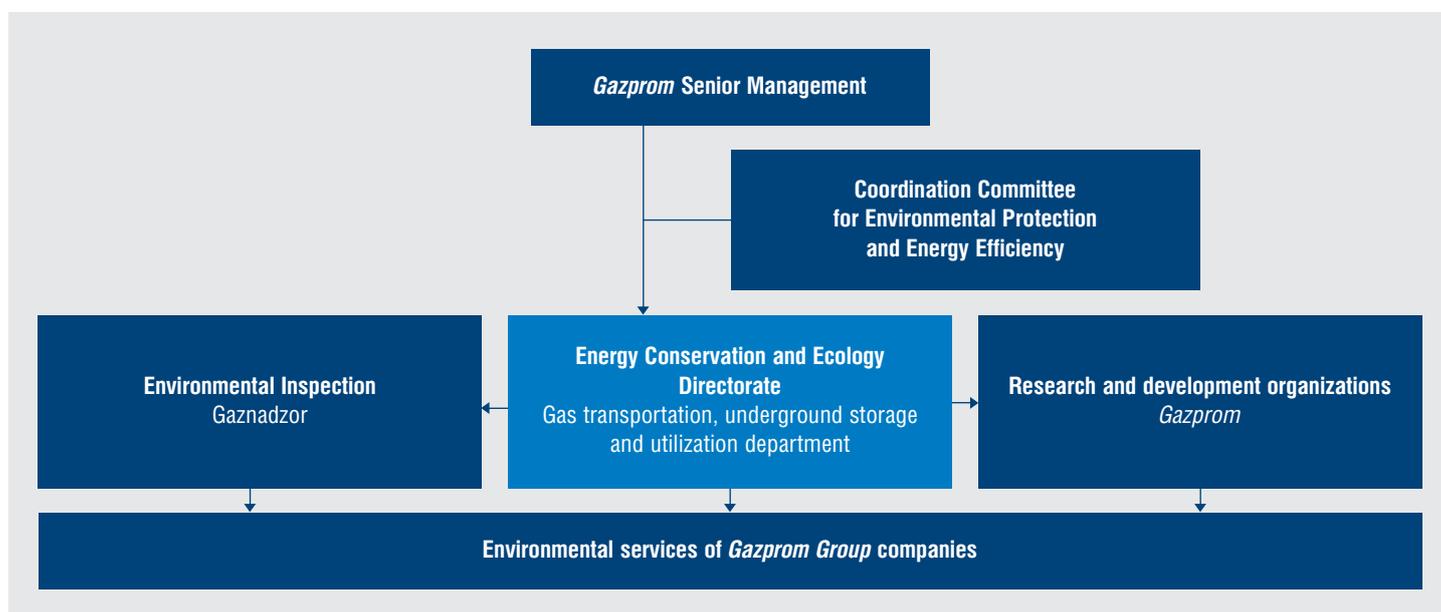
ENVIRONMENTAL PROTECTION MANAGEMENT

Gazprom Group companies operate in the field, which is directly linked with the nature use. For this reason the necessity of arrangement of an adequate environmental risk management system is one of the main priorities of sustainable development. *Gazprom Group* companies pay much attention to the issues of environment protection management improve.

ENVIRONMENTAL PROTECTION MANAGEMENT STRUCTURE

There is a well developed system of environmental management designed at *Gazprom*. It is a vertically integrated structure with the Administration of *Gazprom* and its subsidiary compamnies at the top level and environmental services of production facilities at the lower level. The most significant element of the environmental management of *Gazprom* is the corporate environmental policy, a broad base of normative documents and standards in the field of environmental protection, rational nature management and energy saving, a special controlling and supervising service, environmental monitoring system and highly qualified environmental specialists, of course.

GAZPROM ENVIRONMENTAL MANAGEMENT STRUCTURE



In 2007, *Gazprom* set up a *Gazprom* Coordination Committee for Environmental Protection Issues. The Council carries out a comprehensive assessment of the company's environmental activities efficiency, organizes the integrated management in the field of environment protection, ensures the implementation of the *Gazprom* environmental protection policy, organizes and coordinates *Gazprom* cooperation with environmental authorities and non-governmental organizations. The Head of the Committee is A.G. Ananenko, Deputy Chairman of Management Committee.

In 2008 the Committee endorsed the primary directions towards the improvement of the environmental management systems of *Gazprom*, in order to submit them to the ISO 14001 certification; it also reviewed the efficiency issues of *Gazprom* participation in the projects under the mechanisms of the Kyoto protocol. The Committee's discussion scope encompassed the issues of complex environmental security provision of exploration projects, such as Bovanenkovo gas oil condensate field (GCF), Prirazlomnoe oil field, Shtokman gas and condensate field (GCF), as well as the construction of the "North stream" pipeline and environmental aspects of *Gazprom* foreign projects implementation. The contests of *Gazprom* subsidiary companies and organizations on "Gazprom best environmental department" and "Gazprom best environmentalist" were concluded. The Committee also put on the agenda the issue of measures of *Gazprom* market capitalization increase by means of environmental aspects and others. Moreover, the issues of additional information disclosure were also discussed with the regards to the environmental activities.

ENVIRONMENTAL POLICY

Under the Provision of the Management Committee of OAO Gazprom as of September 25, 2008 № 45 the Environmental policy of *Gazprom* was endorsed as well as the “List of primary environmental protection measures through 2010”. The necessity of the policy renew was caused by *Gazprom* expansion as an energy company as well as political changes, social-economic conditions and international legal framework.

Gazprom environmental policy reflects the modern trend is the environmental protection and energy efficiency. The policy implementation should result in cost reduction and efficiency enhancement of resources use, minimization of average weighted indicators of environmental negative impact, optimization of the corporate environmental management system, provision of *Gazprom* balanced innovative development, which will include production expansion, involving modern and effective approaches towards the environmental protection. The policy and primary environmental measures implementation will also boost *Gazprom* market capitalization.

GENERAL PROVISIONS OF THE GAZPROM ENVIRONMENTAL POLICY

OAO Gazprom is the world's largest gas company and one of the largest energy companies dealing with natural gas, gas condensate and oil prospecting, production, transportation, storage, processing and marketing, as well as power generation both in Russia and abroad.

Gazprom, its subsidiary companies and organizations represent a vertically integrated company (hereinafter referred to as the Company).

Being strategically important to the economy of Russia and other countries, *Gazprom's* business activities affect the interests of millions of people. Environmental impacts made by the Company during its operations determine its responsibility to the society.

Recognizing this responsibility, *Gazprom* was one of the first Russian companies to adopt the Environmental Policy in 1995. Responding to the tightened requirements for environmental protection, the Company assumed in 2000 additional commitments in this area, which was reflected in the adjusted version of the Environmental Policy.

Nowadays *Gazprom* as a global energy company is accepting greater responsibility for the environmental preservation as well as product supply safety and security when fulfilling the environmental and social commitments set out in this Environmental Policy.

Gazprom's Environmental Policy is based on the Constitution of the Russian Federation, federal laws and other legal acts of the Russian Federation, international agreements of the Russian Federation related to environmental protection and natural resource conservation.

In accordance with the principles of the Concept of the Transition of the Russian Federation to Sustainable Development approved by Russian President in the Decree No. 440 dated April 1, 1996 and of this Environmental Policy it seems possible to ensure well-balanced resolution of socioeconomic tasks and maintenance of a favorable natural environment and natural resource potential in the aim of securing the Company's substantial contribution to the aspirations of the global community to meet the needs of both current and future generations by reaching harmony with the nature and shaping the sphere of reason (noosphere) as advanced by V.I. Vernadsky.

COMPANY COMMITMENTS

The underlying principle of the Company's business is sustainable development construed as intensive economic growth accompanied by maximal conservation of natural resources and preservation of a favorable natural environment for future generations.

In order to fulfill this principle the Company assumes the commitments as follows:

1. Guaranteeing compliance with all standards set by the Russian Federation legislation and international legal acts related to environmental protection, as well as observing the principles of the Russian Federation Ecological Doctrine approved by the Russian Government in the Decree No. 1225-r dated August 31, 2002.
2. Securing resource conservation, reducing negative environmental impacts and taking all possible measures to conserve the climate and biodiversity as well as to compensate for possible environmental damage.
3. Enhancing energy efficiency of production processes at all stages.
4. Consistently streamlining both the Company's environmental activity and its management system.

5. Preventing pollutions, which means giving priority to preventive actions aimed at non-admission of negative environmental impacts over actions aimed at elimination of consequences of such impacts.
6. Continuously improving labor and industrial safety at its production facilities and ensuring that working conditions meet the requirements of safety and hygiene standards.
7. Taking into account the interests and rights of indigenous minorities with respect to their traditional lifestyle and original habitat retention.
8. Effectuating gasification of population centers and expanding utilization of natural gas as vehicle fuel for the purpose of enhancing the living standards and security of Russia's population.
9. Arranging for continuous professional and environmental training of the Company's personnel.
10. Ensuring broad availability of environmental data on *Gazprom's* operations as well as transparency of its environmental activities and relevant decisions.

The commitments assumed by the Company form a basis for setting long-term strategic goals in the environmental protection area.

These include:

- minimizing specific negative technogenic impacts on the natural environment (per marketable product unit);
- increasing the efficiency of non-renewable natural resource and energy source utilization;
- involving the Company's entire personnel in activities aimed at reducing environmental risks, improving the environmental management system and performance indicators in the environmental area.

ENVIRONMENTAL POLICY IMPLEMENTATION MECHANISMS

The Company will achieve its strategic goals in the environmental area by virtue of:

- introducing and maintaining an effective environmental management system based on the ISO 14001 international standard;
- cooperating with all organizations engaged in energy production and supply in order to minimize environmental impacts and conserve natural resources;
- participating in global, including international, programs aimed at achieving sustainable development as well as climate and biodiversity conservation;
- planning target-oriented activities for the mitigation of environmental risks as well as measures for the implementation of the Environmental Policy;
- keeping record of eco-economic and environmental aspects alongside conventional financial & economic parameters during project development and execution;
- allocating sufficient organizational, material, human and financial resources enabling to secure the commitments assumed;
- taking reclamation and other technical & organizational actions to compensate for environmental damage;
- arranging for and conducting investigations on renewables including hydrogen energy, exploiting unconventional resources such as coalbed methane and methane gas hydrate;
- applying the best available technologies in all production areas;
- considering environmental factors during the development of a procurement policy and fulfillment of works and services by contractors;
- implementing environmental certification of products;
- performing and stimulating scientific research aimed at increasing energy efficiency, reducing negative environmental impacts and risks;
- insuring against high environmental risks;
- improving the environmental training system;
- motivating personnel in order to use every employee's creative potential in the process of resource conservation and environmental risk reduction;
- actively interacting with civil society structures interested in the environmentally safe operation of the Company.

This Environmental Policy represents a priority and is communicated to every employee of the Company.

The Environmental Policy, which expresses the Company's attitude toward the natural environment and the implementation of sustainable development principles in the present-day conditions, serves as a basis for defining the corporate Environmental Strategy and planning its target environmental activities in the short- and mid-term.

The Environmental Policy will be implemented through the introduction of environmental obligations for projected regions of *Gazprom's* activity into agreements with the Company's contractors and suppliers.

The Environmental Policy is subject to revision, adjustment and improvement in the event the Company's development priorities and operational conditions are changed.

LEGAL FRAMEWORK OF GAZPROM'S RATIONAL ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL PROTECTION

In its operations *Gazprom Group* observes the principle of strict compliance with the requirements of the environmental protection legislation of the Russian Federation and the norms of the international law.

Gazprom cooperates with the state authorities on improvement of legal basis of the environmental protection and rational environmental management. *Gazprom* specialists are represented in the profile expert committees of the State Duma and Council of Federation of the Federal Assembly of the Russian Federation, as well as in councils and commissions of different scientific and public organizations such as Russian Academy of Science, Russian Gas Society, Russian Engineer Academy, Russian Union of Industrialists and Entrepreneurs, Russian Chamber of Commerce and Industry etc.

In 2008, *Gazprom* specialists participated in parliament hearings and round tables in the State Duma of the Russian Federation on energy saving and environmental protection issues, and provided an expert support to a few bills and other legal and normative documents in the field. In particular, following the proposals and comments made by *Gazprom* experts amendments have been introduced into the Russian legislation on licensing of the activities related to treatment of hazardous waste of production and consumption, as well as on ecological expertise of projects that deal with placement and neutralization of hazardous waste.

The internal corporate regulation which includes standards of OAO Gazprom (STO Gazprom), regulations of OAO Gazprom (R Gazprom) as well as standards of *Gazprom* subsidiary companies and organizations is developing intensively.

Gazprom standards consider requirements of the Russian and international legislation, national standards, as well as sector and regional specific features of production. In 2008, 21 new documents were developed:

- STO Gazprom "Provision on the environmental protection activities management at OAO Gazprom";
- STO Gazprom "Standard provision on the environmental service of OAO Gazprom subsidiary company (organization)";
- STO Gazprom "Environmental protection. Terms and definitions";
- STO Gazprom "Environmental protection at OAO Gazprom facilities. Industrial supervision and environmental monitoring. Terms and definitions";
- STO Gazprom "Environmental protection at OAO Gazprom facilities. Industrial supervision and environmental monitoring. General requirements";
- STO Gazprom "Environmental protection at OAO Gazprom facilities. Environmental monitoring. General requirements";
- STO Gazprom "Environmental protection at OAO Gazprom facilities. Industrial supervision over the ambient air. Organization guidelines and procedures";
- STO Gazprom "Recommendation on the economic stimulations of energy conservation in OAO Gazprom system" (the standard draft is under discussion);
- STO Gazprom "Calculation methodology of autonomous systems of air heating" the standard draft is delivered to a *Gazprom* subsidiary for the reference);
- STO Gazprom "Determination methodology of regional coefficients of nitrogen oxide transformation, based of calculation and experiment data";
- STO Gazprom "Emissions technical norms. Gas pumping aggregates of OAO Gazprom";
- STO Gazprom "Calculating quantity methodologies of stability, hazard of destruction and measures background assessment of vegetative ground cover and engineer objects on hillsides under the activ negative sloop processes in the locations of gas field development in the North Pole";
- STO Gazprom "Methodology of calculating indicators assessment of stability, degradation, restoration of the vegetative ground cover of tundra under different anthropogenic impact of gas field development in the North Pole";
- STO Gazprom "Methodological guidelines on execution of assessing and forecast maps of project environmental assignments of OAO Gazprom";
- STO Gazprom "Calculation methodology of noise impact parameters of compressor stations on the area considering the landscape and the stations arrangement at the development stage";
- STO Gazprom "Standard projection methodology of noise protecting constructions of gas transport equipment for the conditions of the North Pole";
- STO Gazprom "Methodological guidelines on organization and conduction of industrial supervision and environmental monitoring of linear parts of gas main pipelines";
- STO Gazprom "Assessment methodology of environmental measures efficiency";
- STO Gazprom "Guideline on the composition of the "Environment protection" paragraph in construction projects of gas distribution facilities";

- STO Gazprom “Calculation methodology of gas auxiliary consumption rates of OAO Gazprom gas transport companies”;
- R Gazprom “Calculation methodology of measures economic efficiency on gas losses reduction at OAO Gazprom”.

ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental management systems of *Gazprom Group* are developed and certified in accordance with the international standard ISO 14001:2004.

In 2008, almost all companies of *Gazprom Group* adopted documents, which determine environmental protection policy and strategy. Environmental management systems (EMS) are now being developed and introduced in compliance with the international standard ISO 14001:2004.

The EMS of many leading *Gazprom* subsidiary companies and organizations are certified against the international standards. Particularly, at Gazprom dobycha Orenburg an integrated system, which comprises quality, environmental, and health and production safety management was established on the basis of existing quality management system. In 2008 this integrated system certified. EMSes are also certified at Gazprom dobycha Astrahan, Gazprom dobycha Yamburg, Gazprom podzemremont Orenburg, Gazprom transgaz Orenburg, Gazprom transgaz Ukhta and others.

In 2008, the plan of preparation of the environmental management system for certification under ISO 14001:2004 was launched at *Gazprom* Administration.

Personnel training is crucial for effective work, therefore in 2008 within the preparation of *Gazprom's* EMS for the international certification training of specialists was undertaken.

A series of training seminars dedicated to the basics of EMS development under ISO 14001 and internal eco-audit was organized in Moscow and Saratov. The participants had a practical training in the eco-audit at the premises of Gazprom transgaz Saratov (line pipe operation department in Saratov region) and Gazprom transgaz Moscow (gas compressor station in Volokolamsk, Moscow region). More than 150 participants were involved in training activities.

To improve the overall efficiency of *Gazprom* EMS, on April 30, 2008 a contest of environmental departments of *Gazprom* subsidiary companies and organizations was launched and the relevant Provisions adopted. Environmental protection department of Gazprom transgaz Ukhta (Head of department is S.V.Yuretsky) was acknowledged the winner. The title of “The best environmentalist of OAO Gazprom” was awarded to: A.K. Arabsky, Deputy Chief Engineer in charge of science, engineering and environmental protection at Gazprom dobycha Yamburg; S.V. Konyaev, Chief of the Environmental Protection dept. at Gazprom transgaz Stavropol; T.V. Lebedyantseva, Leading engineer of the Environmental Protection dept. at Gazprom dobycha Orenburg.

OAO Mosenergo was the first Russian power generating company which received the EMS certificate of conformance under ISO 1400:2004 back in 2006. In 2008, the certificate was confirmed. EMSs have been introduced and certified at OAO Sibur Holding, OAO Tsentrgez and others. The EMS development stage is completed at executive office of OAO OGK-2; the EMS of OAO OGK-2 affiliate – Stavropolskaya GRES – was certified. *Gazprom Neft Group* is preparing an EMS for the certification in 2009.

ENVIRONMENTAL ASSESSMENT OF PROJECTED ECONOMIC ACTIVITIES

Following the laws and regulations of the Russian Federation *Gazprom Group* companies make an environmental assessment of projected economic activities at all stages of development – from the investment idea and technical economic substantiations through to working drafts.

Environmental assessment of projected economic activities includes a number of stages. The most substantial of them are environmental impact assessment (EIA) and environmental expertise.

The EIA at *Gazprom Group* companies is carried out on the basis of thorough technical and environmental researches of the projected sites. The researches encompass study and analysis of the natural components,

i.e. state of the atmospheric air, surface and ground waters, vegetative cover, fauna, soil and subsoil, and as the level of existing anthropogenic impact. The results of the researches include an assessment of the impacts of projected economic activities, incurred changes in the environment and their consequences for the society. The collected data are considered at a project development stage and affect the selection of available variants against the environmental safety and economic efficiency. If the stakeholders group of the developed project includes other countries, the EIA is based on the cross boarder regulations under the Espo convention.

Since 1994, all pre-project and project documentation of *Gazprom* has to pass through the corporate assessment before official submission to the state expertise. The corporate assessment procedure is regulated by the standard – STO Gazprom 2-2.1-031-2005 “Provision on assessment of pre-project and project documentation at OAO Gazprom”. The assessment is aimed at elevating the quality of project materials, including the content of technological decisions and organizational measures, which ensure, inter alia, the necessary degree of environmental protection.

According to the List of structural divisions of *Gazprom*, its subsidiary companies and organizations, participating in the corporate assessment of pre-project and project documentation, Directorate of Energy Saving and Ecology of Gas transportation, underground storage and utilization department as well as VNIGAZ are fully in charge of the environmental protection issues.

Project assessment involves, as independent experts, avowed scientists and highly qualified specialists from the Russian Academy of Science, Moscow State University n.a. M.V. Lomonosov, Russian State University of Oil and Gas n.a. A.M. Gubkina and other organizations, including research and design institutes of *Gazprom*.

In 2008, 95 projects were submitted altogether for the corporate environmental assessment, of which 19 projects were returned back for further corrections.

The environmental follow up of the projects at the implementation stage by the project developers and experts ensures the implementation of planned environmental protection measures and the compliance with the conditions of the state expertise.

ENVIRONMENTAL INSURANCE

Range and character of *Gazprom Group* activities requires a high level of production components insurance, including environmental risks.

The insurance of environmental risks of *Gazprom Group* is fulfilled within the complex insurance program of Insurance Group “SOGAZ”. Such integrated approach to insurance protection and risk management enables a comprehensive account of specific features of *Gazprom Group* activities. Within its insurance programs “SOGAZ” carries out, on a regular basis, examinations of the insured companies in order to identify and diagnose existing and potential threats, and elaborate plans of actions in case they become real. The insurance programs make it possible for the companies to provide a full and operative offset of costs, caused by infliction of environmental harm, without evolving companies’ own reserve funds.

ENVIRONMENTAL MONITORING

***Gazprom Group* companies make stepwise actions to tighten the requirements in environmental protection legislation, identify and warn against environmental risks.**

According to the requirements of the Russian legislation and internal normative documents, all *Gazprom Group* companies are subject to the regular environmental monitoring, which is aimed at identification of environmental negative impact factors, determination of necessary measures to minimize them and remove. Environmental monitoring of *Gazprom Group* is mainly a production highly integrated system of control.

Since 2007, the Environmental inspection has been operating as a structural division at a *Gazprom* subsidiary “Gaznadzor”. The main tasks of the inspection are: revision of the environmental monitoring efficiency at *Gazprom* subsidiary companies and organizations, assessment of environmental negative impact level and an internal audit of environmental management systems of *Gazprom* companies. In addition, the Environmental

inspection encompasses the analysis of interaction between *Gazprom* subsidiary companies and organizations and supervisory authorities of the Government, environmental non-governmental organizations as well as the improvement of corporate documents, which regulate the environmental monitoring.

In 2008, the environmental inspection of “Gaznadzor” carried out 285 verifications of compliance with environmental protection legislation of the *Gazprom* subsidiary companies and organizations, which are involved in extraction, transporting, processing, underground storage etc. The reports contained unconformities, which the companies were determined to remedy. The activities of the Environmental inspection resulted in enhancement of environmental safety of the inspected objects and decrease of the number of accidents, which badly affected the environment as well as the decrease of penalties paid to the federal and local authorities.

In order to provide environmental safety of production objects in use and under construction *Gazprom Group* companies impose high environmental protection requirements on their subcontracted organizations. For instance, the contract papers of *Gazprom Neft Group* contain environmental protection requirements and legal responsibilities laid on a subcontractor. The access to the objects for building and montage, fixing and other sorts of work will be given to external organization in line with the instruction, which states the environmental protection requirements. The implementation of the environmental protection measures included in construction and reconstruction projects is regularly checked within the environmental monitoring. A subcontractor is ultimately demanded to be licensed in hazardous waste treatment within the fields of operation.

When making a subcontract, OAO Vostokgazprom lays on executers a full responsibility for compliance with the environmental protection requirements, executions of necessary permissions and environmental reports and includes financial liabilities for liquidating possible damages. Observance of the environmental requirements by subcontractors on sites and in temporal settlements is checked within the total control over the construction. In *Gazprom* subsidiary companies and organizations subcontractors’ responsibilities for provision of necessary environmental protection measures are stated in corresponding contracts. The control over subcontractors’ activities is commonly implemented within the environmental monitoring with regular site visit by ecologists. The normative documents, which regulate the requirements laid on the subcontractors, including environmental protection, are developed by the subsidiaries. In 2008, Gazprom dobycha Orenburg endorsed a special standard STO 0-06-02-2008 “Provision of environmental security on the territory of Orenburg gas and chemical complex” and “Regulation on the order of access and ensuring safe work of external (specialized) organizations on the Gazprom dobycha Orenburg premises”.

The environmental monitoring is organized in all *Gazprom Group* companies. Rules, order, design and introduction specifications of the environmental monitoring systems for different objects are regulated by the corporate normative documents, including the guiding documents of *Gazprom*.

The corporate environmental monitoring system is formed and being developed in *Gazprom*. The system is equipped with the modern state-of-the-art measuring and analytical tools. The monitoring system includes the use of automatic control points, stationary and mobile laboratories.

The environmental monitoring system of *Gazprom* enables 200 to 15 000 measurements of controlled parameters per year and includes:

- check points of organized emission sources equipped with automatic and mobile gas analyzers;
- check point of noise nuisance (measuring set of a mobile laboratory);
- check point of waste water pollution (collection of samples, laboratory analysis);
- check points of the atmospheric air on the borders of sanitary protection zones and in the settlements (gas analytical complex of a mobile laboratory);
- check points of the surface water (collection of samples, laboratory analysis);
- check points of the ground water for household and drinking needs (collection of samples and laboratory analysis);
- check points of the geological environment (observation holes, level tool measurements, collection of samples, laboratory analysis);
- check points of the soil cover (collection of samples, laboratory analysis).

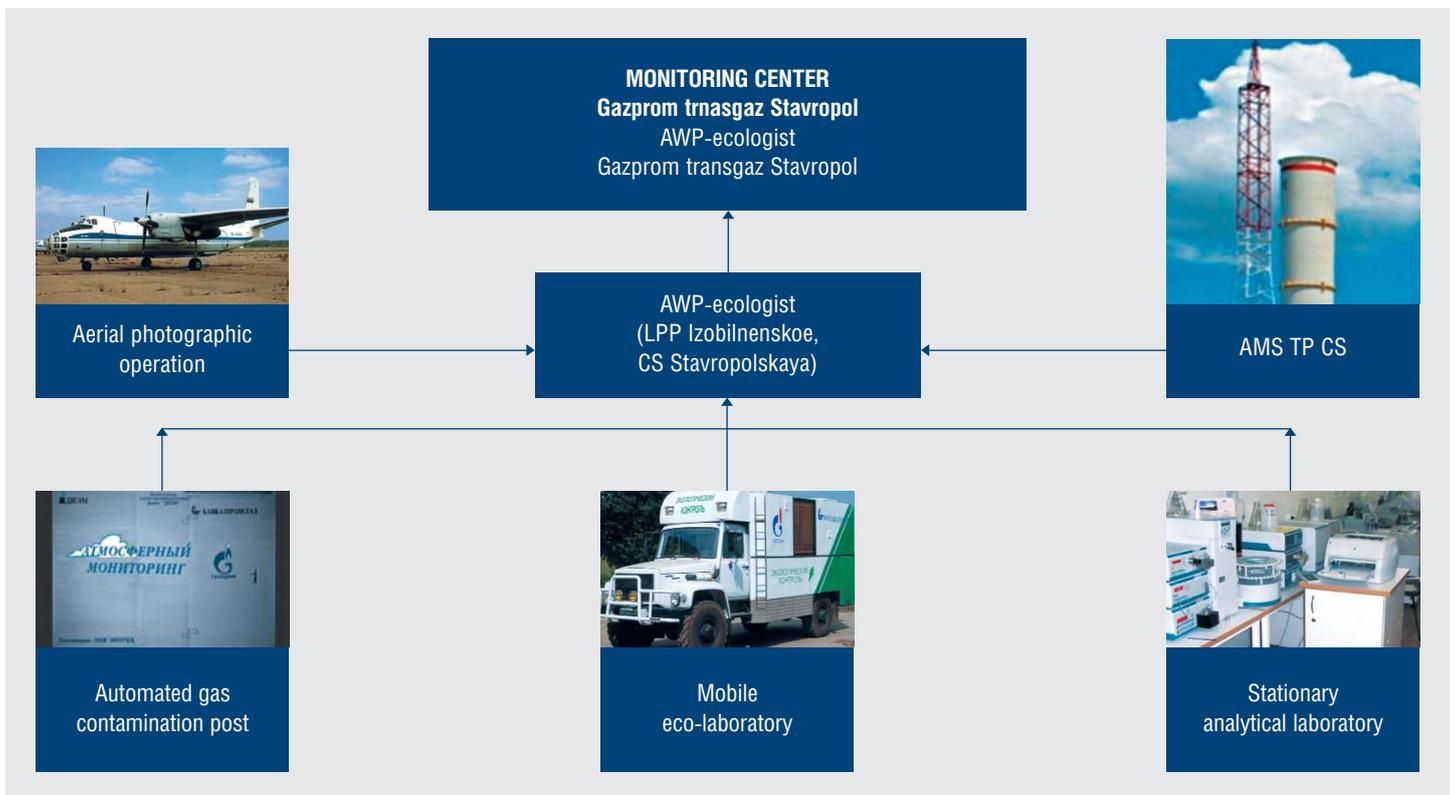
MEASUREMENT INVENTORY OF GAZPROM SUBSIDIARY COMPANIES AND ORGANIZATIONS IN 2008

	Units
Automatic control points of the atmospheric air	47
Aerological posts	2
Meteorological posts	3
Stationary eco-laboratories	3
Mobile eco-laboratories	13

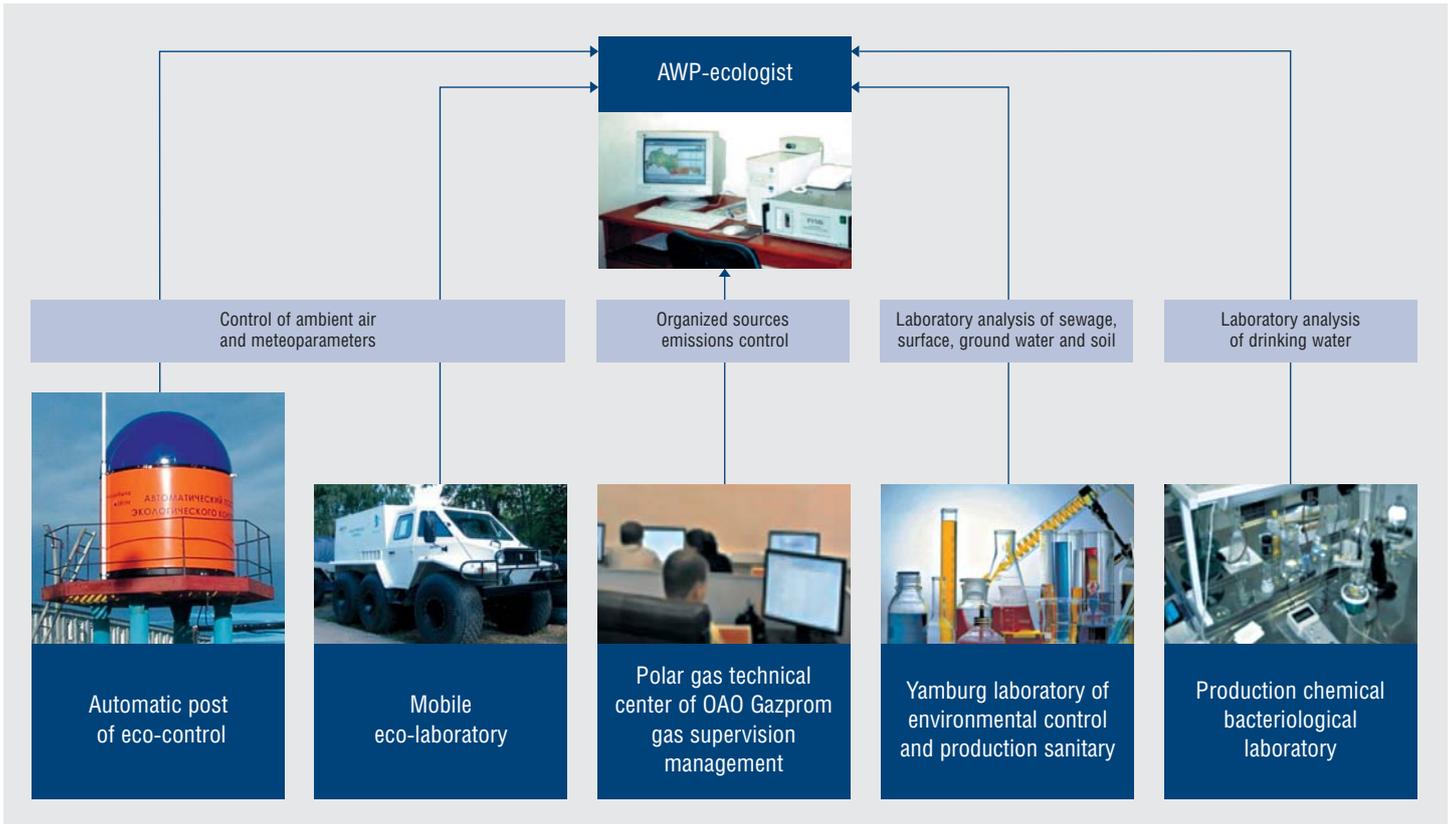
The automatic environmental monitoring systems are operating at Gazprom dobycha Astrakhan; Gazprom dobycha Orenburg (environmental monitoring systems of air pollution); Gazprom transgaz Kazan (environmental monitoring system integrated into the environmental protection management); Gazprom transgaz-Kuban

and Gazprom transgaz Stavropol (integrated environmental monitoring system of gas trunk line network of Russia – Turkey (“Blue Stream”)); Gazprom transgaz Yugorsk; Gazprom transgaz Ukhta; Gazprom добыча Nadym; Gazprom добыча Yamburg (environmental monitoring system of the Yamburg OGCF). Projects of environmental monitoring automated systems were developed for the existing production facilities. Along with this the environmental monitoring system at Gazprom transgaz Samara is integrated into the automated general management system; the environmental monitoring system at Gazprom transgaz Saratov is an industry system element of an operative dispatch management; the environmental monitoring system at Gazprom transgaz Ufa operates as a regional element of operative dispatch management. Development of the environmental monitoring system is envisaged in the project documentation of the following gas main pipeline: “Yamal – Europe”, SRTO – Torzhok, “North stream” (the part of Gryazovets – Vyborg), “Altay”, Pochinki – Gryazovets, Bovanenkovo – Ukhta, Minsk – Vilnius – Kaunas – Kaliningrad, and in the project documentation of the exploration of Bovanenkovo, Yamburg and Zapolyarny OGCF, Shtokman GCF (investment substantiation).

ENVIRONMENTAL MONITORING SYSTEM OF RUSSIA – TURKEY PIPELINE
(THE PART OF GAZPROM TRANSGAZ STAVROPOL)



ENVIRONMENTAL MONITORING SYSTEM OF YAMBURG OGCF



The integrated systems of environmental monitoring are introduced by other *Gazprom Group* companies as well. Along with it they frequently fulfill non-corporate functions. For instance, the system of industrial supervision and local environmental monitoring is not developed for construction and exploitation of the “Sakhalin-2” project facilities only, but it will also be used by the local government authorities of environment protection. According to the Program of Mosenergo environmental policy implementation, emission control systems are introduced at all heat power station. The systems are integrated into the single system of Mosenergo environmental monitoring. Technological personnel have an on-line control over such parameters of heat power station boilers as efficiency factor, fuel type, quantity of heat generation, nitrogen oxide concentration in air-gas emissions, including the whole company scale activity.

SCIENTIFIC FRAMEWORK OF THE ENVIRONMENTAL PROTECTION ACTIVITY, INTRODUCTION OF NEW TECHNOLOGIES

***Gazprom Group* performance highly depends on the results of the scientific research and development as well as the introduction of the latest technologies into the environmental protection.**

Both introduction of technical and technological innovations and solution of actual environmental problems of *Gazprom Group* production activities are based on researches, which are carried out by Russian leading research organizations. They are research and design institutes, such as VNIIGAZ, Mosenergoproekt, Nilgazekonomoka, Podzemgazprom, VNIPIgazdobycha, Promgaz, SevKavNIPIgaz, TyumenNilgiprogaz, Giprogaztsentr, Giprospetsgaz. The above mentioned research centers have a successful background of dozens of years. *Gazprom Group* companies have been cooperating for a long time with Russian Academy of Science, Moscow State University n.a. M.V. Lomonosov, Russian State University of Oil and Gaz n.a. I.M. Gubkin, Moscow State Technical University n.a. N.E. Bauman, Moscow Power Engineering Institute (TU) and others. In 2008 *Gazprom Group* companies continued developing of production area by reconstruction of old and introduction of new capacities on the basis of progressive technologies application. *Gazprom* subsidiary companies and organizations got provided with technical and technological solutions, aimed at decrease of pollutants emissions into the atmospheric air (including the reduction of gas auxiliary

consumption and technological losses), decrease of noise related to the compressor stations etc. New treatment facilities were installed and old ones were modernized and reconstructed, in order to reduce the escape of low cleaned waste water.

The low emission combustion chambers PST are being introduced for gas pumping aggregates (GPA) of the following types GTK-10, GTK-10I, GTK-10IR, GT-750-6, GTNR-16 with the nitrogen oxide lower than 50 mg/nm³, which is the foreign best achievement.

More than 40 GPAs were equipped with the low emissions combustion chambers in 2008. Total reduction of nitrogen oxide was 3.6 thousand tons.

Gazprom subsidiary companies and organizations have continued switching their auto vehicles and household units to environmentally friendly fuel in order to minimize the negative impact on the environment. This resulted in an environmental effect of pollutant emissions reductions into atmosphere and savings of compressed natural gas (CNG) use.

The deliverance of environmental objects from hydrocarbon pollutants and oil sludge utilization are actual issues of environmental security. *Gazprom* therefore pays much attention to the development, introduction and effective application of deliverance technologies in those locations, which are polluted with oil products. In 2008 VNIIGAZ received development patents of the Russian Federation in fields of sewage treatment and clearance of oil tankers. VNIIGAZ continued its technology calibration of biologicals production and use for auxiliaries of *Gazprom* subsidiary companies and organizations. The first achievement made was the development of a biological "BIOROS" (series "Biodestructor"), which was specifically designed for an effective work in hyperborean conditions and recommended for use. All permission documents were received for the production and use of "BIOROS".

The following was done by *Gazprom* subsidiary companies and organizations within research and development in 2008.

Gazprom dobycha Nadym. In order to reduce the escape of low treated sewage, 8 treatment facilities were installed on Bovanenkovo GCF, as well as UKPG-6, UKPG-8, UKPG-9 of Kharasavevsky GCF. Along with it the treatment facilities of DKS-II of Yamsovevsky GCF were modernized.

Gazprom dobycha Orenburg. Standards of the organization were developed on technically safe exploitation of gas pipelines, which contain hydrogen sulfide, and condensate pipelines, which contain unstable condensate (VNIIGAZ); on environmental security on the territory of Orenburg gas and chemical complex; on the account order and organization of gathering, temporal storage, use, discharge, transporting, disposal of production waste and consumption distributing.

The discharge and oil sludge utilization unit at Orenburg Gas Processing Plant (U-37) was in use. The utilization of the oil sludge gave a mineral powder, which was used as an additive for road construction. In total 180.3 tons of oil sludge were processed and utilized in 2005–2008, including 55.1 tons for the year 2008. The low temperature pyrolysis unit ("Pererabotka nefteshlamov") enabled to process 505.6 tons of oil sludge into heating fuel in 2006–2008, including 319.3 tons for the year 2008.

Radiation environmental researches have been carried out on the territory and production sites (Podzemgazprom), a program of engineer surveys for the substantiation of radiation monitoring system of minerals has been developed, and main technical solutions on withdrawal and liquidation of radiation dangerous objects have been substantiated; corresponding measures on security provision during specific work and the system of complex environmental monitoring are developed, as well as the data base and the geoinformational system "Radiation security of the objects "Sapfir" and "Magistral".

Gazprom dobycha Urengoy. Rostseotekhnologia (Novosibirsk) has made an instrumental analysis of the environmental components and environmental nuisance on Urengoy OGCF (UKPG-9 case study).

Gazprom dobycha Yamburg. All preparations are completed (NPF DIEM) for the development of a regional industry environmental management system for the exploration of hydrocarbon fields under hyperborean conditions, which will enable to minimize environmental risks. In order to project a dynamic graph of the Yamburg field environmental sustainability for the last 40–50 years, a number of researches have been made (Rostseotekhnologia).

The project "Technique of group research of cluster gas and gas condensate wells under stationary work" made by Gazprom dobycha Yamburg was acknowledged to be one of the best environmental projects by the Ministry of Natural Resources of the RF in the "Environmental protection technologies" in 2008.

Gazprom transgaz Kazan. A number of researches was made to identify the onset factors of unsustainable gas supply zones, which resulted in a few recommendation on development of reconstruction of gas distribution networks of Yelabuga. In order to develop the optimal structure on technological processes monitoring and

management a complex research of gas distribution networks of Nezhnekamsk was carried out. A number of measures were developed to enhance the system reliability and organize a process of a rational gas distribution for the existing system, considering the prospects of its development.

Within the above mentioned activities the environmental impact assessment of these objects was made.

Gazprom transgaz Samara. Within the research and development made at GRS-21 an installation and test of an automatic system of an odorant feed (RPO-5000), which enabled to reduce the emission of pollutants into the atmosphere.

Gazprom transgaz Saratov. VNIIGAZ made a research in the location of Petrovsky linear part of gas-main pipeline (LPGMP) on level of the atmospheric air pollution related to the organized volley methane emissions and the dissolve of the emissions in the atmosphere under the non-stationary gas cleanup.

The three GPUs – type GT-750-6 – of Alexandrovo-Gaysky, Bashmakovsky and Petrovsky LPGMPs got a replaced structure of combustion chambers.

Gazprom transgaz Stavropol. Residential waste water treatment facilities introduced at compressor station (CS) Mozdok.

Gazprom transgaz Surgut. VNIIGAZ has started up the research on the inventory of the greenhouse gas emissions sources. On-site measurements of the methane leakages have been made on the linear part and production site of Tyumensky linear part CS-11.

Gazprom transgaz Ufa has its treatment facilities reconstructed, which has resulted in a reduction of pollutants quantity in waste water. The activities on reduction of natural gas emissions into the atmosphere continued via the technologies introduction of branches cutting-in to the system under pressure and a consumer gas generation from shutdown parts of gas-main pipelines before flaming.

Gazprom transgaz Ukhta. A noise absorbing system is installed at the complex air treatment facility RZ-65.20 of the following units: GT-6-750 at GPU №14 CS-15 of Nyuksensky LPGMP, №11 CS-16 of Yubileyny LPGMP, which enabled to cut the noise level down to the legitimate value. The system of branches and condensate gathering from the VD separators was introduced, which resulted in the reduction of the company's gas auxiliary consumption and related emissions of pollutants into the atmosphere. The equipment kit for an under-pressure cutting-in to the systems of pipelines Du 57-1420 mm was introduced. On the LPGMP of Urdomsky CS-13 25 gas ascending pipes were installed and tap junctions were bound without the gas drain.

Gazprom yugpodzemremont. During the exploration of the borehole a mobile module unit for oil and gas boreholes was used. The technology provided for the decontamination and separation of the extracted liquid and its further transportation to the treatment facilities. The utilization of the gas originated by separation, demethanization, accident escapes from the safety valves gets burnt by the horizontal flare unit. The involvement of indoor equipment into the technological process enables to prevent technological contaminants from polluting the environment.

Burgaz. A cementing complex KCS-40 is introduced in the affiliate "Center of boreholes cementing". The complex, developed by "Kostroma plant "Strommashina"", enables to reduce the production waste. The unit provides a closed cement mixing from the mobile storages and enables to decrease the emissions of pollutants to the environment.

Gazflot. A number of researches on definition of functional efficiency of fish protection device "Shutter screen with a stream gauge" at the water scoop SPBU "Amazon". The researches show, the efficiency value averaged 82.1 %. The received data stand in the absolute compliance with the requirements of SnIP 2.06.07-87 the paragraph of the fish protection and fish traffic facilities.

Mosenergo. The crucial event for the company in 2008 was the start up of the gas and steam power unit № 11 PGU-450T with a capacity of 300 Gcal/hour at the CHP-21 of Mosenergo. The start up was foreseen by the Program of development and technical modernization. The power unit provides over 100 thousand flats of Moscow and Khimki with power and heat. The energy generation is based on the gas and steam cycle of the energy generation, which increases the efficiency factor from 38 % to 51 %, decreases the fuel use by 30 % and causes the 30 % reduction of pollutant emissions into the atmosphere compared with the traditional steam units.

Gazprom Neft Group. Gazpromneft-Khantos has been equipped with the Russian first welling waste processing unit, which involves the system of the technological process CRI. The process is based on the use of welling waste pumping unit, which is provided by the Canadian company "MI SWACO". The advantage of this technology is the absolute environmental safety.

In the nomination "Environmental protection technologies" the project "Technology of welling waste processing and bed pumping" was acknowledged to be one of the best environmental projects by the Ministry of Natural Resources of the RF in 2008.

The technology of the exhaust proplant preliminary burning at the ZGM-1 unit with productivity of 10m³/hour was introduced. The unit will run equally well on diesel or associated gas.

GAZPROM AWARD IN THE FIELD OF SCIENCE AND ENGINEERING

The corporate science and engineering award is tendered every year, in order to stimulate the *Gazprom* activities aimed at development and introduction of new technologies. The tender includes large scale research and development projects in the priority directions of extraction, transport, storage, processing and use of the natural gas, which resulted in creation (improvement) and effective use of new appliances, devices, equipment or materials at *Gazprom*. The nominated works mostly contain both economic and environmental effect. For instance, the list of awarded works in 2008 (Provision of Management Committee of OAO Gazprom of October 17, 2008, №52) included the following projects:

- “Improvement of the sulphur obtaining technology at Orenburg and Astrakhan gas processing plants” (S.I. Ivanov – chief scientist; S.A. Molchanov, V.I. Stolypin, A.M. Trynov, Gazprom dobycha Orenburg; S.Z. Alexeev, K.G. Seleznyov, OAO Gazprom; A.V. Mamaev, O.E. Filatova, VNIIGAZ; E.M. Prohorov, S.G. Shpeit, Gazprom dobycha Astrakhan).

A radically new assessment method was developed, which enabled to assess the capability of the reactor catalysts at the sulphur obtaining units. The method was used to develop the complex control system of the unit operation efficiency, substantiate the switch from the imported catalysts to the domestic ones and prove the zero necessity of project catalyst protection use at the units.

The made improvement of the technologies and technological equipment of the sulphur obtaining units at Orenburg and Astrakhan GPS enabled to decrease the procurement cost on expensive import catalysts and reduce the total emissions of sulphur dioxide into the atmosphere.

- “Development and industrial introduction of a domestic mobile high efficient gas fuelling complex for vehicles refuel” (I.A. Ivanov – chief scientist; L.I. Eryomenko, A.D. Kot, A.A. Korlov, S.V. Mikhalenko, P.M. Novoselov, G.N. Timerbulatov, Gazprom transgas Surgut; V.N. Matyushechkin, E.N. Pronin, OAO Gazprom; S.A. Sisin SpetsAvto-Vostok).

As a result of this project a unique mobile gas fuelling complex was developed. The complex enables to deploy a gas fuelling network in any region, provide a sustainable twenty-four-hour supply of a consumer with the natural gas in any climate conditions. The use of the complexes elevates the consuming properties of CNG and tends to be a new branch of Target complex program of gas fuelling network and technology park development, based on the natural gas through 2007–2015. The introduction of the complex enabled to increase the working load of automated gas-fuelling compressor stations, increase the number of vehicles, running on gas, decrease the costs on purchase of fuel for vehicle exploitation, which reduces the pollution of the environment.

- “Development and industrial introduction of fixing isolation materials and technologies in gas boreholes of Senoman, Urengoy field” (G.A. Lanchakov – chief scientist; A.N. Dudov, V.E. Matveev, V.N. Moskvichev, V.A. Stavitsky, R.S. Suleymanov, Gazprom dobycha Urengoy; V.G. Griguletsky, NPTs Neftemash-Nauka); N.V. Rahimov, Gazprom severpodzemremont; A.V. Kalinkin, OAO Gazprom).

New technologies of liquidation and removal of surface water stream in boreholes are based on the use of new high technology isolating materials, which are characterized with a low toxicity and environmental safety.

INFORMATION DISCLOSURE

Gazprom Group has been accurately following the principle of the maximum information transparency concerning the environmental protection and security.

In compliance with the legislation *Gazprom Group* companies execute and submit to the executive authorities of the Russian Federation the report on the environmental impact parameters of the production activities as well as the taken measures and respective financial support.

In order to meet its commitments, *Gazprom Group* companies provide a public available access to the environmental information. This activity is in part implemented through the publications in federal and local mass media, publication of the Environmental policy or environmental commitments on the corporate web sites, as well as the annual environmental reports, bulletins, newsletters, normative documents and other materials, which will enable to make an idea of the company’s environmental protection activity. In 2007–2008 many companies of the *Group* began to publish the reports on sustainable development, which reflect their attention towards the issues of environmental safety and environmental protection.

The annual report of *Gazprom* includes a special paragraph “Environmental protection, energy saving and R&D”. The annual Environmental report of *Gazprom* has been published since 1995. The report is distributed among the federal and executive authorities, scientific, educating and social organizations. The Environmental reports for the

last 5 years and other materials about the organization and *Gazprom Group* parameters of environmental protection activity are presented on the official web site of *Gazprom* (www.gasprom.ru) under "Environmental protection". "Gazprom expo" on the regular basis publishes and distributes scientific and technical literature on the issues of environment and energy saving in the oil and gas industry. It is also responsible for the participation of *Gazprom* in exhibitions, which are among the certain aimed at demonstrating and presenting of *Gazprom* strategic international projects and results of its activities.

The information about the company's current activities and prospects, development and introduction of environmentally safe technologies and technologies of environmental protection, interviews with managers and specialists of *Gazprom Group* is published in corporate magazines of "Gazprom", "Sibirskaya neft", in corporate regional mass media as well as specialized publications like "Gazovaya promyshlennost", "Gazokhimiya", "Zashita okruzhayemykh sredy v neftegazovom komplekse", "Transport na alternativnom toplive", "Neftegaz Evrazia", "Oil & Gas Journal", "Neftegazovaya vertikal", "Neft i kapital" etc.

In order to elevate the awareness about the environmental aspects of construction projects and reconstruction of production objects, social hearings are held. One of the most debatable topics of 2008 in Russia and abroad were the projects of "Sakhalin-2" and "North stream".

Sakhalin Energy has placed information about the environmental aspects of exploration project of the Sakhalin shelf on the corporate official web site (www.skhalinenergy.ru). In 2008 the informed regularly on the project implementation status through mass media, including the Internet publications. The following issues were highlighted: river crossing during the pipeline construction in winter; monitoring of preservation programs of sea eagle and grey whales; welling and zero escape of waste water; reclamation of disturbed lands; operative reaction on oil spills; LNG flare system plant etc. In 2008 more than 20 meetings with the residents of 10 municipal settlements including reindeer breeders were held. The information on the project implementation status was presented at these meetings, including the environmental aspects.

Within the international consultations, which have been held since 2006, Nord Stream AG company (enterprise specialized in the "North stream" project) have organized 15 meeting with the representatives of state authorities of 9 Baltic region states. The so called White book was published in 2008, which contains answers to more over 200 questions and comments, received from stakeholders of all Baltic countries after the official announcement of the project as of the November, 2006.

As the result of the intensive dialog with the state authorities of the Baltic region states the Report on the environmental impact assessment of the "North stream" project was made in the cross boarder context (Espo Report). The Report will be presented in 9 languages of the Baltic region states. The responsible state authorities will provide a public available access to the Espo Report in compliance with national legislation of each country. In order to elevate the public awareness of the Baltic region countries, a number of activities were organized in 2008, such as mobile exhibition (bus tour), reflecting all project aspects; the round table with representatives of international environmental organizations in Riga. The press tour around the Siberian gas fields and production bases in New Urengoy was arranged for journalists from Denmark, Finland and Sweden. As the tour result the journalists learnt about the places of the natural gas extraction, processing and transporting, which involve the modern equipment and unique technologies, which enable the extraction from low depths. The journalists could also see the living and working in the conditions of severe climate as well as assess the efforts made to provide the gas supply sustainability.

Gazprom has established the Non-governmental environmental fund n.a. V.I. Vernadsky, which is one of the Russian biggest charitable organizations. The Fund implements educational environmentally oriented projects, represents the interests of the Russian environmental community and business with social responsibility, as well as initiates and participates in environmental protection programs, which are being developed in Russia.

Every year in association with the Fund many research and development conferences take place in Russia and abroad, as well as forums and round tables on sustainable development evolving scientist, representatives of governmental institutes, managers of production companies.

Non-governmental environmental fund n.a. V.I. Vernadsky pays much attention to the project environmental follow up of holding companies. For instance, the environmental follow up tasks of the *Gazprom* Eastern program include independent monitoring of anthropogenic impact on the Transbaikalia and Far East ecosystems in the location of pipe laying and construction of infrastructure production facilities, qualified confirmation of the EIA methods and procedures correctness with the involving of auditors of National Ecological Audit Chamber. In addition the company interacts with regional non-governmental organization to provide for the public awareness about the environmental aspects of the projects and the respective environmental protection measures. In 2003 Non-governmental environmental Fund n.a. V.I. Vernadsky and the State Duma in association with the Council of Federation of the Federal Assembly of the RF instituted the national prize, which is awarded for achievements made in ecology and contribution into sustainable development.

In 2008 the prize was won by *Gazprom* transgaz Stavropol (project "Environmental atlas of the company"), *Gazprom* dobycha Orenburg (the implementation of measures of environmental and social initiatives to ensure sustainable development in the region of operation), *Gazprom* dobycha Urengoy (project "System of environmentally efficient innovation solutions, used for gas extraction and preparation on the Urengoy OGCF").

INTERNATIONAL COOPERATION

Gazprom Group is tightly involved in the international cooperation with foreign partners on the environmental protection.

In 2008 the international environmental protection activity of *Gazprom* was implemented through both within international organizations, such as International Gas Union and European Business Congress, and the cooperation and experience exchange with foreign companies, as well as environmental protection agencies of other countries. Since 1999 *Gazprom* has been participating in the project development of "Blue Corridor". The project provides the use of natural gas as a motor fuel in international passengers and cargo transportation. The project enlists the support of the United Nations Economic Commission for Europe, European Business Congress, International Gas Union, a number of regional gas and motor associations, and received a high approve at the Great 8 Summit in Saint-Petersburg in 2006. At present three crucial branches of the "Blue Corridor" are determined: Helsinki – Saint-Petersburg – Moscow, Moscow – Minsk – Warsaw – Berlin and Berlin – Rome.

In 2008 *Gazprom* initiated the proposal to collaborate a project development of a broad gas-fuelling stations network for vehicles in Europe, including the foundation of an international consortium "Euroautogas".

On October 29–31 in 2008 within the *Gazprom* Program of the international research and development cooperation on the energy saving and environment as well as the International partnership "Methane to Markets" (in association with the Environmental Protection Agency of the USA with the participation of the Ministry of Economic Development of the RF, Federal Agency of Science and Innovations) an international research and development seminar was held on "Methane to Markets: Theoretical and Practical Aspects for Oil and Gas Complex". The seminar was dedicated to the problems of methane reduction (as a commodity and greenhouse gas) during the extraction, processing, transporting, underground storage and distribution of natural gas. The seminar resulted in the respective recommendations on the further development of the cooperation and involving of the substantial potential of the methane emissions reduction while realizing the energy and resource saving technologies.

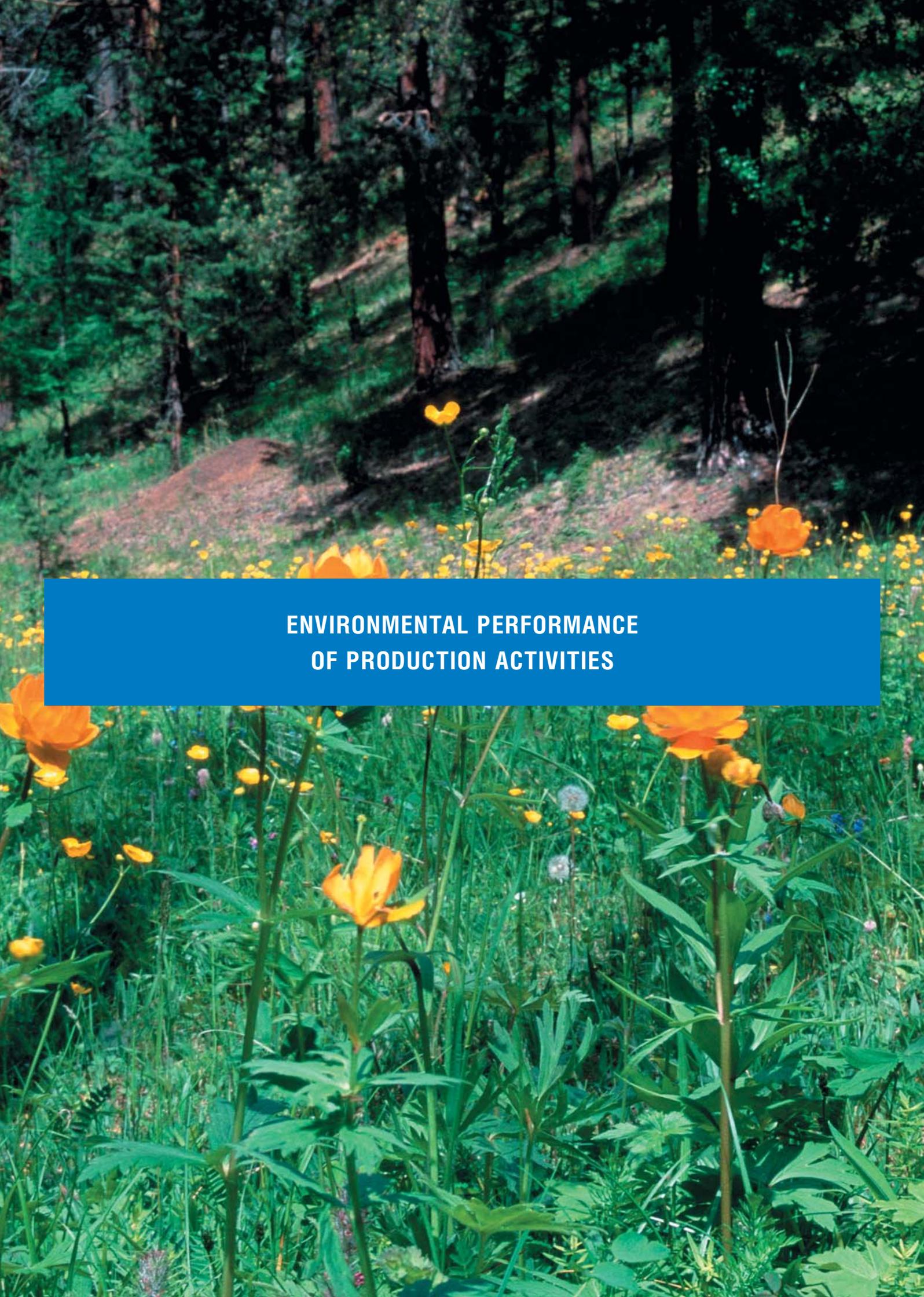
In accordance with the Program of the research and development cooperation of *Gazprom* and GDF-SUEZ (France) for 2008-2009, within the technical dialogs II.2(B) "Development of the hydrogeoecological monitoring system at UGS facilities" and IV.1(B) "Optimization of CS exploitation for reduction of gas fuel losses and emissions into the atmosphere" a number of meetings have been held and mutual prospective plans of actions have been agreed and confirmed.

Gazprom and Marubeni Corporation (Japan) have signed a cooperation protocol on technologies development and application of methane extraction from a coal bed, utilization of coalmine methane and exploration of gas hydrate fields as well as the preparation of commercial proposal on mobile compressor stations and gas fluidization technologies.

A workshop of Siemens and *Gazprom* representatives within the group of "Energy saving and environment" resulted in a correction decision of the of the Cooperation Program through 2007-2008, considering the projects, aimed at costs reduction, environmental protection and energy saving.

In 2008 *Gazprom* and E.On.Ruhrgas AG signed a memorandum of the mutual understanding for a foundation of a joint venture, which will be responsible for the issues of energy saving and efficient energy consumption. The venture's operation field will encompass the projects on introduction of the latest energy saving technologies, including the use of renewable energy sources as well as the consulting of the European biggest clients on the efficient energy consumption issues.





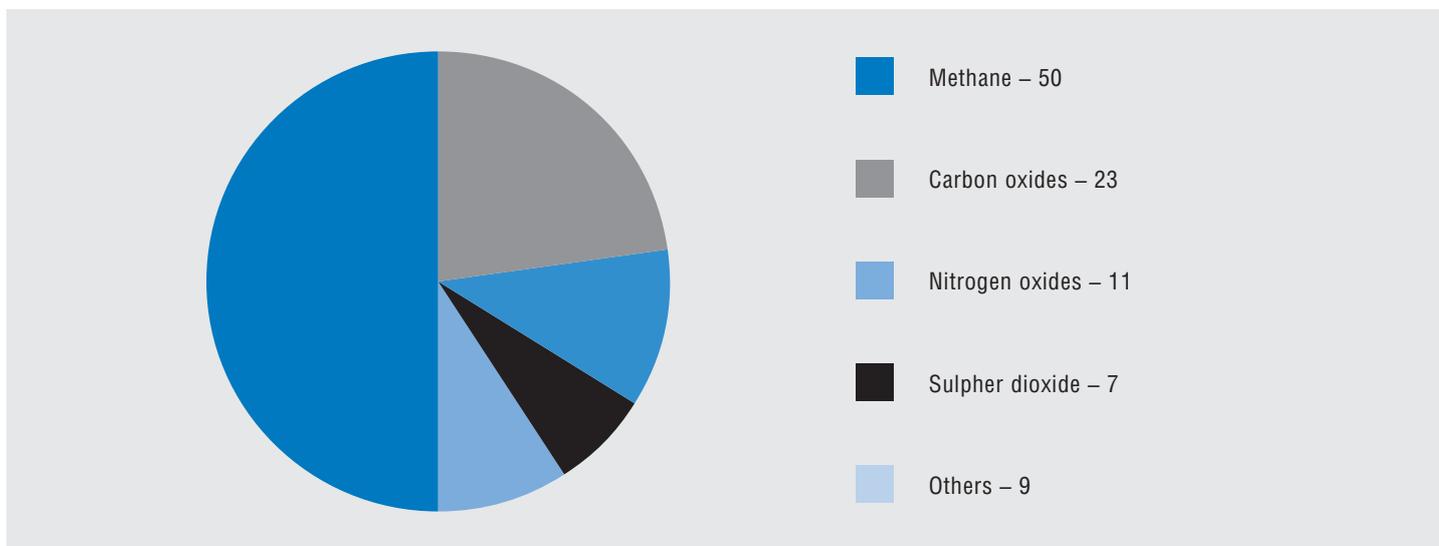
**ENVIRONMENTAL PERFORMANCE
OF PRODUCTION ACTIVITIES**

CONSERVATION OF THE AMBIENT AIR

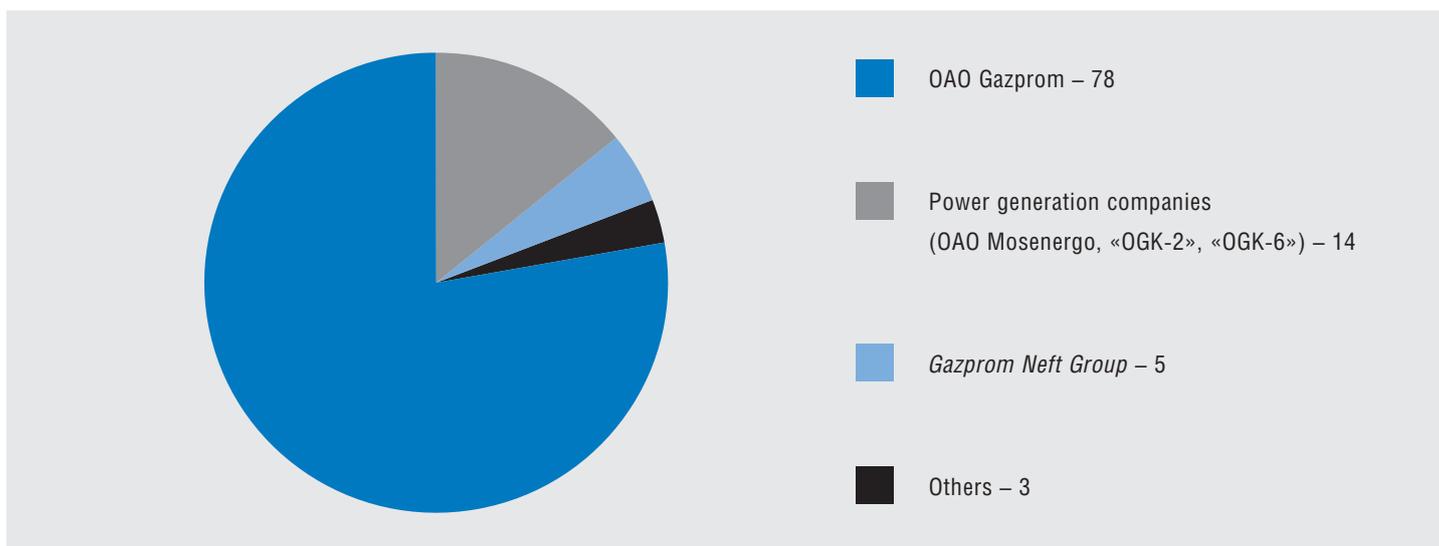
The priority of preventive activities on avoidance of and warning against the negative impacts on the sanitary and hygienic state of the open air is the framework provision of the environmental security.

The total atmospheric pollutant emissions of *Gazprom Group* companies' stationary sources were 3 340.73 thousand tons, including carbon oxide – 785.5 thousand tons, nitrogen oxide – 339.4 thousand tons, methane – 1697.8 thousand tons, sulphur dioxide – 235.5 thousand tons, solid substances – 194.6 thousand tons. The pollutant emissions of *Gazprom Group* mostly add up to gaseous substances. In 2008 the total emission share of *Gazprom* subsidiary companies and organizations, which operate in extraction, transporting, underground storage and processing of natural gas, was 78 %.

COMPONENT STRUCTURE
OF GAZPROM GROUP POLLUTANT EMISSIONS IN 2008, %



TOTAL EMISSION SHARES
OF GAZPROM GROUP COMPANIES IN 2008, %



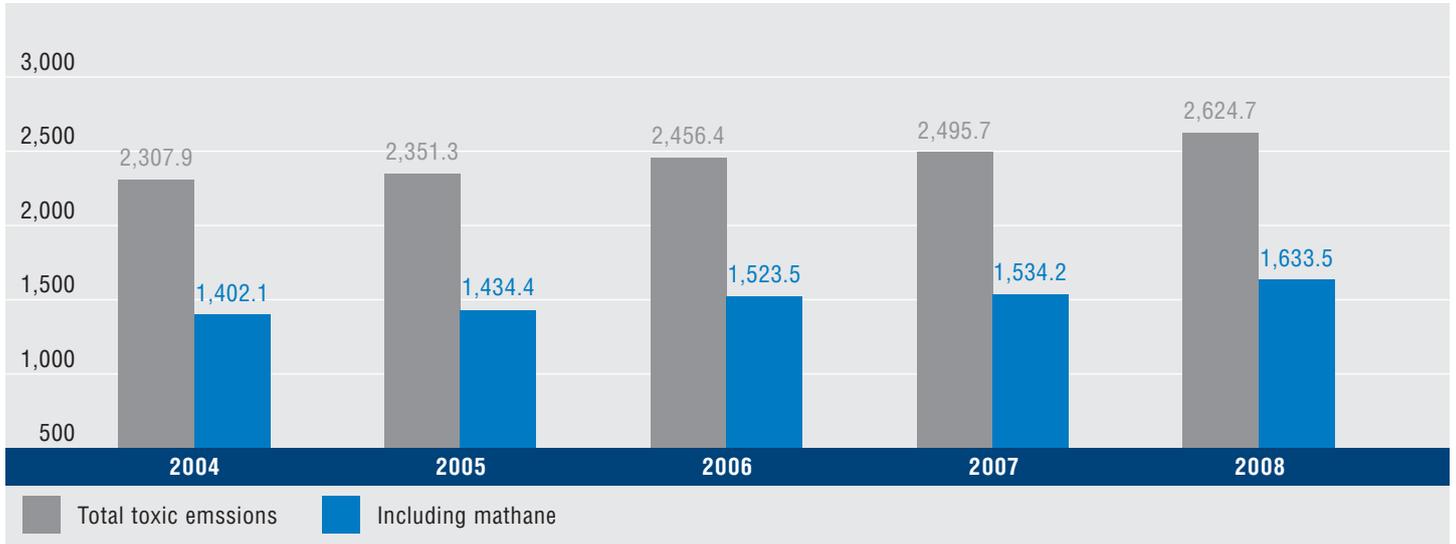
In 2008 3 200.3 thousand tons of pollutants, including 3010 thousand tons (94 %) of solid substances, originated from gas treatment systems of *Gazprom Group* companies, were absorbed and neutralized.

Gazprom Group did not exceed the emissions assigned amount in 2008. The total emissions shares of assigned amounts of *Gazprom Group* and *Gazprom* were 49 % and 38 % respectively.

Compared to the year of 2007 a small increase in emissions of *Gazprom* stationary sources (5.2%) was observed in 2008. The increase was caused by the methane emissions growth (6.5%) due to the production

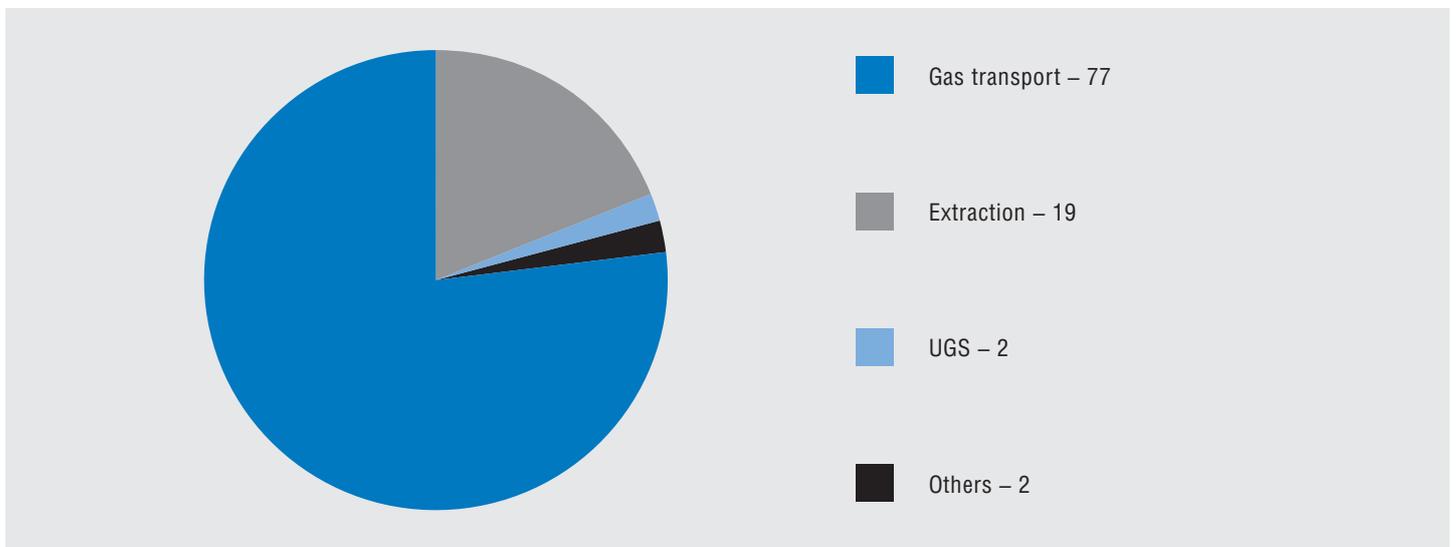
expansion as well as the complete overhaul of boreholes and preventive repairs of gas pipelines. *Gazprom* emission structure was: methane – 62.2 %; nitrogen oxides – 7.8 %; sulphur dioxides – 2.5 %; carbon oxide – 25.4 %; others – 2.1 %.

DYNAMICS OF GAZPROM TOTAL ATMOSPHERIC EMISSIONS THROUGH 2004–2008, THOUSAND TONS

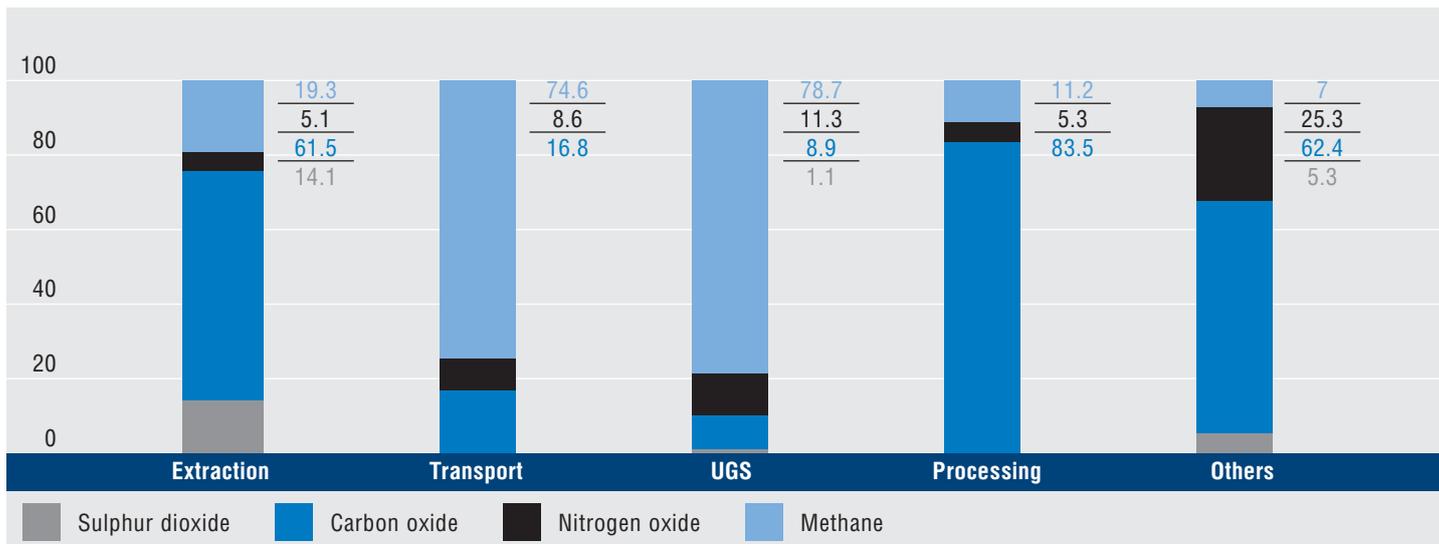


The major amount of *Gazprom* toxic emissions is shared by its subsidiary companies, involved in gas transporting (2 015.4 thousand tons) and extraction (496.5 thousand tons).

GAZPROM EMISSIONS SHARES BY ACTIVITIES IN 2008, %



GAZPROM STRUCTURE OF POLLUTANT EMISSIONS BY TYPES OF ACTIVITIES IN 2008, %



Methane emissions cover nearly two thirds of emissions generated by the system gas transport facilities. Carbon oxide makes more than a half of the emissions generated by the gas and gas condensate extraction facilities. Sulphur dioxide emissions of *Gazprom* are mostly (98 %) shared by *Gazprom dobycha Astrakhan* (45 thousand tons) and *Gasprom dobycha Orenburg* (20.7 thousand tons), which process sulphur containing raw materials.

GREENHOUSE GAS EMISSIONS REDUCTION

Gazprom Group has been intensively participating in greenhouse gas emission reduction. The organization of *Gazprom Group* companies' activity in this area meets all international procedures and Russian regulations.

Gazprom has adopted the Program of priority project implementation on greenhouse gas emission reduction and introduced standards, which regulate the activities in the greenhouse gas area. In 2008 the researches on measurement of greenhouse gas emissions at *Gazprom* facilities in different regions of Russia. The researches have been carried out by the specialists of VNIIGAZ assisted by foreign and domestic partners for many years. At present over 10000 km of gas pipelines are studied, researches are made on identification and tool measurement of natural gas leakages from technological equipment and utility lines of compressor stations (CS), gas distribution and gas measuring stations, pipe branches, gas complex preparation units, gas borehole fittings.

The researches showed: amount of leakages and auxiliary natural gas consumption are less than 1 % of the extraction.

Gazprom has its greenhouse gas emissions inventory made, the sources and amounts of greenhouse gas emissions at large have been systemized and ranged by types of operations and subsidiary companies. The role of *Gazprom Group* has been identified, which set the directions towards greenhouse gas emission reduction projects implementation in the nearest future, in order to participate in the provision of the institutional support within the Kyoto protocol. Among the greenhouse gas emission reduction projects, which are considered prospective for *Gazprom* and its subsidiary companies and involve market mechanisms of the Kyoto protocol, are joint implementation projects, such as: use of mobile compressor stations for gas drain prevention during repairs; utilization of associated gas on Urengoy OGCF; extraction and use of the Kuzbass coal bed methane.

A pilot project of greenhouse gas emissions cadastre of *Gazprom transgaz Makhachkala* has been developed and submitted to Roshydromet. The development of the greenhouse gas emissions cadastre of *Gazprom dobycha Yamburg* has been planned for 2009 on the basis of the methane emissions complex assessment made in 2008 and the adopted Program of greenhouse gas emissions assessment at *Gazprom dobycha Yamburg* facilities.

The greenhouse gas emissions inventory has been made for Gazprom transgas Surgut technological equipment of Bogadinskaya production site of Tyumensky LPGMP. The recommendations on greenhouse gas emission reduction are expected in 2009–2010.

A certain format of greenhouse gas emissions assessment system and cadastre execution was developed for Gazprom Group.

In 2008 a scheme project implementation “Use of mobile compressor stations for gas drain prevention during repairs of gas main pipelines of *Gazprom*”.

The recommendations on greenhouse gas emissions regulation and reduction for Bovanenkovo – Ukhta – Torzhok system, which is under construction. The made assessment of greenhouse gas emissions and efficiency of energy saving measures at Yamalskaya gas transport system states the construction of Bovanenkovo – Ukhta pipeline provides a 10 % reduction of gas fuel consumption and greenhouse gas emissions.

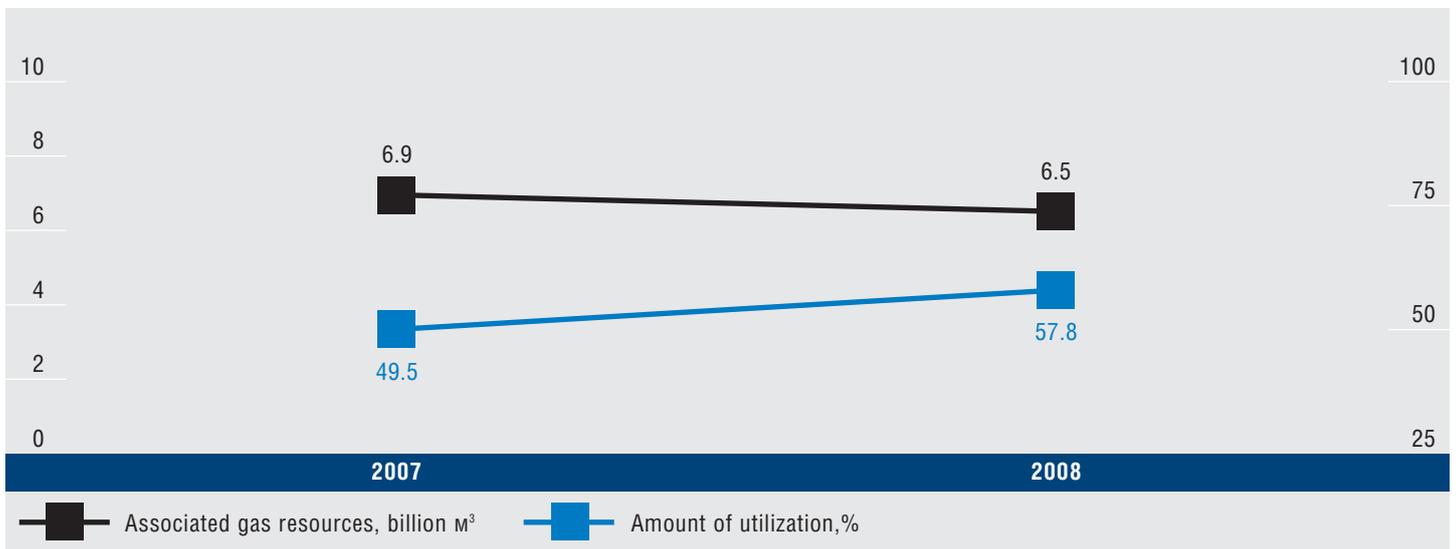
In 2008 within the preparations for the XXII Winter Olympic Games and XI Paralympics in 2014 *Gazprom* facilities in Sochi have reported on the greenhouse gas emissions inventory, along with it proposals on the concept and program of greenhouse gas emission reduction and increase of removals have been made to ensure the principle of a “zero carbon balance”.

ASSOCIATED GAS IN USE

The increasing amount of the associated gas use is supported by the governmental strategy of the processing industry development and reduction of production companies’ impact on the environment.

In 2008 *Gazprom Group* extracted about 6.5 billion m³ of associated gas, 3.7 billion m³ of which were used, the losses made 2.7 billion m³. *Gazprom Group* utility degree of associated gas use is 57.8 %, including “*Gazprom Neft*” – 46.8 %.

PARAMETERS DYNAMICS OF ASSOCIATED GAS USE AT GAZPROM GROUP



The average indicator of associated gas use of *Gazprom* is higher than the indicator of *Gazprom Group* at large and makes 83.8 %, whereas *Gazprom Neft Orenburg*, *Gazprom dobycha Orenburg*, *Gazprom pererabotka* has made it up to 100 % each.

Against 2007 the associated gas use at Gazprom Group increased by 8 %.

EXTRACTION AND USE OF ASSOCIATED GAS AT GAZPROM GROUP IN 2008

Company	Resource, million m ³	Amount in use	
		Million m ³	Share, %
Gazprom neft Orenburg	497.51	497.51	100.0
OAO Tomskgazprom	8.0	0.0	0.0
Gazprom dobycha Orenburg	34.06	34.06	100.0
Gazprom dobycha Urengoy	1,330.0	1,028.1	77.3
Gazprom pererabotka	24.2	24.2	100.0
Kubangazprom	36.54	32.95	90.2
OAO Servisneftegaz	0.06	0.0	0.0
OAO Gazprom total	1,930	1,617	83.8
OAO Gazprom Neft	4,569	2,138	46.8
Gazprom Group total	6,499	3,755	57.8

Gazprom dobycha Urengoy is planned to finish the construction of CS-1,2 at CPF-1,2 of Urengoy OGCF, which should result in the increase of associated gas use up to 100 %. Kubangazprom is planning to use 100 % of associated gas by means of placing in operation of a modular oil and condensate processing unit (UKPNK).

A medium-term program through 2008-2010 "Utilization and efficiency enhancement of associated gas use" is being implemented at OAO Gazprom Neft. The program is aimed at increasing the use of associated gas up to 95 % by 2011. The most important projects for the program are: the joint construction with OAO Sibur Holding (50 %) of a gas processing station with the capacity of 1 billion m³/year, which will process the associated gas of Yuzhno-Priobskoe oil field; construction of "Yuzhno-Priobskaya" GTPS (installed capacity of the first order is 48 MWt, second order – 48 MWt); construction of "Muravlenkovskaya" GTPS with the capacity of 60 MWt; construction of the general system of pipelines at Vyngapurskaya CS and a CS nearby Yarinerskoe field; construction of the general system of pipelines for the Gazpromneft Vostok associated gas utilization. In 2008 the share of associated gas use at OAO Gazprom Neft increased by 11 % comparing with the year of 2007.

Since 2008, in accordance with the corporate Program of Research and Development, Gazpromrazvitie has been developing a technical complex of measures, aimed at utilizing of associated gas of *Gazprom* fields, including the fields of OAO Gazprom Neft. Within this work the Concept of creation and development of a complex system of associated gas utilization in the system of *Gazprom* was developed, as well as the primary measures, which will provide for the increase of associated gas use on the fields of *Gazprom Group* to be no less than 95 % by 2011.

Gazprom provides the priority input of associated gas into the integrated gas supply network. The input meets the industry requirements.

In 2008 the Board of Directors of OAO Gazprom endorsed the Development Strategy of gas chemical and gas processing complexes of *Gazprom*, which is aimed at increasing of the extraction degree and processing of natural and associated gas valuable components into a product of a high quality and added value.

At present *Gazprom* is implementing the investment projects of gas and chemical complex construction in Novy Urengoy, reconstruction of gas processing capacities at Gazprom dobycha Astrakhan and Gazprom dobycha Orenburg. *Sibur Holding* has also started implementing its program on development of associated gas processing capacities.

WATER USE AND PROTECTION OF WATER OBJECTS

Minimization of water objects pollution and improve of water use efficiency in technological processes is an important contribution into the water resources management.

In 2008 *Gazprom Group* companies (excluding OAO Sakhalin Energy and TGK-1) took in (out) 4 135.4 million m³ of water, 69.8 % of which was spent on the auxiliaries, 1 % was passed over to other consumers. The water removal of *Gazprom Group* made 4 115.9 million m³.

AGGREGATED PARAMETERS OF WATER USE OF GAZPROM GROUP, MILLION, M³

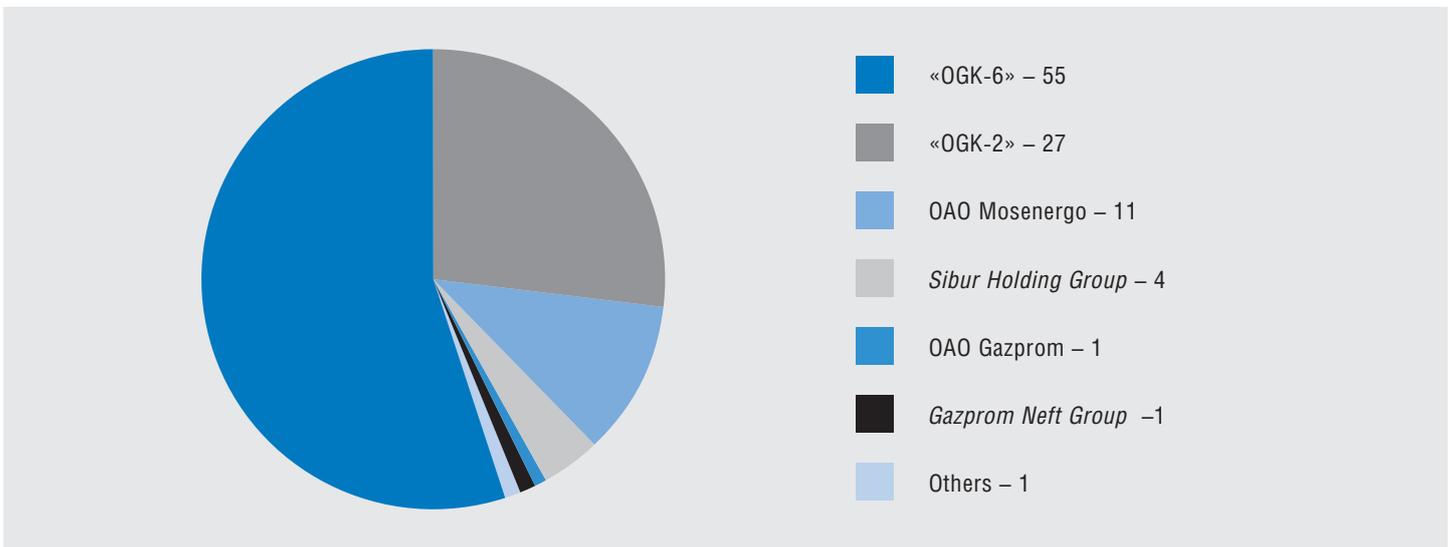
Water intake	4,135.4
Auxiliary use	2,886.8
Water removal	4,115.9
including	
into the surface water objects	3,895.1
normatively clean (no treatment) and normatively treated at the facilities	3,853.1

Reference. The difference between the amount of water auxiliary used and the total amount of water removed arises, when considering the discharges of external organizations, which are treated at the facilities of *Gazprom Group* companies.

Power generation companies (OAO Mosenergo, OGK-2, OGK-6) amount for 93 % (3 849.7 million m³) of the total water consumed by *Gazprom Group*. The water consumption of *Gazprom* was a bit over 2 %, the rest of *Gazprom Group* companies amounted for about 5 %.

The water removal structure of *Gazprom Group* has a lot in common with the structure of water consumption: energy sector (OAO Mosenergo, OGK-2, OGK-6) is responsible for 93 % (3858.8 million m³) of the total amount of sewage water (4115.9 million m³).

GAZPROM GROUP STRUCTURE OF WATER REMOVAL BY MAIN COMPANIES, %

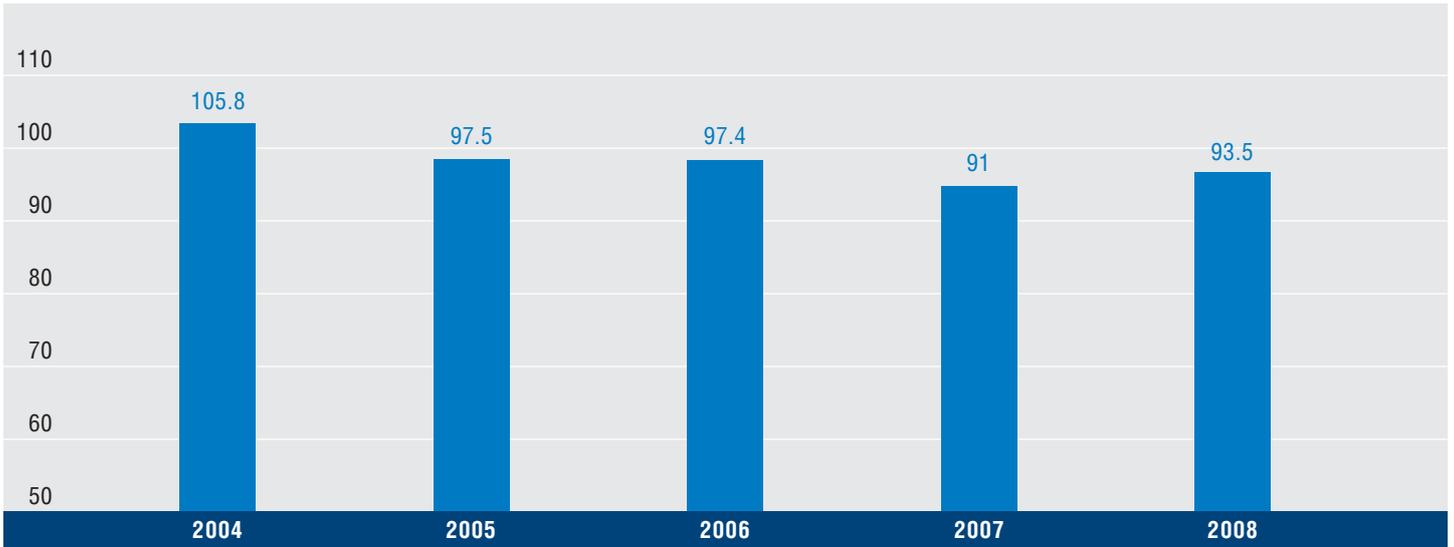


Gazprom Group data show that 3 895.1 million m³ (94.6 %) of discharges, 3853.1 million m³ of which were normatively clean (no treatment) and normatively treated at the facilities, were removed into the surface water objects.

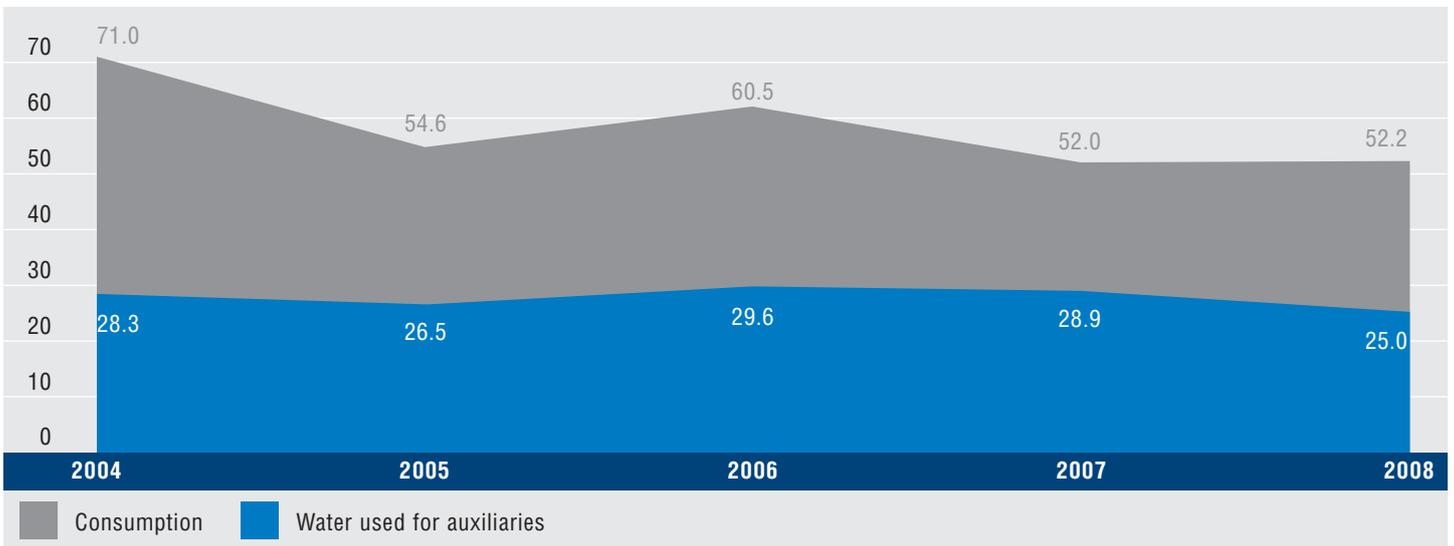
99 % of *Gazprom Group* waste water released into surface water objects is categorized as “normatively clean” and “normatively treated”.

Gazprom subsidiary companies and organizations consumed 2.2 % of *Gazprom Group* total water consumption. The taken measures on rational water use, including the compliance with the technological normative documents on the water use, resulted in a considerable reduction of water consumption (by 11.6 %) in 2004–2008.

PARAMETERS OF THE TOTAL WATER INTAKE OF GAZPROM IN 2004–2008, MILLION M³

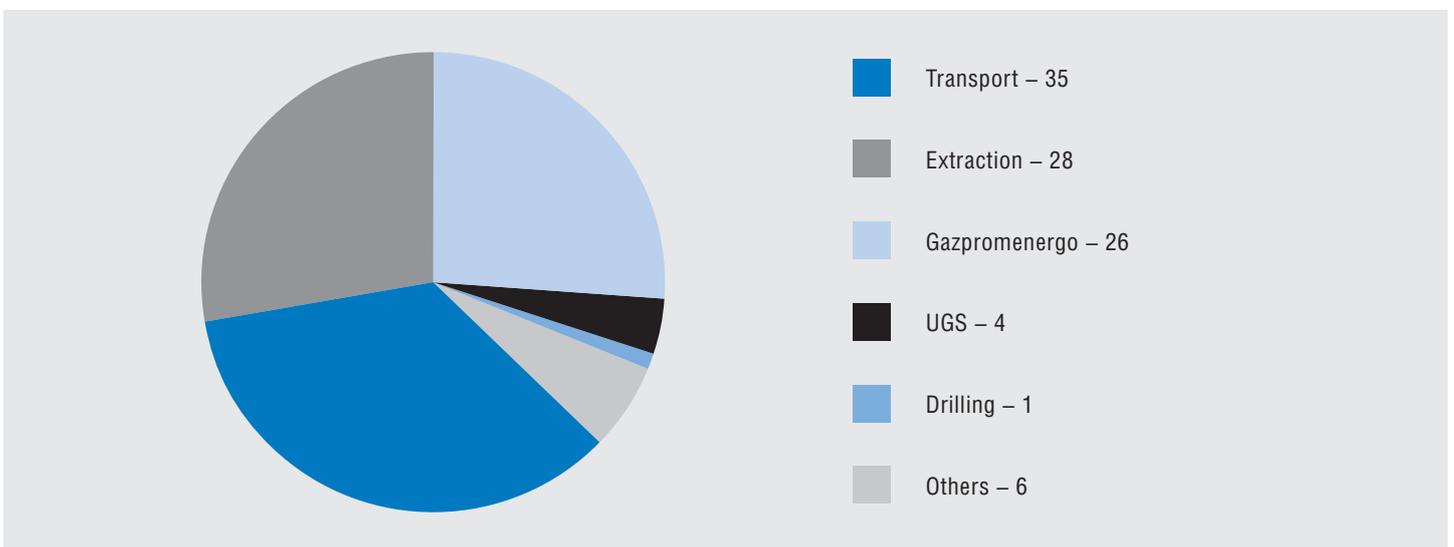


DYNAMICS OF GAZPROM WATER AUXILIARY CONSUMPTION IN 2004–2008, MILLION M³



As shown in the structure of *Gazprom* water consumption, the most of water is consumed by gas main pipeline transport and extraction of natural gas.

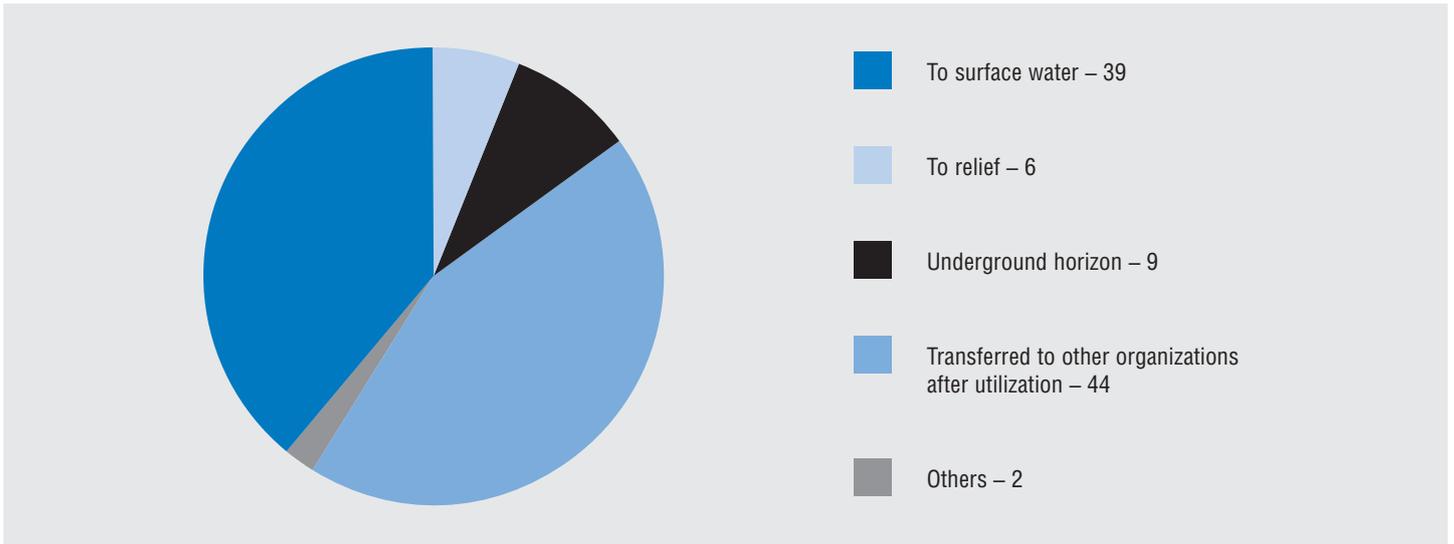
STRUCTURE OF GAZPROM WATER CONSUMPTION IN 2008, %



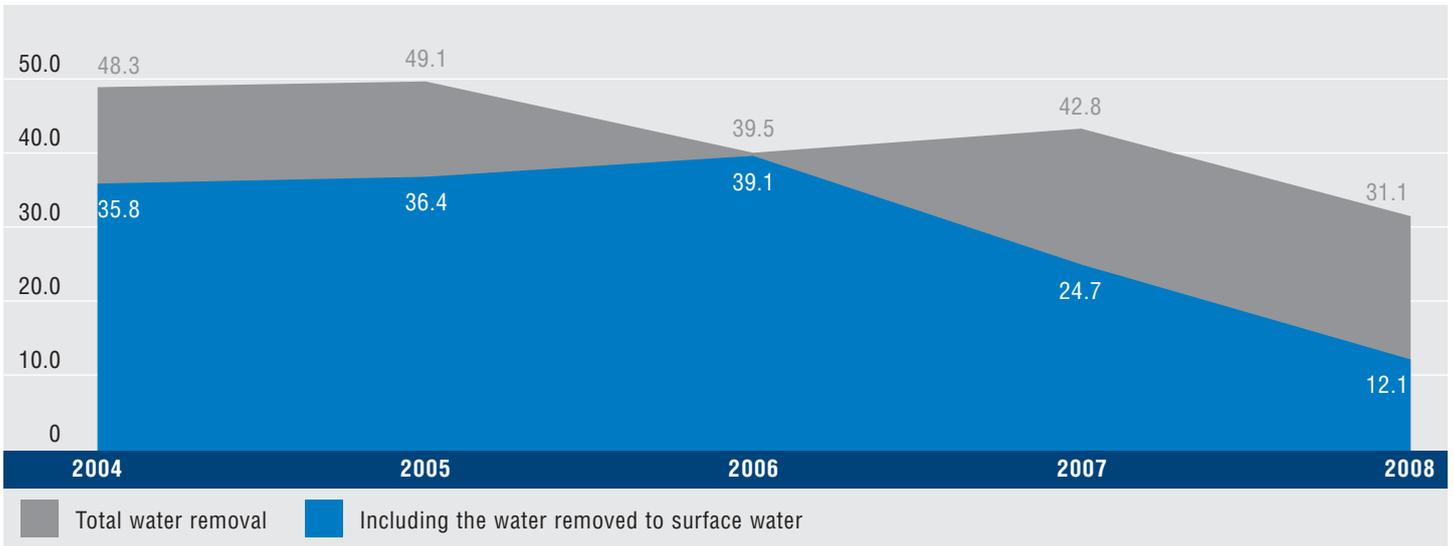
Gazprom share of water removal in *Gazprom Group* is about 1 %. In 2008 *Gazprom* water removal from production facilities – comparing with the year of 2007 – decreased from 42.8 to 31.1 million m³ (by 27.3 %). In 2008 new systems of recycled and repeatedly-successively water utilization were introduced in *Gazprom*. The capacity of the systems is 3603.2 thousand m³/year, which caused the increase in water use up to 280.4 million m³ (by 85 %) compared with the year of 2007.

The amount of recycled and repeatedly-successively water utilization of *Gazprom* grew by 85 %. Water removal from production facilities decreased by 27 %.

WATER REMOVAL STRUCTURE OF GAZPROM BY CATCH-WATER IN 2008, %



WATER REMOVAL AT GAZPROM 2004-2008 MILLION M³



In 2008 new treatment facilities (total productivity 795.1 thousand m³/day) were introduced. A considerable reduction of sewage discharges into the surface water, over 50 %, was mainly caused by the reduction of water removal at large. The discharge of waste water has considerably decreased (by 62 %) from 17703.1 thousand m³ down to 6768.9 thousand m³.

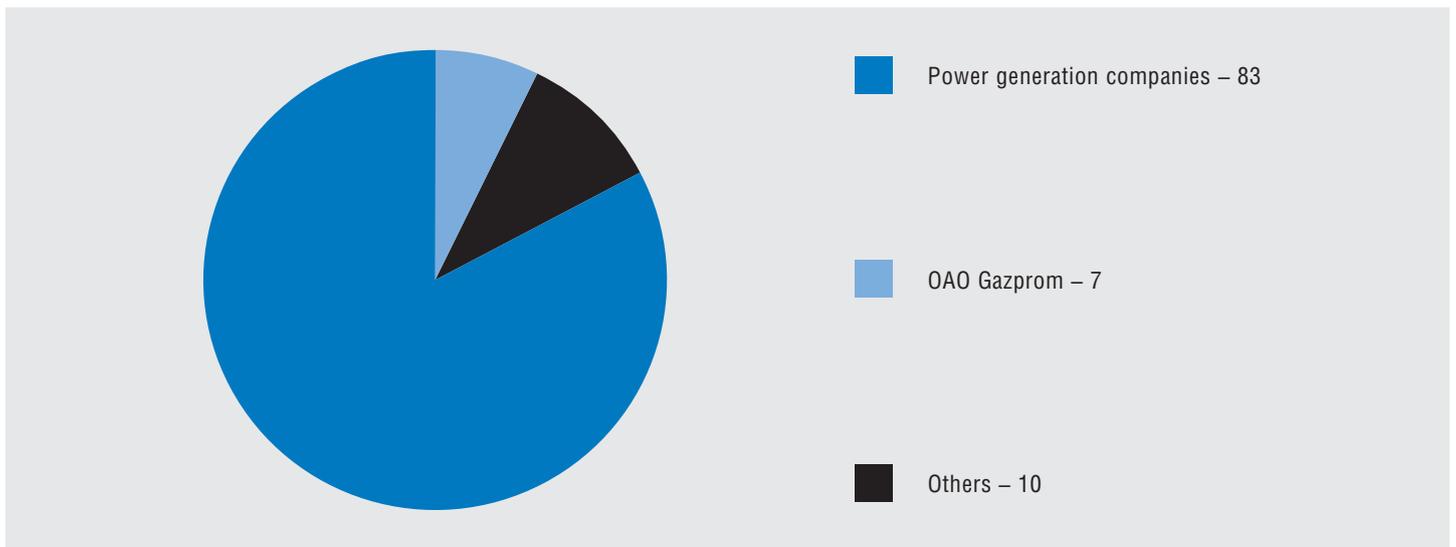
For *Gazprom* discharge of waste water into surface water has decreased by 50 %, including sewage water by 62 %.

WASTE MANAGEMENT

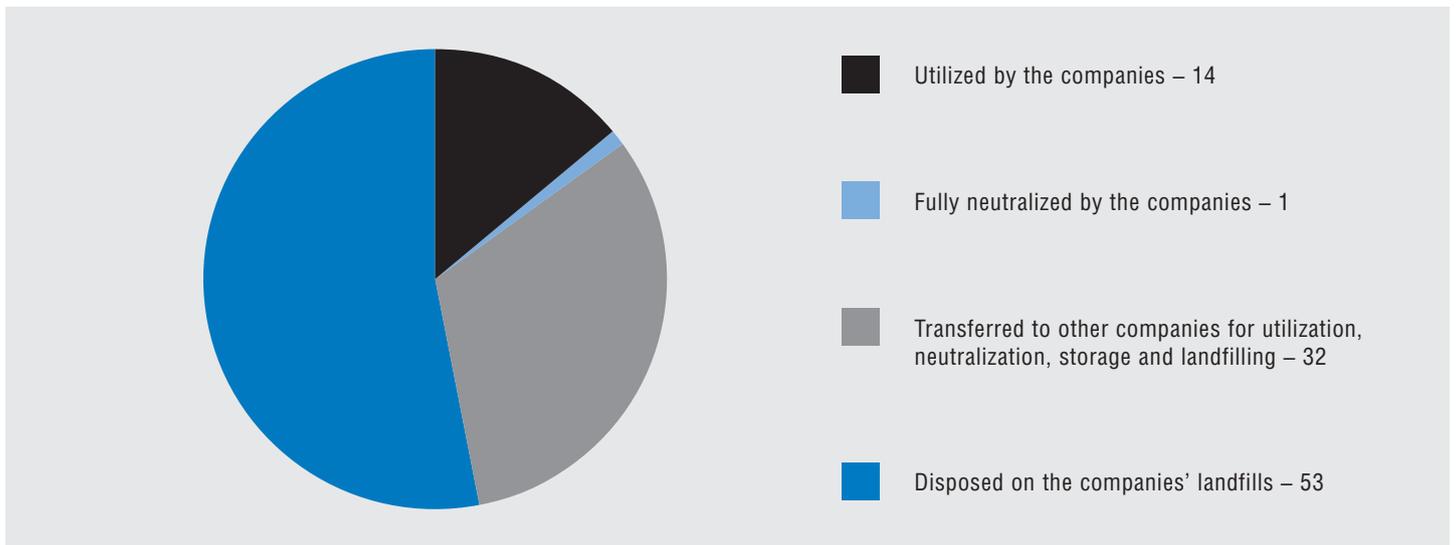
The framework principle of *Gazprom Group* states in reduction and prevention of waste generation, development of environmentally safe technologies of waste processing, neutralization, utilization and use as well as minimization of risks, which relate to the waste disposal to the environment.

In 2008 *Gazprom Group* companies amounted for 4 085 thousand tons of production and consumption waste. The most waste emissions are shared by power generation companies (ОАО Мосэнерго, ОГК-2, ОГК-6) – 3 378 thousand tons, which were mainly low hazardous of ash and sludge waste (ASW). Gazprom share of total waste emissions is 7 %.

GAZPROM GROUP SHARE IN TOTAL WASTE EMISSIONS IN 2008, %

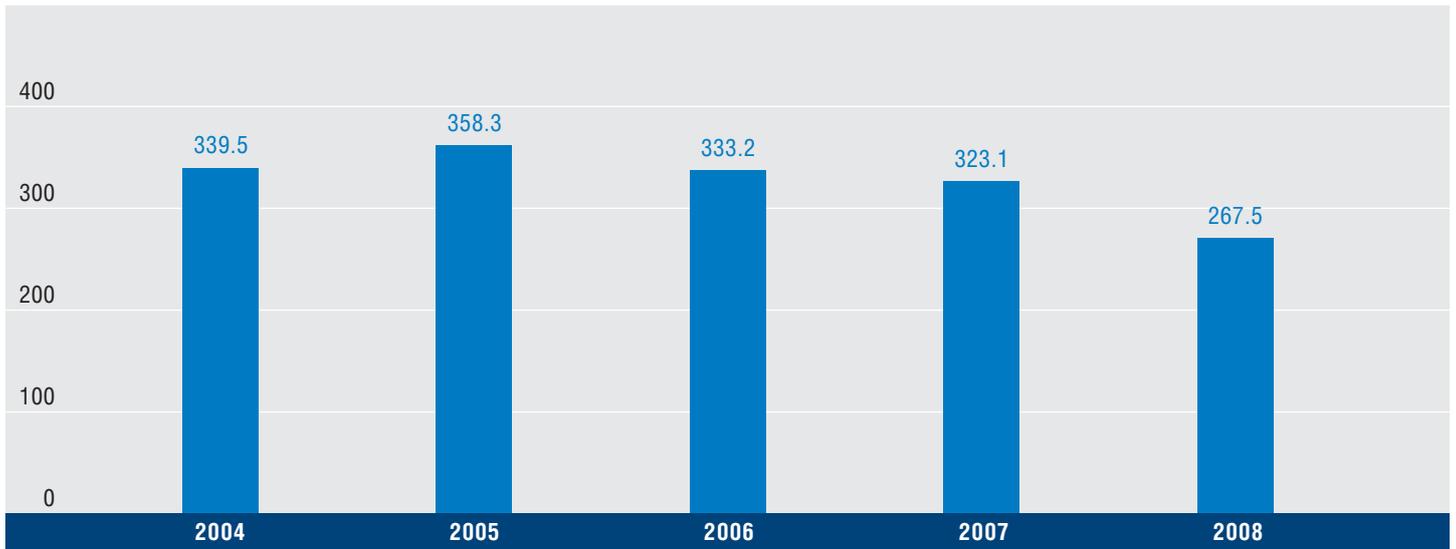


GAZPROM GROUP STRUCTURE OF WASTE HANDLING IN 2008, %



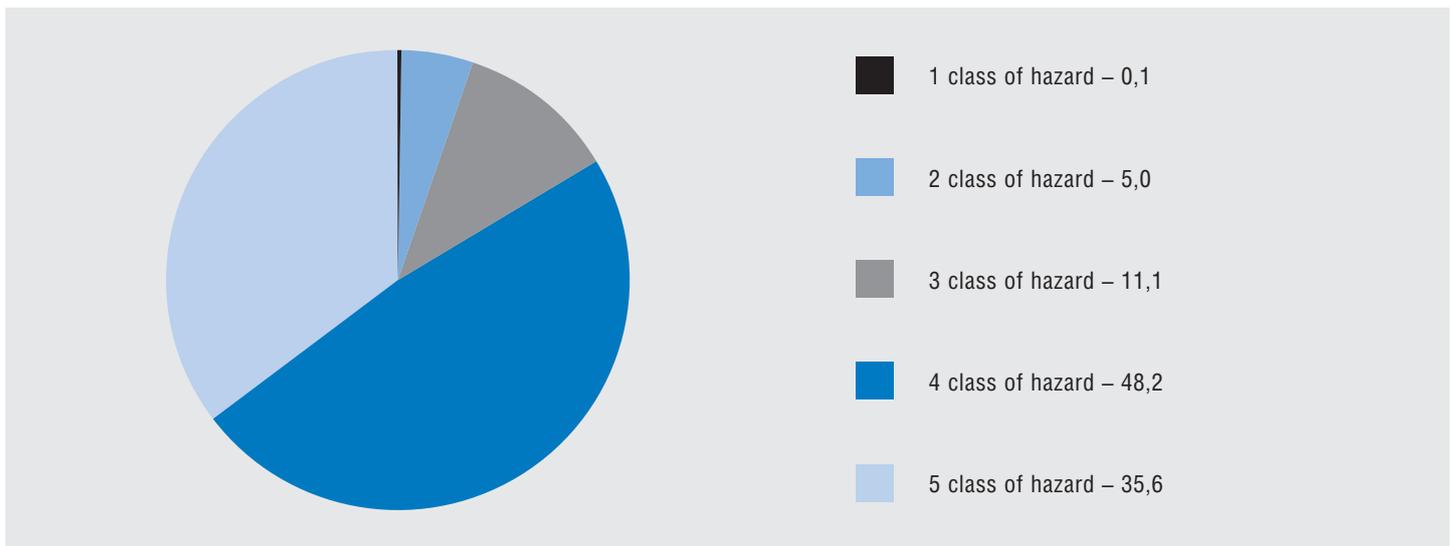
ОГК-2 amounts for the most of the waste, disposed on the owned landfills (86.6 %). In order to solve the problem of the accumulated ASW, a number of measures on the waste utilization management were developed, including the waste management in construction industry, as well as on the application of existing quarry refill technology instead of ash and sludge landfills.

WASTE FORMATION DYNAMICS AT GAZPROM IN 2004–2008, THOUSAND TONS



Gazprom has performed a 17 % decrease of waste as compared with the year 2007. Over 80 % of waste refers to the IV and V class of hazard for the environment (low and almost non toxic).

GAZPROM STRUCTURE OF WASTE COMPOSITION BY TOXICITY, %

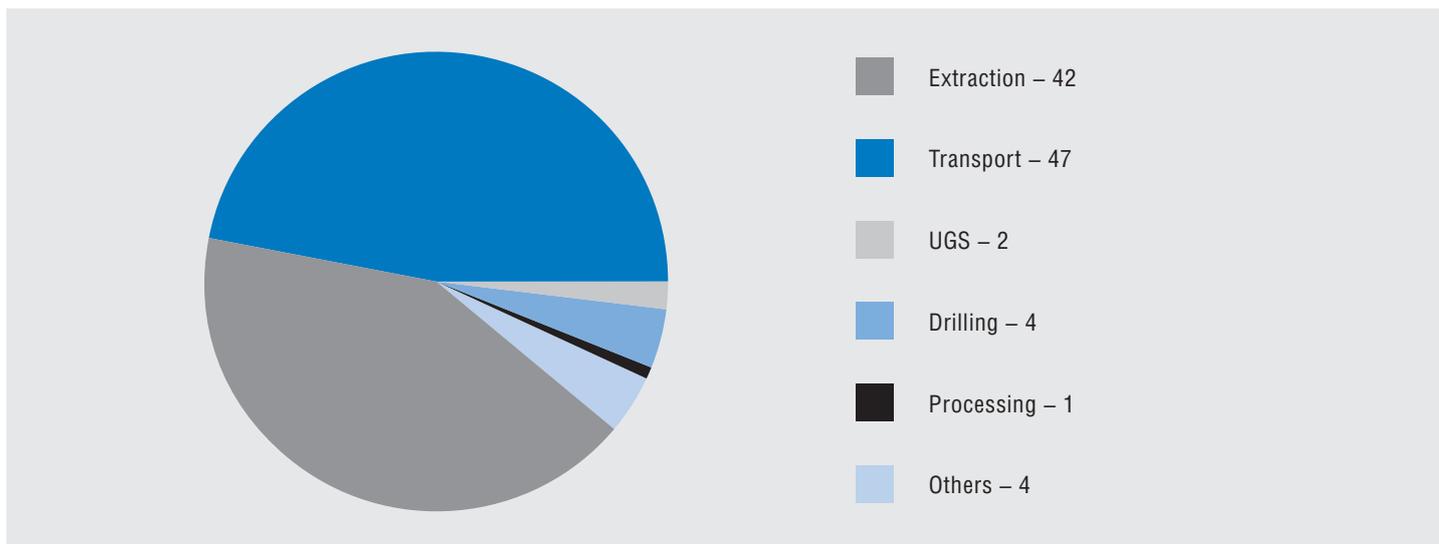


The essential share of waste emissions is taken by *Gazprom* operations like gas main pipeline transport and natural gas extractions.

WASTE PERFORMED BY GAZPROM ACTIVITIES IN 2008, THOUSAND TONS

Types of activities	Waste amount
Gas main pipeline transport	125.3
Natural gas extraction	112.4
Drilling	11.2
Underground storage	4.8
Natural gas processing	3.8
Others	10.0
Total	267.5

STRUCTURE OF WASTE EMISSIONS GENERATED BY GAZPROM ACTIVITIES IN 2008, %



Gazprom subsidiary companies and organizations accumulated 38.6 thousand tons of waste products by the end of the year, which was 18 % less than in 2007. The reduction of accumulated waste products was caused by the restructuring of *Gazprom* and a 14 % increase of neutralized waste share.

In 2008 against the year of 2007 *Gazprom* managed to:

- reduce the amount of waste emissions by 17 %,
- increase the amount of processed waste by 14 %,
- decrease the amount of waste products accumulated by the end of the year by 18 %.

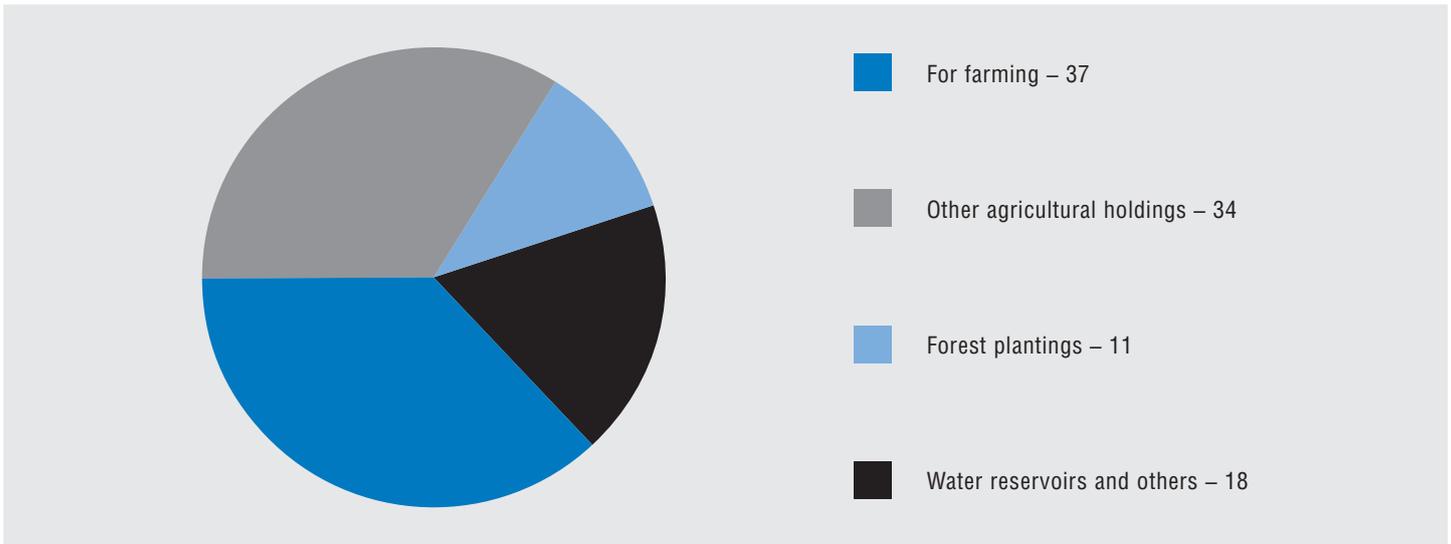
LAND RECLAMATION

The land use of *Gazprom Group* is based on methods, which provide the conservation of the existing ecosystems and the land ability to be the foundation of human further activities.

Gazprom Group has provided and implemented a number of measures on land conservation, which are based on the principle of “limitation of the anthropogenic impact on the environment”. The principle is especially important for the soil and land conservation in the Northern regions. The measures include the application of technical solutions, which enable to reduce the territory of the economic land fund, as well as the technical and biological reclamation.

In 2008 the territory of 12 990.9 ha of was disturbed by *Gazprom Group* (excluding OAO Sakhalin Energy and TGK-1), 6 354.6 ha were waste lands. *Gazprom Group* rehabilitated 8 289.9 ha of lands, 70% of which became eligible for household and farming.

LAND REHABILITATION OF GAZPROM GROUP SORTED BY HOLDINGS, %



A considerable scope of rehabilitation work was done by Sakhalin Energy. This resulted in a 2 times the decrease of 2007 of disturbed lands by the end of 2008, which was 1.6 thousand ha.

Within the “Sakhalin-2” project the main emphasis was made on the absolute rehabilitation of land parts, allocated for pipelines construction. A number of permanent erosion control facilities were constructed, many of which are aimed at stabilizing of riverbanks. With the regards to these targets reno mates and gabion baskets were used. Technical reclamation included addition erosion control measures on the installation of slope breakers, geotextiles and grainage ditches, stone cover and specific erosion proof materials. Along with the traditional methods, technologies of grass air and hydro sowing were involved during the biological rehabilitation.

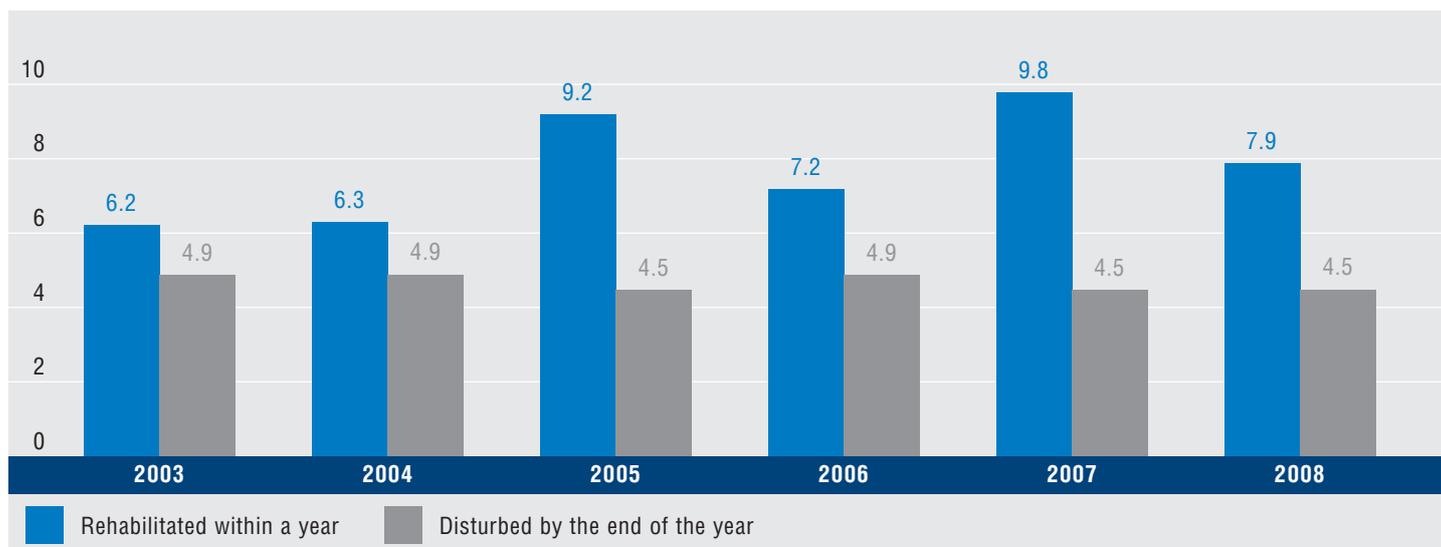
Oil pollution of lands is an important issue for *Gazprom Group*. *Gazprom Group* system of reaction on oil and oil products spills includes all necessary equipment and technical tools, plans of oil spills liquidation, as well as accident crew.

For instance, an emergency group on oil spill is formed at Sakhalin Energy. The Administration of Sakhalin region, corresponding institutes and other enterprises, operating on the island, signed a joint agreement on prevention and liquidation of emergency consequences, including oil spills. The agreement is aimed at mobilizing of material and human resources in case of an emergency. The land and marine trainings on liquidation of emergency oil spills at winter time were organized in December, 2007 and March, 2008.

In order to reduce the disturbed land territory OAO Gazprom Neft applies a pitless drilling on some of its fields. Modern preparations are used for rehabilitation. They are activators of biological natural destruction of oil, as well as planting of districted plants.

The total area rehabilitated by *Gazprom* was 7.9 thousand ha, which was 78 % *Gazprom Group* land reclamation. The indicator stands for the annual average values of reclamation and development of *Gazprom* disturbed lands. About 70 % of the lands were reinstated to the economic fund. The territories which are considered disturbed (24.5 thousand ha by the end of the year) also decreased by more than 47 %.

SCOPE OF WORK ON LAND RECLAMATION OF GAZPROM IN 2004–2008, THOUSAND HA



Gas transport companies cover 70 % (5.5 thousand ha) of rehabilitated lands in 2008; 28.9 % (2.3 thousand ha) was rehabilitated by subsidiary companies and organizations, involved in extraction of hydrocarbon raw materials.

Gazprom gas transport companies disturb the lands by means of construction and repair of gas main pipelines. The land areas of Northern regions get sown with forest grains, which are highly resistant to dramatic temperature and ground humidity fluctuations. Biological is carried out to prevent or liquidate progressing of cryogenic processes, fixation of sandy grounds and wind and water erosion bed, as well as to restore natural landscapes. In 2008 Gazprom transgaz Yekaterinburg, Gazprom transgaz Nizhny Novgorod, Gazprom transgaz Saratov, Gazprom transgaz St. Petersburg completed a full reclamation of disturbed lands. A big scope of work was implemented by Gazprom dobycha Yamburg (1 125.8 ha), Gazprom transgaz Ufa (1 014 ha), Gazprom transgaz Ukhta (713.9 ha), Gazprom dobycha Urengoy (524.8 ha).

In order to select optimal methods of conservations and reclamation of disturbed lands, Gazprom dobycha Yamburg has a classificatory of disturbed lands developed. The classificatory is based on components of tundra ecosystem (ground, water system, soil, vegetation), landscapes of ecosystems foundation, weather and climate factors and main types of anthropogenic impact on the ecosystems. Environmental inventory enabled Gazprom dobycha Yamburg to substantiate its environmental protection measures against technical and economic factors, prove the possibility to considerably reduce the scope of land work, input rates of turf, seeds, fertilizers, removal lime treatment.

In 2007–2007 Gazprom transgaz Ukhta carried out a technical and biological rehabilitation of municipal solid waste landfill at the linear part of Yubileyny. Micropreparations were used for rehabilitating work in oil polluted parts.

PROTECTION OF BIODIVERSITY AND THE TERRITORIES OF TRADITIONAL NATURE USE

Gazprom Group provides for biodiversity protection in the location of operation by means of the accurate compliance with the legal requirements and corporate standards of environmental security as well as through the reduction of a negative impact on the environment.

During the exploration of new oil and gas fields, pipe laying in Eastern and Northern parts of Russia the issue of biodiversity protection important from the point of view both environment protection and social economic aspect. The welfare of indigenous people in these regions, which lead a traditional life style, highly depends on the state of the ecosystems. Extinction of primary resources for living of the indigenous people and destruction of their traditions, customs and culture, which count on hunting, reindeer breeding, fishing and gathering, may be aroused by any negative impact on the biota of these territories.

Construction and exploitation of production facilities include measures on protection of flora, fauna and their inhabitant.

In 2008, for example, Nord Steam AG presented the optimized S-route around the island of Bornholm. The project correction was caused by a thorough assessment of different factors, such as security of navigation and minimization of the environmental impact. The pipeline route avoids the natural park zones and areas of intensive navigation and fishing.

In accordance with the state environmental expertise, the annual monitoring and population assessment of grey whales in the region of Okhotsk and Korea, which are close to extinction and included into the Red Book (the latest data say 130 species), is carried out within the project of Sakhalin shelf exploration. For the researches development of 2002–2007 in May 2008 the Federal service of environmental supervision endorsed a new three-year program of grey whales population monitoring in the region of Okhotsk and Korea. The program is aimed at minimizing of the impact on these mammals whilst implementing the project.

In 2008 for the scope of work done on the protection of grey whales Sakhalin Energy won the prize in the nomination of “The best environmental project” founded by the Ministry of Natural Resources of the Russian Federation.

ОАО Sakhalin Energy is a co-founder of the “Sakhalin salmon initiative”. The agreement between ОАО Sakhalin Energy and the “Wild Salmon Center” (USA) on the joint financing of salmon conservation program was signed in February, 2008. The program budget is 8.8 million dollars. In 2008 the program included the monitoring of salmon fish in the three rivers of Anivsk region: Taranai, Kura, Naicha.

In 2008, in accordance with the offset and environmental protection measures taken by *Gazprom* through 2004–2008, which are aimed at conservation of the Ob and Tazov Gulf ecosystems, Gazflot took part in “Sotrudnichestvo” program of Yamalo-Nenets AD administration on conservation of the indigenous inhabitant and traditional household of the population of Tazov region. It also participated in the construction of an interregional plant for an artificial reproduction of valuable types of commercial fish in the Middle Ob on the territory of Khanty-Mansi AD – Yugra. The plant capacity will be 41.6 million fries per year, including 2.5 million of species of Siberian sturgeon, which will enable to exclude it from the Red Book of Russia in prospect.

As a support of the conservation and restoration of the Asiatic white crane population in 2008 Gazprom dobycha Yamburg made a donation of 500 thousand rubles to the “Sterkh” fund, founded in 1999 by the provision of the Governor of Yamalo-Nenets AD.

In 2008 the construction of a unique size pipeline system from the semi-island Yamal was started. The complex of measures on flora and fauna protection is included into the project of construction and the further exploitation of Bovanenkovo GCF and gas transport system of Yamal – Ukhta. Here comes the soft mode of the territory exploration; application of technical solutions, which minimize the square of disturbed lands, technical and biological reclamation of lands; avoidance of construction and montage work during the bird nesting at spring time. Along with it the measures involve the fish protecting units installed into the surface water pump facilities; arrangement of a free way migration of the caribou herds via the specific trespasses through linear communications without damaging the traditional ways of migration.

RESULTS OF STATE ENVIRONMENTAL CONTROL

In 2008 the results of state inspections didn't identify any considerable unconformities of *Gazprom Group* with the environmental legislation of the Russian Federation.

The planned work on provision of environmental security of production objects, introduction of latest technologies and improve of environmental protection management system of *Gazprom Group* resulted in a reduction of the number of unconformities with the environmental legislation and zero infringements, which led to a considerable harm to the environment. Total penalties and liquidated damages make 4.29 million rubles.

In 2008 the Ministry of Natural Resources of the RF recalled its claims on the implementation of the “Sakhalin-2” project, the environmental protection plan was fulfilled. In 2008 no considerable administrative disciplines for the legal environmental unconformities were charged or sued towards the project.

ОАО Gazprom subsidiary companies and organization (17 gas transport, 7 gas extracting companies, Gazprom UGS Facilities, Gazprompererabotka and 6 more organizations) were subject to 162 inspections including: Rostekhnadzor – 73; Rosprirodnadzor and its territorial authorities – 45; Rospotrebnadzor – 39, procuracy

authorities – 4, authorities of Civilian defense and Emergency service – 1. The administrative disciplines amounted for 1.8 million rubles, which was 8 times as little as in 2007.

Penalties and claims sued for legal environmental infringements of *Gazprom* in 2008 got an eightfold reduction as compared with 2007.

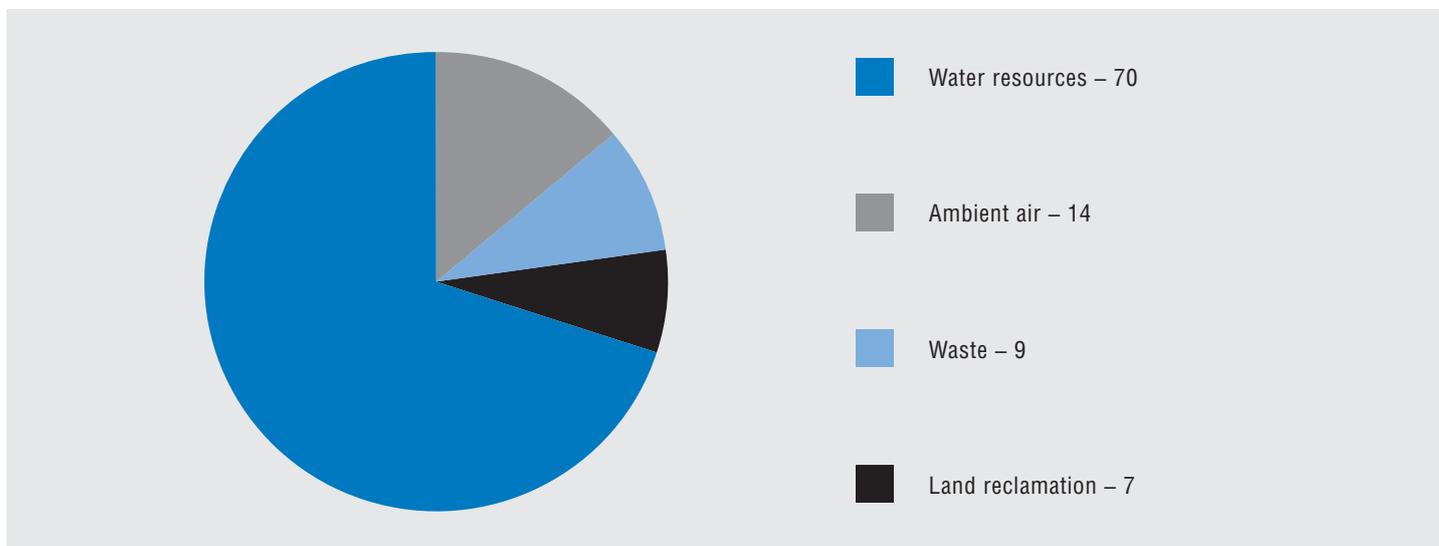
ENVIRONMENTAL COSTS AND CHARGES

In *Gazprom Group* (excluding Sakhalin Energy and TKG-1) environmental costs and charges totaled 24.76 billion rubles, including *Gazprom* share 42.9 % (10.6 billion rubles). Current environmental protection costs of *Gazprom Group* were 17.16 billion rubles, which were mostly shared by *Gazprom* – 6.6 billion rubles (38.5 %).

GAZPROM GROUP ENVIRONMENTAL COSTS AND CHARGES

	Gazprom Group		OAO Gazprom	
	million rubles	%	million rubles	%
Current costs	17,162.25	69	6,598.10	62
Overhaul repair costs of main production facilities for the environmental protection	1,428.77	6	879.68	8
Charges for negative impact	2,678.80	11	647.44	6
Capital investment in environmental protection	3,493.70	14	2,497.99	24
Total	24,763.52	100	10,623.21	100

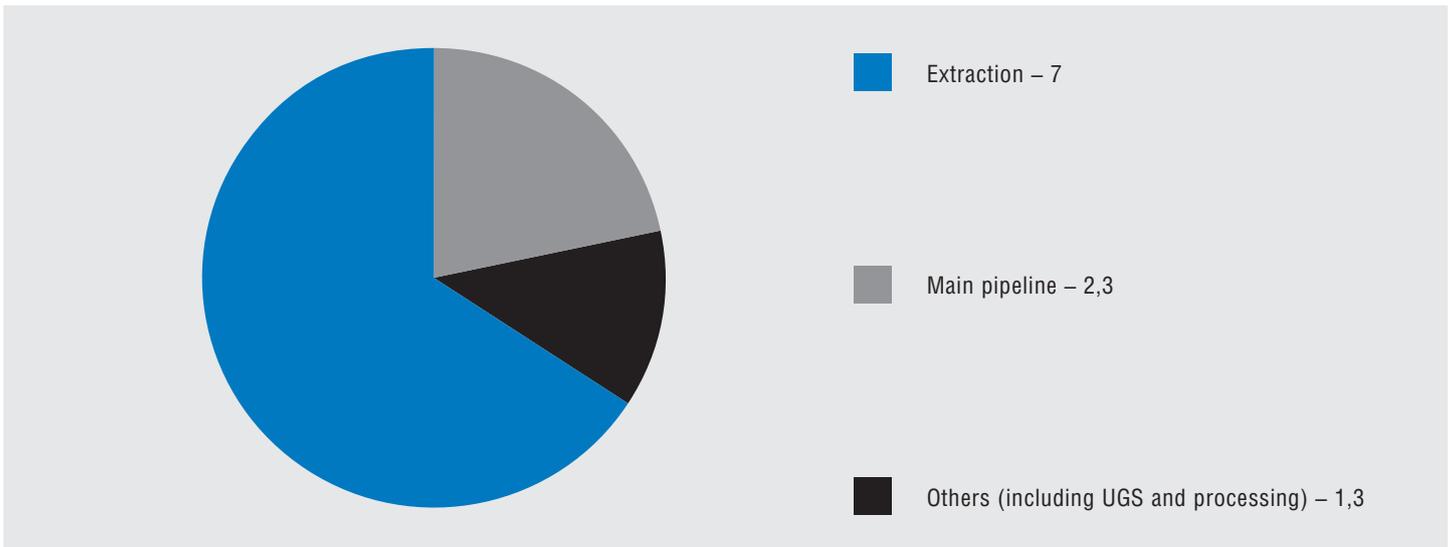
GAZPROM GROUP STRUCTURE OF CURRENT ENVIRONMENTAL PROTECTION COSTS IN 2008, %



In 2008 *Gazprom* environmental costs and charges totaled 10.62 billion rubles, which made 42.7 % of *Gazprom Group* share. Overhaul repair costs of main production facilities for the environmental protection of *Gazprom* was 62 % of *Gazprom Group* assets. *Gazprom* shared 71.5 % of total capital projects costs of *Gazprom Group*. As in previous years over 50 % of current costs of *Gazprom* were spent on water resources protection – 3.9 billion rubles, open air protection costs were 1.4 billion rubles (21 %), land protection from toxic waste – 0.9 billion rubles (14 %), land reclamation covered 0.3 billion rubles (3 %).

In 2008 extracting and gas transporting companies of *Gazprom* amounted for the largest environmental costs and charges, 7 billion rubles and 2.2 billion rubles respectively.

GAZPROM STRUCTURE OF ENVIRONMENTAL COSTS AND CHARGES BY ACTIVITIES, BILLION RUBLES



In 2008 the actual level of *Gazprom* negative impact on the environment decreased. The emissions of pollutants into the atmosphere were 40 % below the approved normative standard. As compared with the year of 2007, water auxiliary consumption was 13.5 % lower, the amount of waste water removed from production objects decreased by 27 %, including a 60 % reduction of sewage water discharge.

Along with it Environmental charges for the negative impact grew by 43 % in 2008. The bulk of payments were caused by the changes in the structure and functions of executive federal services of environmental protection as well as the reorganization of *Gazprom* subsidiary companies.

During the implementation of bureaucratic procedures on approval and issuance of necessary ecological allowances, emissions and discharges of pollutants, waste disposal were charged as the excessive impact on the environment. This proves the need for the reforming of the existing system of approval procedures in the environmental protection.

Despite the increase of the number of accidents from 10 to 22, *Gazprom* losses and costs aroused by offsetting the environmental damage from accidents in 2008 were less than in 2007. For instance, losses of natural gas were 18 % less and the environmental damage was 90 % lower.

In 2008 as compared with the year of 2007 <i>Gazprom</i> total environmental costs and charges grew by 30 %, including	
Current costs	13 %
Capital investment	81 %
Overhaul repair costs of main production facilities for the environmental protection	66 %
investment in environmental objects	23.5 %

ENERGY SAVING

Gazprom Group has been consecutively implementing the measures on introducing of energy and resources saving technologies. The reduction of production energy consumption is considered as a key factor of compatibility improve and decrease of environmental impact.

Gazprom energy saving policy is a suit of measures aimed at creation of the necessary organizational, legal, financial and material conditions for the rational and economic use of energy resources. The priority issue of *Gazprom* energy saving policy is the energy efficiency improve of technological processes against the provision of the necessary environmental requirements.

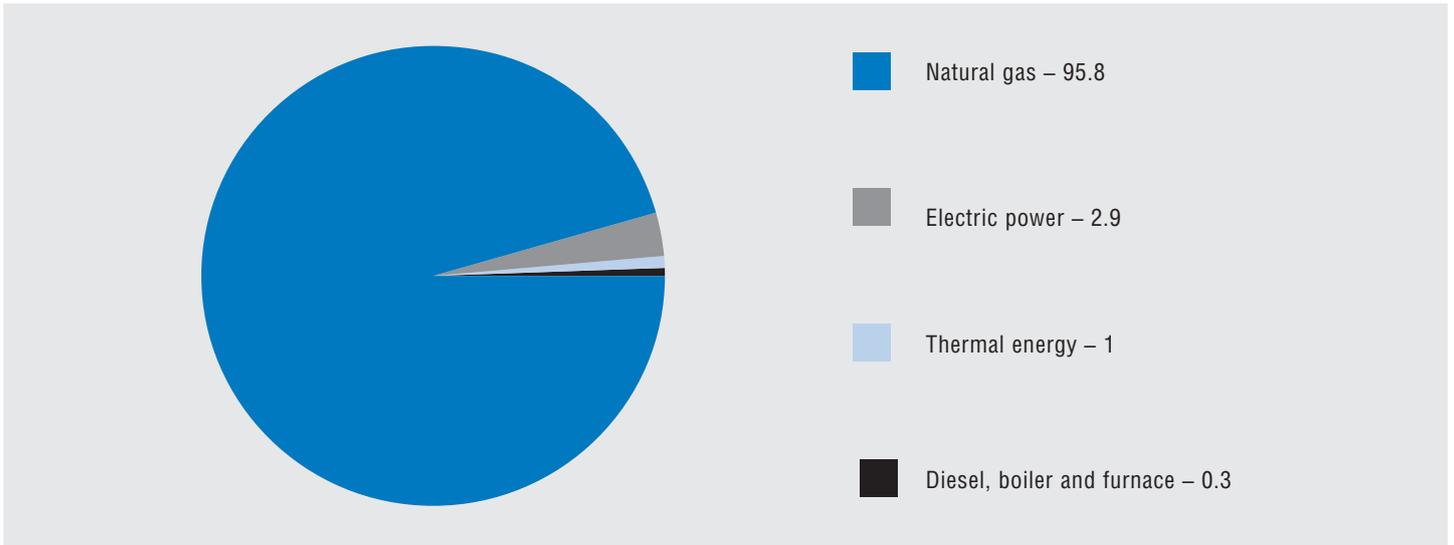
Energy saving is being carried out at *Gazprom* on the basis of the “Concept of energy saving of OAO *Gazprom*” for 2001–2010. The implementation energy saving potential is ensured by the list of corporate target Programs:

- Complex program for 2007–2010 of reconstruction and technical re-equipment of gas transport objects and compressor stations units of underground storages;
- Complex program of reconstruction and technical re-equipment of gas extraction objects till 2010;
- Energy saving program of ОАО Gazprom for the period 2007–2010.

In 2008 “Additions and changes of the Energy saving program of ОАО Gazprom for the period 2007–2010” were adopted due to the reorganization of the subsidiary companies and organizations, situation change on the financial and energy markets.

The implementation of program measures resulted in energy resources savings of 2.8 million tons of fuel equivalent, including: natural gas – 2 357.4 million m³, electric power – 250.8 million kW•h; thermal energy – 204.6 thousand Gcal; diesel – 4783.6 tons of fuel equivalent; boiler and furnace – 2 453.4 thousand of fuel equivalent.

ENERGY RESOURCES SAVINGS BY TYPES OF ENERGY CARRIER, %



The total value effect of energy resources savings in terms of current gas tariffs and actual prices of other types of energy resources was 3 578.6 million rubles at costs of 3 124 million rubles.

PERFORMANCE OF ENERGY SAVING PROGRAM OF GAZPROM IN 2008

Types of Activities	Costs, million rubles	Total savings of energy resources	
		thousand tons of fuel equivalent	million rubles
Extraction of gas, condensate and oil	11.9	313.2	158.8
Gas main pipeline	2,658.1	2,388.4	3,029.3
Gas underground storage	0	15.7	26.0
Processing of gas, condensate and oil	10.4	48.4	76.7
Drilling and borehole overhaul repair	246.3	13.9	
Gas distribution	151.2	6.2	22.1
Companies of non-profile activities	46.1	7.7	45.3
Total	3,124.0	2,793.5	3,578.6

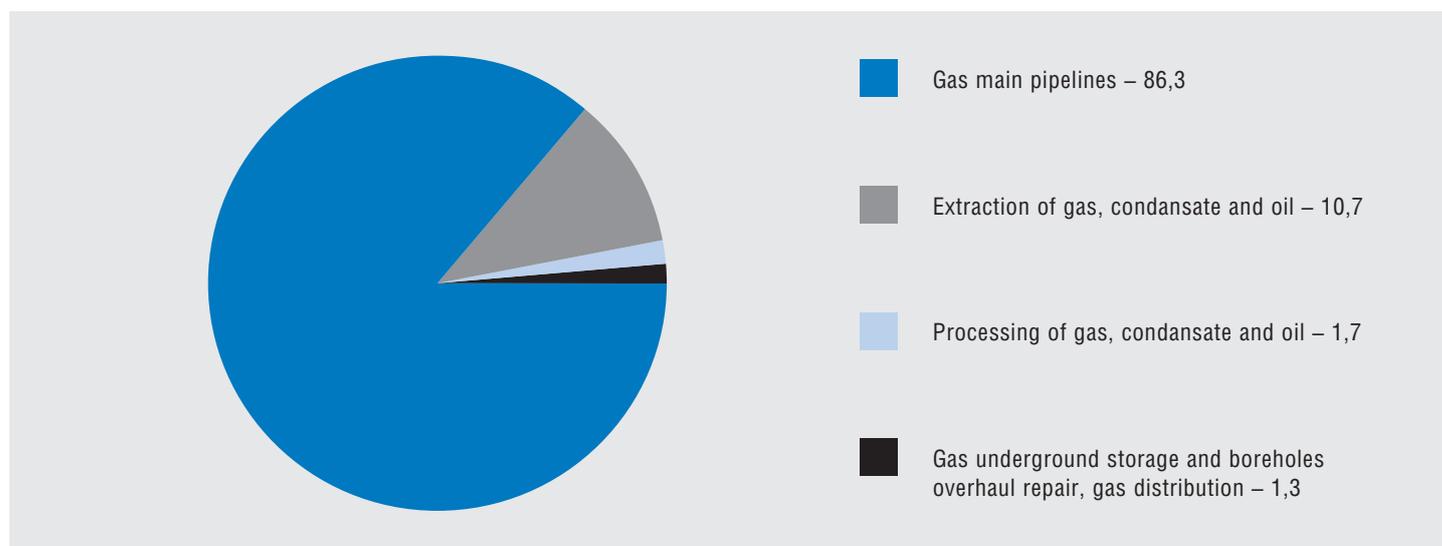
Major part of energy saving was obtained in gas main pipelines – 2 388.4 thousand tons of fuel equivalent, which made 86.3 % of total energy resources saved.

INDICATORS OF GAZPROM ENERGY RESOURCES SAVINGS BY TYPES OF ACTIVITIES IN 2008

Types of activities	Natural gas, million m ³	Electric power, thousand kWt·h	Thermal energy, Gcal
Extraction of gas, condensate and oil	273.9	3,042.9	8,701.9
Gas main pipeline	2,035.5	208,950.2	112,836.0
Gas underground storage	13.5	970.8	719.6
Processing of gas, condensate and oil	39.6	9,988.4	35,761.0
Drilling and borehole overhaul repair	0.2	14,635.3	11,816.4
Gas distribution	3.4	7,284.0	3,634.0
Companies of non-profile activities	5.1	6,037.1	31,140.9
Total	2,371.2	250,908.7	204,609.8

Reference: in 2008 diesel and boiler furnace fuel savings during drilling and borehole overhaul repair were 4.8 and 2.5 thousand tons of fuel equivalent respectively.

ENERGY SAVING EFFECT BY GAZPROM MAIN TYPES OF ACTIVITIES IN 2008, %



In 2008 the Energy saving program was provided by the exploitation of the more efficient energy saving technologies.

EFFICIENCY OF ENERGY SAVING TECHNOLOGICAL MEASURES IN GAS MAIN PIPELINES IN 2008

Energy saving directions	Savings of natural gas	
	million m ³	%
Optimization of technological modes of gas transport	870.8	42.8
Reduction of gas auxiliary consumption	365.1	17.9
Reconstruction and modernization of technological equipment	320.8	15.8
Technical state improve of GPS	241.4	11.9
Reduction of technological losses	150.0	7.4
Reduction of gas consumption for technological needs of auxiliary industry	46.3	2.3
Enhancement of pipelines hydraulic efficiency	35.7	1.8
Introduction of AMS systems and telemechanics, improve of gas accounting tools	5.3	0.3
Total	2,035.4	100

Gazprom energy saving is carried out through the following measures.

Optimization of working modes of the technological objects of gas transport system, which involves modern complexes of modeling:

- distribution of gas flows among the pipelines;
- “compressor station – pipeline” mode;
- load distribution among the compressor stations of each pipeline;
- load distribution among compressor units at multiunit compressor stations and gas pumping aggregates in the units;
- work of gas transport system involving intersystem crosspieces and regulators.

Reduction of gas consumption for the technological needs of compressor stations, linear parts of pipelines, gas distribution stations, which is achieved via:

- gas pumping from linear parts of pipelines, which are under repair;
- gas use for compressor unit auxiliaries during the regular repair work of the unit;
- technologies of cutting-in under pressure;
- repair technologies of damaged parts involving strengthening muffers.

Progressively increasing costs on overhaul repair of main facilities due to the obsolescent equipment, especially referring to the linear parts of gas main pipelines, determine the necessity to substantiate the choice of parts to be repaired first. *Gazprom* has introduced a pipeline diagnostic system, which brings up to 6 billion rubles per year by means of warning against possible accidents, accompanied by the corresponding gas losses (atmospheric emissions). In 2005–2008 *Gazprom transgaz Moscow*, *Gazprom transgaz Ukhta*, *Gazprom transgaz Yekaterinburg* were supplied with the complex equipment for the repair work based on the technology of cutting-in under pressure (by “T.D.Viliamson”).

Reconstruction and modernization of technological equipment, which includes:

- replacement, modernization and reconstruction of gas pumping aggregates (GPA);
- reconstruction (overhaul repair) of linear telemchanics systems;
- replacement of basic laminar regenerators of gas pumping aggregates with the tubular ones.

Technical improve of GPA

It was achieved by means of repair work, which provided with the natural gas saving of 241.4 million m³.

Reduction of gas technological losses, which resulted from:

- replacement of damaged ball-gage cocks of compressor stations and linear parts of gas main pipelines;
- removal of unsealed ball-gage valves by means of modern sealing components and equipment etc.

Reduction of gas consumption for technological needs of auxiliary industry by means of:

- overhaul repair of boilers in boiler houses with the change of heating tubes;
- replacement of morally and physically obsolescent boilers;
- cleaning (washing) of boilers in boiler houses;
- mode calibration of boiler houses etc.

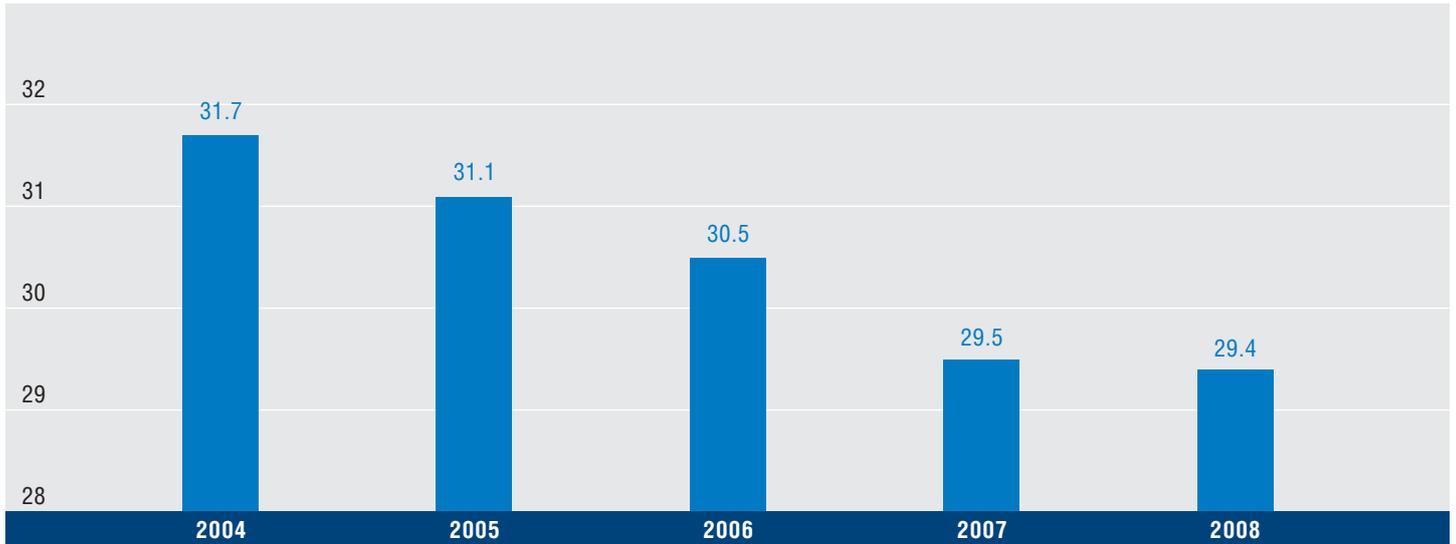
Enhancement of gas pipelines hydraulic efficiency, which resulted from the pipelines cleaning through pistons.

Introduction of automated managing systems and telemchanics, improve of gas account tools. The examples of the most efficient AMS are:

- System of automatic management and regulation (SAM and R) provided by “Compressor Controls Corporation” (USA) for: SAM of GPA (enables to reduce gas fuel consumption of a GPA by 0.4–0.5 %, overhaul repair and operative repair costs by 2.5 %) and SAM of compressor units (enables to reduce gas auxiliary consumption of compressor units down to 1 %);
- Program complex “Energy efficiency of objects of gas transport system “Magistral” (*Gazprom transgaz Yugorsk*)”, which provides for the indicators control of energy consumption and energy efficiency of the gas transport objects in the on-line mode.

Introduction of energy saving measures under the Energy saving program in gas transport leads to the reduction of unit gas auxiliary consumption (per unit of a product transport work). For the past years 5 this indicator has decreased by 7.2 %, which says for the energy efficiency enhancement of gas transport.

REDUCTION OF GAS AUXILIARY CONSUMPTION PER UNIT, M³/MILLION M³·KM



The implementation of *Gazprom* measures on energy saving enables enhancement of energy efficiency of production, which is tightly connected with the aims of environmental policy, which in its turn is directed at limitation and reduction of emissions into the atmosphere including greenhouse gases.

POLLUTION-FREE FUEL FOR TRANSPORT

Introduction of motor fuel with improved characteristics into the production will stimulate the recover of the environmental situation in the cities of Russia, where auto transport has become the main source of atmospheric and noise pollution of the environment.

For the nearest future *Gazprom Group* considers the market of gas as a motor fuel, Euro-3 and Euro-5 patrol and diesel production as an adequate direction of development.

At present of all common motor fuels and technologies natural gas provides the least level of polluting emissions, which is below the amount generated by patrol and diesel vehicles.

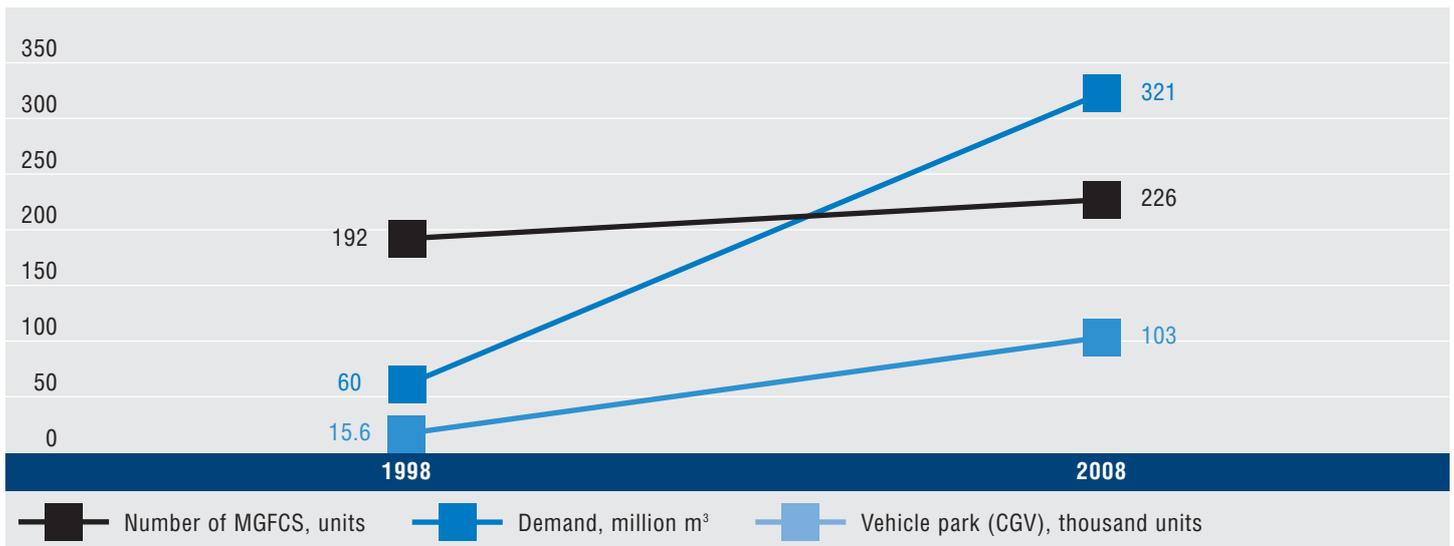
Fuel switch to gas from patrol vehicles enables a quintuple reduction of polluting emission and the noise impact by 50 %.

For more than 10 years *Gazprom* has been thoroughly working on boosting the demand for the gas as a motor fuel in Russia and switching to gas fuel of different vehicles. The company has got the leading position on the market of gas as a motor fuel, which is thus characterized by a dynamic growth.

The acquisition of gas fuel enabled the companies to save up to 4 billion rubles and reduce atmospheric emissions by 120 thousand tons in 2008.

Along with it the data show, the indicators of domestic market development is far below the world average. According to the International Associations for Natural Gas Vehicle, Russia shared 2.8 % of the total marketed compressed natural gas, 1 % of the world gas fuel vehicles and 1.5 % mobile gas fuelling compressor stations (MGFCS).

DYNAMICS OF RUSSIAN GAS FUEL MARKET



Gazprom has been closely cooperating with international specialized and public organizations, which work on use of natural gas as a vehicle motor fuel such as International Gas Union (IGU), European Business Congress (EBC), gas working group of the United Nations Economic Commission of Europe (UNECE), International Associations for Natural Gas Vehicle (IANGV), Asia Pacific Natural Gas Vehicles Association (ANGVA). Since 1999 *Gazprom* has participated in the project development of “Blue corridor”, which was suggested by the Non-governmental environmental fund n.a. V.I. Vernadsky. The projects foresees the use of natural gas as a motor fuel for the international cargo and passenger transport. The was supported by the United Nations Economic Commission of Europe, European Business Congress, International Gas Union, a number of regional gas vehicles associations and the G8 Summit of 2006 in St. Petersburg. At present three main branches of the “Blue corridor” are determined: Helsinki – St. Petersburg – Moscow, Moscow – Minsk – Warsaw – Berlin and Berlin – Rome. In 2008 *Gazprom* initiated a proposal for its European partners to collaborate a project of the joint construction of a large scale gas fuelling network for vehicles in Europe. In 2008 the implementation of “Target complex program of gas fuelling network and natural gas vehicles development through 2007–2015” was started. The program was adopted by the Head of Management Committee of OAO *Gazprom* A.B. Miller. The program includes the growth of gas fuelling network capacity up to 2.6 billion m³, increase in number of vehicle and agricultural machinery up to 400 thousand units, which run on the compressed natural gas, introduction into service of at least 200 MGFCs in different regions of Russia. At present vehicles, which run on the natural gas, total 103 thousand units, 5.5 % of which belong to *Gazprom*. In 60 regions of Russia 226 MGFCs are operational, 198 of which belong to *Gazprom*.

The expected environmental effect of the Program implementation is the reduction of atmospheric emissions by 1 million tons of CO₂-equivalent.

The switching of auto transport to gas fuel is one of *Gazprom* most important issues of cooperation with the regions of the Russian Federation, many of which are really interested in gasification of passenger buses and agricultural machinery vehicle parks. In 2008, 17-22 a Non-commercial partnership “National gas vehicle association” and OAO *Gazprom*, in order to popularize *Gazprom* initiatives on introduction of gas as motor fuel, an auto drive was held through St. Petersburg – Veliky Novgorod – Tver – Moscow. The drive involved factory manufactured gas tank vehicles (lorries, buses, foreign and domestic cars). Research seminars were held, which were participated in by the local administrative managers, representatives of auto car industry, science experts, during the city stops. VNIIGAZ specialists took the samples of processed gases, which proved the compressed natural gas environmental safety as the motor fuel. In 2008 another program of *Gazprom* was launched – Program of a complex gasification of Sochi transport link, which was timed to the XXII Winter Olympic Games and XI Paralympics in winter of 2014. The natural gas was many times used for the Olympic transport in Sidney, Salt Lake City, Athens, Beijing and the Games of Dali Commonwealth. Ecologization of the Socji vehicle park will enable to reduce toxic pollutant emissions into the atmospheric air of the resort and it will also contribute to the green image of the Winter Olympics in 2014. In 2008 the project of “Development and industrial introduction of a domestic mobile high efficient gas fuelling complex for vehicles refuel” was awarded with the *Gazprom* prize in research and development. The project

foundation is the development of a CNG branched network, which will be resultant from the mass consumption of mobile gas fuelling complexes with a relatively low productivity (50–75 refueling operations per day) with a simultaneous loading of existing CNG network. The unified mobile gas fuelling complex for vehicles has got no analogs in the world.

In 2008 new environmental norms were set up for the motor fuel in Russia – the Euro-3 standard was introduced for petrol and diesel.

In 2008 OAO Gazprom Omsk ORP began to produce high octane petrol of Super Euro – 98, Premium Euro – 95 and diesel, which is in compliance with the Euro-3.

Under the modernization program of Omsk ORP a reconstruction of the hydrotreating unit of L-24/9 diesel was carried out to improve the quality of the produced diesel fuel up to the standards of Euro-4 and Euro-5.





**ENVIRONMENTAL ASPECTS OF PROJECTS IMPLEMENTATION
IN RUSSIA AND ABROAD**



Provision of environmental security is one of the priority issues of *Gazprom Group* corporate policy, which is considered while implementing and prospect planning of the production activities.

The peculiarity of the current development Russia's oil and gas industry is the raw materials northward shift to Arctic, which is characterized by difficult engineering geological and climate conditions. Economic exploration of these territories activates irreversible inner process in permafrost rocks, destruction of nature landscapes. The ecosystems of northern regions are considered to be highly vulnerable and require a specific attitude, taking into account the fact that the welfare, culture and traditions the indigenous people depend on the nature conditions, hunting and fishing. That is why environmental restrictions are imposed at primary stages of project development and all new projects and programs of *Gazprom* production facilities modernization involve the latest technologies, which enable to minimize environmental risks.

Project implementation activities of OAO Gazprom meet the norms of international law, national legislation of foreign countries, where activities on exploration and extraction of hydrocarbons, as well as *Gazprom* corporate standards in the field of environmental security and environmental protection.

YAMAL. BOVANENKOVO OIL GAS CONDENSATE FIELD

Environmental priorities are crucial for exploration of Bovanenkovo gas condensate field on Yamal peninsula.

In December 2008 *Gazprom* launched the "Program of complex fields exploration in the region of Yamal peninsula and the joint offshore area" (megaproject "Yamal"): the first conjunction of the gas main pipeline network of Bovanenkovo – Ukhta was welded and the drilling of the first borehole began on the peninsula biggest gas reserve field – Bovanenkovo. The preliminary estimated gas reserves of the field are 4.9 trillion m³. The projected annual gas extraction makes 115 billion m³, the long term prospects will provide the extraction increase up to 140 billion m³. The introduction of Bovanenkovo field into service is projected for 2011.

In compliance with the "Program of complex field exploration in the region of Yamal peninsula and the joint offshore area" a number of important measures were developed to conserve the traditional life of indigenous peoples of Arctic in Yamal peninsula. The measures include a decrease of the negative impact on the environment: application of gas turbine energy saving of new generation with the efficiency factor of 36 %; nitrogen oxide emission reduction via the "dry" combustion methods (without the injection of chemicals into the GTU); strengthening of GPA single capacities; use of close-circuit water supply systems, which protect surface water form polluting; use of specific technologies, which reduce thermal and mechanical impact on permafrost grounds. In addition, the disturbed lands are being rehabilitated; gas extracting, gathering and preparing are provided with highly automated systems; waste products are being safely utilized.

The project scope pays much attention to the issues of stability conservation of geocryological conditions, geotechnical and environmental monitoring organization during both field construction and exploitation as well as use of the gas main pipeline and the ecosystem state monitoring.

The proposals on measures of the state support were developed for "Program of complex fields exploration in the region of Yamal peninsula and the joint offshore area", as well as the proposals on social policy and social and living conditions, which meet the basic needs. The measures on biota protection are also provided by the project.

PRIRAZLOMNOYE OIL FIELD

The project has no empiric foundation in shelf oil fields exploration in such weather climate conditions, which singles it out. It all makes the project so exigent on environmental safe exploitation and environmental protection.

The project of Prirazlomnoye oil field exploration is developed against the data of long term observations over the weather and climate factors, results of engineer geological and engineer ecological surveys. The ecosystem specifications and the presence of protected nature zones are also considered.

The suit of measures developed for the project environmental security includes: use of associated gas for auxiliaries; development of non-organized hydrocarbon and hydrosulphur gathering and utilization system;

adherence to the principle of “zero disposal” of waste water; automated emergency deactivation of pumping units, which pump oil, waste water and chemicals; recycling (including drill fluid) and the coast utilization of waste; system of industrial ecological supervision and geoecological monitoring. The project includes the system development to liquidate oil spills in the sea, on the ice, under the ice and on the coastline. According to the preliminary estimations, the project implementation environmental costs are 1 billion rubles.

PROJECT OF “NORTH STREAM”

The technical and environmental substantiation and economic efficiency made the project of “North stream” an investee of the European biggest energy companies.

The project of “North stream” considers the specification of the Baltic region and involves environmentally safe technologies. The project new concept determines new security standards of the marine pipelines.

The construction of the marine pipeline is explained by its comparatively lower environmental impact. The marine pipeline is laid on the sea floor remoted from the territories of human intensive activities, it won't cross hundreds of kilometers of woods, agricultural holdings and intensively populated settlements. The tempo of the marine pipeline laying is 3 km a day, which much higher than the tempo of the land pipeline construction. As the result the construction and the related environmental impact will be minimal.

Due to the ability of the marine pipeline to stand a higher pressure, unlike the land pipeline, which requires interval compressor stations in every 100–200 km, the “North stream”, 1200 km long, will work without the interval compressor stations. This will result in a 40 % of greenhouse gas emissions reduction as compared with a similar land pipeline.

In 2008 the optimized pipeline route was developed against the research data of the Baltic sea floor, sunk military inventories and ships. It avoids natural parks and, areas of intensive navigation and fishing. The route details are available in the EIA report made in the cross border format.

The “North stream” pipeline will supply Europe with 55 billion m³ of natural gas annually, which is an equivalent of the energy transported by 550 fluidized natural gas tankers or generated by 240 average capacity wind power stations.

The use of the amount of natural gas instead of coal will enable to reduce the CO₂ emissions by 55 million tons, which the equivalent of Denmark's CO₂ emissions per annum.

The environmental research and planning costs are over 100 million euros.

SHTOKMAN GAS CONDENSATE FIELD

Shtokman GCF exploration project is the unique experience in both Russian and world offshore gas extraction industry.

No other field has anything to compare with the Shtokman reserves and weather climate conditions of exploration work.

The Arctic shelf of Russia is considered by *Gazprom* as one of the most prospective regions of hydrocarbon fields discover and exploration. The preliminary total hydrocarbon reserves of Russia's continental shelf are 100 billion tons of fuel equivalent, about 80 % of which are gas. The major hydrocarbon resources (70 %) are concentrated in the subsoil of the Arctic seas – the Barents, the Kara and the Pechora basin. The explored reserves of the region biggest field Shtokman GCF make 3.8 trillion m³ of gas and 37 million tons of condensate. In 2008 within the exploration of Shtokman GCF a number of complex engineering and ecological surveys were carried out. The project includes an offshore extraction complex in the water zone of the field licensed part; more than 550 km of marine pipeline across different parts of the Barents Sea; land construction of a dock transport technological complex, fluidized natural gas plant and the surrounding zone of littoral and sublittoral.

The corresponding land (coastline) and marine engineering ecological surveys were carried out to provide project developers and resources owners with the information about the baseline environmental state of the territory, which was planned to be impacted by the facility construction, installation and exploitation. The marine

surveys were made in every season of the year and the land scope of work was done in summer only. The assessment included not only the state of natural ecosystems, but the anthropogenic impact, which had already taken place.

The following environmental risks and limitations were identified: the presence of migration ways of birds and sea mammals (including the species under protection), commercial fishes; spreading of phytobenthos and Kamchatka crab; the presence of history culture and legacy objects; water objects of the fish economy of high priority.

GASIFICATION OF REGIONS

The project of regions gasification is supported by the Government of the Russian Federation and is considered as a project of the national priority

The use of the natural gas as a motor fuel leads to the decrease of the open air pollution and enables the Russian Federation to meet its obligations under the Kyoto protocol.

In 2005–2007 the large scale program of Russian regions gasification resulted in construction of 543 gasification facilities. The new gas distribution network expanded at 8.4 thousand km; 1200 settlements were connected to the UGS of Russia. *Gazprom* gas distribution networks supply 59 million people in Russia with the natural gas. In 2008 the program of regions gasification was supported with 24.18 billion rubles of investments. The program additionally includes Krasnoyarsk territory, the republic of Sakha (Yakutia), Sakhalin region, Khabarovsk territory and Khanty-Mansi AD, the republic of Northern Ossetia – Alania. As the result the program was fully implemented in 64 subjects of the Russian Federation. *Gazprom* managed build 153 gasification objects; the new gas distribution networks expend at 2.7 thousand km; 60 thousand households and 300 boiler houses were supplied with gas.

In 2008 the decision was made on the construction of Dzhugba – Lazarevskoye – Sochi pipeline. The pipeline is projected for the gas supply of Caucasus resorts on the Black Sea, including Sochi (the host city of the Olympics in 2014), and the improvement of the environmental situations in the region.

The project of Kamchatka region gasification envisages the gas extraction, preparation and transporting from Kshuusk and Nizhny Kvakchik GCF to the city of Petropavlovsk-Kamchatsk. The gas will be supplied for 70 % of residents and 80 % of Kamchatka production companies.

The project includes the suite of measures on the reduction of the negative environmental impact on the atmosphere, water objects, soil, subsoil, flora and fauna. The special attention is paid to the gas main pipeline part near the wildlife preserve “River Kol” and water objects, most of which are spawning.

The project implementation will result in the increase of the natural gas share in the energy balance of Kamchatka up to 44 %, along with it the projected atmospheric and greenhouse gases emission reduction will be 24 % and 8 % respectively.

PROJECTS IMPLEMENTED ABROAD

To its projects implemented abroad *Gazprom* applies the available international experience and standards, which are common in the oil and gas industry, including the latest technologies and working methods of environmental harm prevention. The main principle is warning against the environmental harm or provision of the corresponding offset in case of emergency.

ОАО Gazprom zarubezhneftegaz is the *Gazprom* operator of project implantations in the field on gas exploration and extraction beyond the borders of the Russian Federation. Such projects, in particular, are the geological and exploration work in the Bengal Gulf of the Indian and Vietnamese shelf; in Ustyursk region of Uzbekistan Republic, in the Republics of Tadzhikistan and Kyrgyzstan.

India. The work is being done in accordance with the Agreement on the output distribution among the Government of India, ОАО Gazprom and Gas Management of India in the contracted area № NEC-OSN-97/1 (block № 26) as of the October 3, 2000. The researches have already been carried out and the reports on the assessment of the projected activities environmental impact (including seismic research and research exploration

drilling) on the East coast of India are executed. The reports contain the information on the environmental state of the project territory, plan of environmental monitoring, measures and procedures on provision of the environmental security.

In compliance with the Memorandum of the mutual understanding of General Director of hydrocarbon issues and project operators at shallow/deep-water blocks along the East coastline of India – ONGC, RIL and OAO Gazprom, the researches of the Wildlife Institute of India on the satellite observations of the Pacific ridley migrations receive a financial support. In 2007–2008 *Gazprom* transferred 75 % of the set investment – 113.524 thousand dollars. In 2009 the researches will continue.

In compliance with the developed plan of actions in case of the emergency oil spills during drilling, the following measures were taken: application of the drilling water based fluid; use of bio-dissolvable chemical additives; sludge washing before the disposal; water quality monitoring on the marine surface. The contracts on oil spills liquidation were signed with Seacor Environmental Services Middle East Ltd.

By the end of 2008 the total environmental costs of the project implementation on the shelf of India made 449.7 thousand dollars.

Vietnam. The work is being done in accordance with the “Oil and gas Contract on the block № 112 of the continental shelf of the Republic of Vietnam”. The contract was signed by an oil and gas corporation Petrovietnam, OAO Gazprom, General Company of oil and gas exploration, extraction PVEP and CJSC Zarubezhneftegaz in September 2000.

The obligation of the Joint Operation Company is the development of labor, health and environment protection policy. The policy will provide the structure and principles of negative impact minimization with the regards to the environment, health and labor security.

Under the conditions of the Oil and Gas Contract before the drilling the regulation documents on the environment protection during the research and exploration were developed, as well as the plans of actions in case of the emergency oil spills during the construction of prospecting wells. The System of labor, health and environment security management was created. The contracts on oil spills liquidation were signed with PV drilling.

By the end of 2008 the total environmental costs of the project implementation on the shelf of Vietnam made 562.8 thousand dollars.

The Republic of Uzbekistan. The geological and exploration work within the seven investment blocks of the Ustyurt plateau in the Republic of Uzbekistan is a large scale project of *Gazprom*.

The contracted territories are characterized with difficult weather climate and minig geological conditions, underdevelopment of the social and economic sphere, an extremely low recoverability of the desert lands after the technological disturbance. All this caused a complex multiple approach towards the project documentation development at all stage s of the project activities: form the construction of test wells to the environmental maintenance.

The large scale engineering and ecological surveys systemized the old and new data on the region ecosystem state. For the past 20–25 years this was the first actualization of the data base of the environmental information on the oil and gas complex development in the Republic of Uzbekistan. The surveyed area covered more than 38 thousand km².

Within the EIA procedure the Application Form on the environmental impact was developed while preparing the geological project on the test drilling.

During the development of the technical project on the test drilling application forms on the possible environmental impacts are developed. The forms set the norms of waste, disposal rates and maximum allowable emissions during borehole constructions, as well as the science reasonable measures are planned to minimize the negative impact. All projects were approved by the State environmental expertise of the State Committee of for Nature Protection of the Republic of Karakalpakstan. The compliance with the recommendations on the investment blocks exploration will enable to minimize the environmental harm and continue the effective geological and exploration work on the Ustyurt plateau.

By the end of 2008 the total environmental costs of the project implementation in Ustyurt region of the Republic of Uzbekistan made 913 thousand dollars.

In 2008 the environmental substantiation was made for the low sulphurous GCF of Adamtash, Gumbulak and Dzharkuduk – Yangi Kizilcha on the territory of South-West Gissar.

These explored territories were characterized by the drinking water unconformity with the approved norms, lack of water resources, and excision of the maximum allowable concentration of substances in the soil, determined by the natural content of the environment. The territory of the South-West Gissar is notable for the various flora and fauna and the presence of rare types of animals, which are close to extinction (stripped hyena, markhoor, shriek-owl, swan, ruffed bustard and others etc.). These peculiarities were included into the recommendations on minimization of the negative environmental impact of the field projected facilities.

The Republic of Kyrgyzstan. The project is being implemented on basis of the Agreement on general principles of the subsoil geological research of the prospective oil and gas fields of the Republic of Kyrgyzstan.

The Agreement was signed by the Government of the Republic of Kyrgyzstan and OAO Gazprom and envisages the Russia-Kyrgyzstan joint venture development of the hydrocarbon fields of Kugart (Gzhalal-Abad) and East Mailisu – IV (Sharkaratma).

Gazprom received all the necessary License agreements № 1, which tend to be an integral part of the license execution to use the minerals for the geological research of Kugart territory and the part of East Mailisu – IV. The submitted projects of geological researches on oil and gas were approved by the state expertise of the republic State agency environmental protection and forestry and the State agency of geology and mineral resources affiliated to the Government of the Republic of Kyrgyzstan.

The analysis of the environmental components state was presented within the project geological researches. The analysis was based on the results of the environmental examination of the territory. Among the certain the types, character and the intensiveness of the potential subsoil and environmental impact were identified. The further measures are taken to obtain the license agreement to carry out seismic researches and test drilling.

The project further implementation considers the environmental protection financing, which shall not exceed 3 % of the geological exploration costs.

The Republic of Tadjikistan. In 2008 the Government of the Republic of Tadjikistan and OAO Gazprom signed the Agreement on general principles of the subsoil geological research of the prospective oil and gas fields of the Republic of Tadjikistan.

In compliance with the conditions of the Agreement the technical and economic assessment of the subsoil geological research was developed as well as the Stepwise program of the oil and gas geological exploration on the sites of Sargazon, Rengan, Sarikamysh, West Shaambary. The program was approved by the Central commission on mineral use and license management of OAO Gazprom.

The program envisages the 2D seismic research (650 r km) and a four step exploration drilling (57.5 thousand m). *Gazprom* owns the licenses for the subsoil use on the named sites.

In 2008 the preparation of the Stewise program was launched. Experimental and methodological seismic exploration was carried out on Sargazon site – 193.8 r km, which enabled to develop the methodology of exploration under the region mining geological conditions.

The application forms on the possible environmental impacts are developed to meet the normative requirement of the Republic of Tadjikistan. The forms will set the maximum allowable environmental impacts of the projected production activities and measures on the impact minimizations.

The project further implementation considers the environmental protection financing, which shall not exceed 3 % of the geological exploration costs.

CONCLUSION

Gazprom Group is one of the world's largest companies, which operates in the oil and gas industry and energy sphere. The *Group's* share of the gross domestic product of the Russian Federation is over 10 %.

Following the principle of sustainable development, *Gazprom Group* companies carry out the environmental policy and decrease their environmental impact. The analysis of the data provided by this Report shows, *Gazprom Group* companies' shares in the pollution structure of the Russian Federation are:

- atmospheric air – about 16 % of the emissions of pollutants from the stationary sources;
- waste water disposal – 0.25 % of the total;
- waste generated by production and consumption – 0.1 % of Russia's total waste.

Due to the programs of technical re-equipment and energy conservation at *Gazprom* has managed to reduce its negative environmental impact for the past 5 years. The use of associated gas, in particular, averages 84 %, water intake and auxiliary consumption has decreased by 12 % and 11 % respectively. In 2008 the amount of water used in repeated and recycle water supply systems grew by 85 %, water disposal into the surface water objects decreased by over 50 %. The amount of generated waste was reduced by 21 % from 2004 to 2008.

The most actual environmental issues for *Gazprom Group* at large have been the atmospheric pollutant emission reduction, minimization of auxiliary consumption of natural gas, increase in associated gas use, refuse from waste water disposal into the surface water objects and an essential reduction of waste storage and disposal.

The major directions of *Gazprom Group* activities in 2009, which will have considerable environmental aspects for the Russian Federation at large, are:

- energy resources conservation;
- modernization and construction of new production and environmental protection capacities based on the latest technologies;
- gasification of regions of the Russian Federation;
- industrial introduction of motor fuels with improved environmental characteristics, including the development of gas fuel market;
- environmental protection measures during the extraction and transporting of the hydrocarbon raw materials;
- participation in the restoration and conservation of the flora, fauna and biosphere resilience;
- undertaking of measures on environmental emergencies;
- development and implementation of corporate programs, participation in regional and federal programs, which provide the environmental security.

ADDRESSES AND CONTACTS

GAZPROM

16 Nametkina St., Moscow, GSP-7, Russian Federation, 117997

WEB ADDRESS

www.gazprom.ru

GAZ TRANSPORTING, UNDERGROUND STORAGE AND UTILIZATION DEPARTMENT

Energy Conservation and Ecology Directorate

Tel.: +7 (495) 719-67-21

Fax: +7 (495) 719-69-65

INFORMATION AND COMMUNICATIONS DEPARTMENT

Public Relations Division

Tel.: +7 (495) 719-32-82

Fax: +7 (495) 718-63-85

ASSET MANAGEMENT AND CORPORATE RELATIONS DEPARTMENT

Shareholder and Equity Relations Division

Tel.: +7 (495) 719-27-86, +7 (495) 719-26-01

Fax: +7 (495) 719-39-37

FINANCE AND ECONOMY DEPARTMENT

Investor relations division

Tel.: +7 (495) 719-44-48

Fax: +7 (495) 719-35-41