MANAGEMENT REPORT PJSC GAZPROM FOR 2019

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Note:

This Management Report determines some operating and economic parameters in accordance with the International Financial Reporting Standards (IFRS) principles for the Group's entities included in the IFRS consolidated financial statements of PJSC Gazprom for the year ended 31 December 2019. Therefore, they may differ from similar parameters in reports of PJSC Gazprom prepared under Russian statutory requirements.

Moreover, some operating parameters of PJSC Gazprom and its subsidiaries are determined in accordance with the principles underlying management reporting.

Analysis of financial results should be read in conjunction with the audited consolidated financial statements of PJSC Gazprom for the year ended 31 December 2019 prepared in accordance with IFRS.

Among other things, the Management Report discloses information on the future production and economic activities of Gazprom Group, based on the management's forecasts and estimates considering the current situation. Actual results may differ from the said forecasts and estimates due to the effect of various objective factors.

PJSC Gazprom and its subsidiaries ("Gazprom Group", "Gazprom", or the "Group") is one of the world's largest vertically integrated energy companies.

THE GROUP'S POSITION IN THE GLOBAL ENERGY INDUSTRY

Gazprom remains a global leader in terms of natural gas reserves (ca. 16% of global gas reserves) and gas production (ca. 11% of global gas production). Gazprom's share in total Russian production stands at 68% for gas and 12% for oil and gas condensate.

Gazprom operates in more than 20 countries, and its products are supplied to more than 100 markets around the world.

The Unified Gas Supply System (UGSS) of Russia is a centrally operated system of natural gas treatment, transportation and storage. The UGSS incorporates the world's longest network of high-pressure trunk pipelines covering European Russia and Western Siberia. As at the end of 2019, the combined length of trunk pipelines and connections operated by the Group's gas transportation subsidiaries in Russia totalled 175.4 thousand km.

In Russia, Gazprom Group accounts for more than a half of all natural and associated petroleum gas processing and 18% of oil and stable gas condensate refining.

Gazprom is the dominant supplier of gas to consumers in Russia and countries of the former Soviet Union (FSU). In addition, the Group is Europe's major supplier of natural gas. The share of PJSC Gazprom's gas supplies under contracts signed by LLC Gazprom export in the total gas consumption in European far abroad countries is 35.5%.

The Group also owns electricity generating assets, which provide 14% of all the electrical power generated in Russia. Gazprom is the largest Russian heat producer.

Gazprom Group's key operational and financial indicators for 2019 and 2018 are presented in the tables below:

	As at and for the year ended 31 December		Change, %
	2019	2018	
Reserves of hydrocarbons under PRMS standards ⁽¹⁾			
Proved and probable gas reserves, bcm	24,395.49	24,255.13	0.6
Proved and probable gas condensate reserves, mm tonnes	1,063.20	1,090.15	-2.5
Proved and probable crude oil reserves, mm tonnes	1,374.80	1,335.37	3.0
Total proved and probable hydrocarbon reserves, (2) bboe	177.10	176.12	0.6
Operating indicators			
Natural and associated petroleum gas production, (1) bcm	501.2	498.7	0.5
Crude oil production, (1) mm tonnes	48.0	48.3	-0.6
Unstable gas condensate production, (1) mm tonnes	16.7	15.9	5,0
Total hydrocarbon production, (1),(2) mm boe	3,741.2	3,720.7	0.6
Natural and associated petroleum gas processing, bcm	31.5	31.1	1.3
Liquid hydrocarbons refining, mm tonnes	67.1	67.4	-0.4
Electricity generation, billion kWh	149.0	153.2	-2.7

	As at and for the year ended 31 December		Change, %
	2019	2018	
Key financial results, RUB mm			_
Sales	7,659,623	8,224,177	-6.9
Operating profit	1,119,857	1,930,030	-42.0
Profit for the year attributable to the owners of			
PJSC Gazprom	1,202,887	1,456,270	-17.4
Adjusted EBITDA	1,859,679	2,599,284	-28.5
Balance Sheet highlights, RUB mm			
Cash and cash equivalents	696,057	849,419	-18.1
Total debt	3,863,904	3,863,822	0.0
Net debt	3,167,847	3,014,403	5.1
Total assets	21,882,348	20,810,440	5.2
Total equity (including non-controlling interest)	14,615,687	13,776,153	6.1
Ratios			
Basic and diluted earnings per share attributable to the			
owners of PJSC Gazprom, RUB	53.47	65.89	-18.8
Total debt to equity ratio (including non-controlling interest)	0.26	0.28	-7.1
Adjusted EBITDA margin, %	24.3	31.6	-23.1
Profit margin for the year attributable to the owners of			
PJSC Gazprom, %	15.7	17.7	-11.3

Note:

Including the Group's share in the reserves and production volumes of entities in which Gazprom has investments classified as joint operations.

For management accounting purposes, Gazprom Group measures hydrocarbon reserves and production in metric units. In this Management Report, gas reserves and production are converted from metric units to barrels of oil equivalent at a ratio of 1,000 cubic metres to 6.49 boe.

OPERATING RESULTS

Reserves and Development of Hydrocarbons

The table below shows assets and capital expenditures in the Production of gas and Production of oil and gas condensate segments:

	As at 31 December		
	2019	2018	
Production of gas		_	
Assets, RUB million	2,736,680	2,743,944	
Share in the Group's total assets, %	13.8	14.3	
Production of oil and gas condensate		_	
Assets, RUB million	3,053,664	2,898,071	
Share in the Group's total assets, %	15.3	15.1	

	For the year ended 31 December		
	2019	2018	
Production of gas			
Capital expenditures, RUB million	360,215	308,007	
Share in the Group's total capital expenditures, %	19.8	17.2	
Production of oil and gas condensate			
Capital expenditures, RUB million	316,011	257,932	
Share in the Group's total capital expenditures, %	17.4	14.4	

Reserves

According to an audit of Gazprom Group's hydrocarbon reserves under PRMS standards performed by DeGolyer and MacNaughton, as at 31 December 2019 proved and probable hydrocarbon reserves of Gazprom Group (including the share in the reserves of entities in which Gazprom has investments classified as joint operations) are estimated at 177.10 bboe. The audit covered 92.8% of gas reserves, 95.0% of condensate reserves, and 95.7% of oil reserves in A, B₁, and C₁ reserve categories.

The table below shows proved and probable reserves of Gazprom Group (including the share in the reserves of entities in which Gazprom has investments classified as joint operations) under PRMS standards:

	As at 31 December		
_	2019	2018	
Gas		_	
Share of $A+B_1+C_1$ reserves covered by the audit under	02.0	02.0	
PRMS standards ⁽¹⁾ , %	92.8	93.0	
Proved	17.715.12	17 000 20	
bcm bboe	17,715.13 114.97	17,890.38 116.11	
Probable	114.97	110.11	
bem	6,680.36	6,364.75	
bboe	43.36	41.31	
Proved and probable	10.00	11.51	
bcm	24,395.49	24,255.13	
bboe	158.33	157.42	
Gas condensate		_	
Share of A+B ₁ +C ₁ reserves covered by the audit under			
PRMS standards ⁽¹⁾ , %	95.0	94.1	
Proved			
mm tonnes	730.21	759.69	
bboe	5.97	6.21	
Probable			
mm tonnes	332.99	330.46	
bboe	2.72	2.70	
Proved and probable	1.062.20	1 000 15	
mm tonnes bboe	1,063.20 8.69	1,090.15 8.91	
Oil	0.09	0.91	
Share of A+B ₁ +C ₁ reserves covered by the audit under			
PRMS standards ⁽¹⁾ , %	95.7	93.9	
Proved			
mm tonnes	707.45	712.32	
bboe	5.19	5.22	
Probable			
mm tonnes	667.35	623.05	
bboe	4.89	4.57	
Proved and probable			
mm tonnes	1,374.80	1,335.37	
bboe	10.08	9.79	
Total			
Share of $A+B_1+C_1$ reserves covered by the audit under PPMS standards(1) %	02.1	02.1	
PRMS standards ⁽¹⁾ , % Proved, bboe ⁽²⁾	93.1 126.13	93.1 127.54	
Probable, bboe ⁽²⁾	50.97	48.58	
Proved and probable, bboe ⁽²⁾	177.10	46.36 176.12	
Notes:	1//.10	1/0.12	

Notes:

The A+B₁+C₁ reserve classification accepted in Russia is based on geological factors and technological indicators of development analysis and estimates the actual hydrocarbon reserves contained in geological

- formations and the technological possibility of their extraction. PRMS standards take into account the economic feasibility of extracting reserves, which is determined based on exploration and drilling costs, operating expenses for production and transportation, taxes, current hydrocarbon prices, and other factors.
- (2) For management accounting purposes, Gazprom Group measures hydrocarbon reserves and production in metric units. In this Management Report, gas reserves are converted from metric units to barrels of oil equivalent at a ratio of 1,000 cubic metres to 6.49 boe.

Gazprom Group's PRMS proved and probable hydrocarbon reserves increased by 0.98 bboe from the previous estimate for 31 December 2018.

In addition to the annual production from the fields operated by Gazprom, the key factors behind the changes in reserve estimates under international standards included: bringing more reserves into the audit scope (Kazanskoye, Severo-Vasyuganskoye, Ostaninskoye, Tas-Yuryakhskoye, Yamalskoye and Blizhneportovskoye fields); reclassification of Turonian deposit at the Yuzhno-Russkoye field to higher-level reserve categories based on actual information from production; and changes in economic factors the Yuzhno-Russkoye field; adjustments of development plan parameters for the Kharasaveyskoye field; further acceleration of the Tazovskoye field development and successful exploration at the Alexander Zhagrin field.

The bulk of the Group's hydrocarbon reserves is concentrated within its licence areas in Russia.

As at 31 December 2019, Gazprom Group held 302 subsoil licences for conducting geological surveys, prospecting, exploration, and production of hydrocarbons in the Russian Federation. These licence blocks aggregately cover the area of 573.2 thousand square km. In addition, entities in which Gazprom has investments classified as joint operations held a total 37 licences covering a total area of 23.9 thousand square km.

As at 31 December 2019, Gazprom Group's $A+B_1+C_1$ hydrocarbon reserves in Russia were 34,899.00 bcm of natural gas, 1,569.66 mm tonnes of gas condensate, and 2,005.67 mm tonnes of oil, including the share in the reserves of entities in which Gazprom Group has investments classified as joint operations – 23.07 bcm of gas, 2.73 mm tonnes of gas condensate, and 192.42 mm tonnes of oil. Gazprom Group's $A+B_1+C_1$ hydrocarbon reserves total 254.04 bboe.

The Group's share in A+B₁+C₁ hydrocarbon reserves of associates and joint ventures (including share in the reserves of LLC RusGazAlyans, a joint venture between OOO Gazprom dobycha Yamburg and JSC RusGazDobycha) as at 31 December 2019 was 1,063.97 bcm of natural gas, 111.09 mm tonnes of gas condensate and 588.64 mm tonnes of oil, which totals 12.13 bboe.

The table below shows changes to $A+B_1+C_1$ reserves of natural gas, gas condensate, and oil (including the share in the reserves of entities in which Gazprom Group has investments classified as joint operations) contained within the licenced areas of Gazprom Group in Russia in 2019:

	Natural gas,	Gas condensate,	Oil, mm	Total,
_	bcm	mm tonnes	tonnes	mm boe
Reserves as at 31 December 2018	35,195.27	1,604.41	2,015.71	256,316.6
including non-controlling				
interests ⁽¹⁾	461.24	3.34	90.75	3,686.0
Exploration-based additions to				
reserves	556.69	11.72	28.98	3,921.2
Transfer of reserves discovered in				
2019 to the Russian open acreage ⁽²⁾ ,				
to the books of other companies;				
acquisition from other companies	-0.41	_	-0.23	-4.4
Obtaining of licences	2.74	_	7.37	71.8
Licence returns	-0.83	-0.03	-0.08	-6.2
Acquisition of assets	100.60	6.32	_	704.6
Disposal of assets	_	_	_	_
Re-estimation	-455.40	-39.41	1.42	-3,267.5
Production (including losses)	$-499.66^{(3)}$	$-13.35^{(4)}$	-47.50	-3,700.2
Reserves as at 31 December 2019	34,899.00	1,569.66	2,005.67	254,035.9
including non-controlling				
interests ⁽¹⁾	447.65	3.61	91.06	3,602.2

Notes:

- Non-controlling interest as at 31 December is calculated based on Gazprom Group's effective interest in the share capital of the relevant subsidiary which is a subsoil use licence holder.
- Under the Russian laws, a subsoil user does not have any vested right to develop reserves it discovers within the areas covered by its exploration licences or beyond the licenced areas. Such reserves are to be transferred to the open acreage of the Russian Federation, with the subsoil user granted the pre-emptive right to subsequently obtain a licence for developing the relevant discovery.
- (3) Excluding dissolved gas.
- ⁽⁴⁾ Any production-driven changes in gas condensate reserves are recognised following conversion into stable gas condensate (C₅₊). In 2019, Gazprom Group produced 16.7 mm tonnes of unstable gas condensate.

Re-estimation of reserves

Gazprom Group continued revising gas recovery factors (GRFs) under the Russian Classification of Reserves and Resources of Oil and Flammable Gases. Recoverable gas reserves decreased by 516.33 bcm as a result of GFR revision in 2019, with the largest drop in the Yuzhno-Kirinskoye, Zapadno-Tarkosalinskoye, Kharasaveyskoye, Severo-Kamennomysskoye and Rusanovskoye fields. As at 31 December 2019, Gazprom completed the GRF estimation for the fields containing 29% of the Group's total A+B₁+C₁ reserves. Revision of GRFs for Gazprom Group's other fields in the coming years may have a significant impact on the size of its recoverable gas reserves.

Acquisition of assets

Upon the completion of JSC Arcticgas' reorganisation, PJSC Gazprom Neft remained the only participant in OOO NOVATEK-Yarsaleneftegaz (which in February 2020 was renamed to OOO Gazpromneft-Yarsale), which holds a subsoil licence for the Malo-Yamalsky licence area, while PJSC NOVATEK became the only participant in LLC North-Chaselskoye and LLC Yevo-Yakhinskoye, which hold subsoil licences for the North-Chaselskiy licence area and the Yevo-Yakhinskiy licence area, respectively. Following the reorganisation, PJSC Gazprom Neft and PJSC NOVATEK continued to jointly control JSC Arcticgas. Deal-driven A+B₁+C₁ hydrocarbon

reserves growth for Gazprom Group totalled 100.60 bcm of natural gas and 6.32 mm tonnes of gas condensate.

Exploration

In the reporting year, Gazprom Group conducted exploration activities in almost all oil and gas regions of the Russian Federation to ensure commercial reserve replacement for hydrocarbons and prepare the reserve base. Gas exploration was carried out in the UGSS area to maintain production levels at existing fields, on the continental shelf of the Kara and Barents Seas, and the Sea of Okhotsk to ensure reserves growth and formation of strategic reserves, and in Eastern Siberia and the Far East to maintain the existing and create new gas production hubs. Oil exploration activities were mostly concentrated on the Yamal Peninsula, in Eastern and Western Siberia, and the Orenburg Region.

The table below shows summary information on the exploration activities across Gazprom Group's licence areas in Russia and within the foreign projects implemented with the Group's participation:

	For the year ended 31 December 2019		
	In Russia	$\mathbf{Abroad}^{(1)}$	
Exploration drilling for gas and oil,			
thousand m	201.7	18.6	
Completed exploration wells, units	41	7	
including successful wells	39	7	
2D seismic surveys, thousand linear km	15.0	-	
3D seismic surveys, thousand square km	7.9	0.7	
Financing for exploration (including VAT),			
RUB billion	116.9	5.4	

Note:

In addition, for entities in which Gazprom has investments classified as joint operations, exploration drilling stood at 74.7 thousand m, with 18 exploration wells completed and 14 of them flowing, and 3D seismic was acquired on 0.9 thousand square km.

Gazprom made four new field discoveries during 2019: the Dinkov gas condensate field and the Nyarmeyskoye gas field on the Kara Sea continental shelf, the Yagodnoye and Roshchinskoye oil fields in the Orenburg Region, and 25 new deposits within previously discovered fields in the Yamal-Nenets Autonomous Area, Khanty-Mansi Autonomous Area – Yugra, on the Kara Sea continental shelf, in the Tomsk and Orenburg Regions, and the Republic of Sakha (Yakutia). In addition, entities in which Gazprom has investments classified as joint operations discovered the Chikishev field in the Tomsk Region and two deposits in the Khanty-Mansi Autonomous Area – Yugra.

In 2019, exploration-driven additions to $A+B_1+C_1$ hydrocarbon reserves in Russia totalled 556.69 bcm of natural gas, 11.72 mm tonnes of gas condensate, and 28.98 mm tonnes of oil. Including additions to the reserves of companies in which Gazprom has investments classified as joint operations – 1.95 mm tonnes of oil.

Significant growth in gas reserves was achieved at the Kruzenshternskoye field, located on the Kara Sea continental shelf and adjacent onshore areas (262.9 bcm), the Dinkov and Nyarmeyskoye fields on the Kara Sea continental shelf (135.9 bcm and 67.9 bcm, respectively), and the Ludlovskoye field on the Barents Sea continental shelf (48.9 bcm).

The reserves replacement ratio for the Group's assets in Russia was 1.11 for natural gas, and 0.67 for gas condensate and oil.

Outside Russia, in 2019, Gazprom Group continued exploration activities in Algeria (the El Assel project), Bolivia (the Azero project) and Vietnam (Block 112; Blocks 129–132), as well as in Serbia and Romania (Naftna Industrija Srbije (NIS) projects).

⁽¹⁾ The consolidated data reflecting the physical metrics of the exploration activities carried out by Gazprom Group in foreign countries include the data for projects in which the Group's subsidiaries act as operators.

Exploration campaigns conducted by Gazprom Group on the Group-operated projects were mostly concentrated in Serbia and Romania. Exploration drilling totalled 18.6 thousand m, with seven exploration wells completed (all of them flowing), and 3D seismic was acquired on 0.7 thousand square km. As a result of Gazprom Group's exploration campaigns, two new deposits were discovered in Serbia. Under the Agreement of Strategic Cooperation between PJSC Gazprom and JSC Uzbekneftegaz, exploration activities were continued on six investment blocks in the Republic of Uzbekistan.

Production

The table below shows information on the volumes of natural gas and liquid hydrocarbons produced by Gazprom Group, its associates and joint ventures in Russia:

	Natural and associated gas, bcm	Unstable gas condensate, mm tonnes	Oil, mm tonnes	Total, mm boe
For the year ended 31 December 2019				
Production of Gazprom Group, including the share in production volumes of entities in which Gazprom has investments classified as joint operations	501.22	16.71	47.96	3,741.2
Gazprom Group's share in	301.22	10.71	47.50	3,741.2
production volumes of associates and joint ventures	26.86	4.74	11.77	299.4
For the year ended 31 December 2018				
Production of Gazprom Group, including the share in production volumes of entities in which Gazprom has investments classified as joint operations	498.68	15.93	48.28	3,720.7
Gazprom Group's share in	150.00	13.33	10.20	3,720.7
production volumes of associates and joint ventures	26.92	4.87	11.22	296.8

In 2019, Gazprom Group increased its natural and associated gas production in Russia to 501.22 bcm. Gazprom Group produced 47.96 mm tonnes of oil and 16.71 mm tonnes of gas condensate in 2019.

The growth in gas production was due to increased natural gas production from the Bovanenkovskoye OGCF, which was further ramped up in the reporting year, the start-up of natural gas production at the Chayandinskoye OGCF to support export supplies to China via the Power of Siberia gas pipeline (natural gas production totalled 0.84 bcm), as well as an increase in APG production.

Higher gas condensate production by Gazprom Group was mainly due to an increase in gas condensate production from Block 1 of the Achimov deposits at the Urengoyskoye OGCF following the signing of a framework agreement between PJSC Gazprom and Wintershall Dea. In the reporting year, the production drilling programme was completed at the Block. JSC Achimgaz (a joint venture between LLC Gazprom dobycha Urengoy and Wintershall Dea) has operatorship of the project, while LLC Gazprom dobycha Urengoy is the subsoil user.

Production volumes were reduced for a number of Gazprom Neft's fields to meet quotas defined by the Ministry of Energy of the Russian Federation for Gazprom Group under the OPEC+ production cut deal.

In 2019, associates and joint ventures produced 26.86 bcm of natural and associated gas, 4.74 mm tonnes of gas condensate, and 11.77 mm tonnes of oil (share attributable to Gazprom Group).

The increase in the oil production volumes of associates and joint ventures was driven by higher production from the Vostochno-Messoyakhskoye field, operated by JSC Messoyakhaneftegaz (a joint venture between PJSC Gazprom Neft and PJSC Rosneft), and from the fields operated by JSC Arcticgas (a joint venture between PJSC Gazprom Neft and PJSC NOVATEK).

The table below shows information on the number of Gazprom Group's field developments and production well stock (excluding entities in which Gazprom has investments classified as joint operations):

As at 31 December 2019
In Russia Abroad

Fields in commercial development 144 48
Gas production wells (active) 7,438 129
Oil production wells (active) 7,752 757

In addition, as at 31 December 2019, entities in which Gazprom has investments classified as joint operations had 39 fields in commercial development.

Abroad, the number of fields in commercial development totalled 48. These fields are developed by Naftna Industrija Srbije (NIS), a subsidiary of Gazprom Neft Group.

Gazprom Group also has stakes in a number of oil and gas projects at the production stage. In terms of natural gas and gas condensate production, the largest of them include the projects to develop the Moc Tinh and Hai Thach fields on the shelf of Vietnam (Gazprom Group interest 49%), and the Incahuasi field within the Ipati and Aquio blocks in Bolivia (Gazprom Group interest 20%). The Badra field development project in Iraq (Gazprom Group interest 30%) and the Sarqala field located within the Garmian block in Iraq (Kurdistan) are the largest by production of oil and APG. In the reporting year, the projects to develop the Incahuasi and Sarqala fields were at the ramp-up stage.

Naftna Industrija Srbije (NIS), a subsidiary of Gazprom Neft Group, produced 0.89 mm tonnes of oil and gas condensate and 0.46 bcm of natural and associated gas in 2019 (2018: 0,92 mm tonnes of oil and gas condensate and 0.49 bcm of natural and associated gas). Production was mostly concentrated in Serbia, as well as in Angola, Bosnia and Herzegovina, and Romania.

In the British, Danish, and Dutch sectors of the North Sea, Wintershall Noordzee B.V. joint venture (Gazprom Group interest 50%) produced 0.535 bcm of natural gas and 0.06 mm tonnes of oil and gas condensate (2018: 0.712 bcm of natural gas and 0.06 mm tonnes of oil and gas condensate).

The Group's associate Wintershall AG (Gazprom Group interest 49%) still faces challenges due to the ongoing political crisis in Libya, which resulted in limited oil production and exports. In the reporting year, 2.39 mm tonnes of oil and 0.42 bcm of associated gas were produced (2018: 2.15 mm tonnes of oil and 0.31 bcm of associated gas).

Major capex projects

The bulk of gas production capex in 2019 was spent on the following projects:

- Chayandinskoye OGCF infrastructure construction
- Exploration drilling and infrastructure construction to develop the Cenomanian-Aptian deposits at the Bovanenkovskoye OGCF
- Infrastructure construction at the second pilot block of the Achimov deposits at the Urengoyskoye OGCF

Within its gas production capex projects, in 2019 Gazprom commissioned:

• A 12.5 bcm per year comprehensive gas treatment unit (CGTU) at the Chayandinskoye OGCF

- Three booster compressor stations at the Chayandinskoye and Bovanenkovskoye fields, and at Pestsovaya structure of the Urengoyskoye filed, with a combined capacity of 244 MW
- 1.8 bcm per year capacity, added to the CGTU at the second block of the Achimov deposits at the Urengoyskoye OGCF
- 151 new gas production wells in Russia

The bulk of oil and gas condensate production capex was spent on the following projects:

- Field construction to develop the oil rim of the Botuobinskoye deposit at the Chayandinskoye OGCF
- The implementation of Gazprom Neft Group's projects, including construction and production drilling at the Novoportovskoye OGCF and the Prirazlomnoye oil field, participation in auctions for subsoil licences, as well as capex projects for conventional assets

Within its oil and gas condensate production projects, in 2019 Gazprom commissioned:

- Phase 2 facilities of the TL-4 CS at the Orenburgskoye OGCF's Eastern block
- A booster compressor station and a gas pipeline at the Urmanskoye field
- A 131 thousand tonnes per year oil treatment unit, installed within the investment project for the field construction to develop the oil rim in the Botuobinsky horizon of the Chayandinskoye OGCF
- 640 new oil production wells in Russia

Oil and gas condensate sales

In 2019, Gazprom Group sold 27.27 mm tonnes of crude oil and stable gas condensate. Total net sales (net of VAT and customs duties) reached RUB 752.8 bn, up by RUB 17.8 bn, or 2.4% year-on-year, an increase over 2018 driven mostly by higher crude oil sales volumes.

The table below shows the volumes of oil and gas condensate sales by Gazprom Group in the domestic and foreign markets:

(mm tonnes)	rim tonnes) For the year ended 31 December		
_	2019 ⁽¹⁾	$2018^{(1)}$	%
Russia	2.62	2.66	-1.5
including Gazprom Neft Group	1.19	1.15	3.5
FSU countries	1.71	1.74	-1.7
including Gazprom Neft Group	1.71	1.65	3.6
Europe and other countries	22.94	21.15	8.5
including Gazprom Neft Group	20.31	18.30	11.0
Total	27.27	25.55	6.7

Note:

Sales were up year-on-year mostly due to Gazprom Neft Group ramping up production and exports from the Novoportovskoye and Vostochno-Messoyakhskoye fields, and lower refining volumes at Gazprom Neft Group's refineries.

Events in the reporting year

In 2019, Gazprom Group continued developing the Yamal gas production hub. In March 2019, the Group commenced the full-scale development of the Kharasaveyskoye gas condensate field, Gazprom's second core asset on the Yamal Peninsula, with explored gas reserves totalling 1.9 tcm (C_1+C_2 categories). The Group's extensive track-record and expertise enable it to implement this complex project within a short timeframe – production start-up is scheduled for 2023.

The resource base of the Yamal gas production hub has also grown. In the reporting year, significant discoveries were made on the Kara Sea continental shelf – the Dinkov and Nyarmeyskoye fields. According to Westwood Global Energy consultancy, these fields are the largest discoveries of the

⁽¹⁾ The volumes of oil and gas condensate sales do not include intra-group sales.

first half of 2019 globally. In addition, significant growth in gas reserves was achieved through exploration at the Kruzenshternskoye gas condensate field, located on the Kara Sea continental shelf and adjacent onshore areas.

Outlook for the Production of gas and Production of crude oil and gas condensate segments

Gas reserves contained in the conventional hydrocarbon fields operated by Gazprom Group represent 70 years of supply to the domestic and foreign markets at the current production rate.

Strategic priorities in exploration and production of gas:

- Building gas production hubs in eastern Russia. The Chayandinskoye OGCF is the core field for the future Yakutia gas production hub, and the Kovyktinskoe gas condensate field is key to the future Irkutsk gas production hub. These fields comprise the resource base for the Power of Siberia trunk gas pipeline. The priority developments to add production capacity at the Sakhalin gas production hub include Sakhalin-3 fields the Kirinskoye gas condensate field put into commercial development in 2014, and the Yuzhno-Kirinskoye oil and gas condensate field, one of Gazprom's priority projects in gas production over the longer term
- Bringing into development the Yamal Peninsula's unique, large fields (Cenomanian-Aptian deposits of the Kharasaveyskoye field, Neocomian-Jurassic deposits of the Bovanenkovskoye and Kharasaveyskoye fields, and the Kruzenshternskoye field)
- Bringing online new fields in the Nadym-Pur-Taz region
- Further exploration of deposits in deep-lying Achimov and Jurassic sediments and above the Cenomanian sediments in fields under development in the Yamal-Nenets Autonomous Area
- Bringing into development continental shelf fields in Russian northern seas (fields in the Ob and Taz Bays, primarily the Severo-Kamennomysskoye and Kamennomysskoye-Sea fields, and the Shtokman field on the Barents Sea continental shelf)

2020 and mid-term (2021–2024) objectives in exploration and production of gas in the context of strategic priorities:

- Ensuring increased reserve replacement rates
- Further building of new gas production hubs in Russia
- Upgrades and retrofits of existing gas production facilities to maintain target gas production levels

In particular, start of commercial development is scheduled for Blocks 4 and 5 of the Achimov deposits in the Urengoyskoye field, with Blocks 1 and 2 expected to ramp-up to full production capacity, along with the expansion of the existing booster compressor capacity, and the launches of new booster compressor stations and production wells at the Cenomanian-Aptian deposits of the Bovanenkovskoye field.

Plans also include the completion of field infrastructure expansion (including commissioning of a revamped Phase 1 onshore processing facility) at the Kirinskoye field to ensure gas production rampup to design capacity, start of commercial development of the Kovyktinskoye field, the Cenomanian-Aptian deposits at the Kharasaveyskoye field, and the Yuzhno-Kirinskoye field, and ramp-up to design capacity of the Chayandinskoye field.

Strategic priorities in exploration and production of oil:

- Efficient development of mature assets
- Developing the resource base of the Yamal Peninsula
- Bringing into development and monetising the uniquely vast liquid hydrocarbon reserves in the Nadym-Pur-Taz region
- Building a hydrocarbon production hub on the Sea of Okhotsk continental shelf

- Developing technology for cost-effective development of the Bazhenov suite, Domanic and Paleozoic deposits
- Bringing into development the remaining recoverable reserves that are currently economically unrecoverable through development and deployment of new technologies
- Building up the resource base to support production beyond 2025

2020 and mid-term (2021–2024) objectives in exploration and production of oil in the context of strategic priorities:

- Driving mature asset performance and implementing the enhanced oil recovery programme
- Further exploration of blocks on the Sea of Okhotsk continental shelf
- Bringing into development the previously untapped reserves within the oil-rim deposits, and Achimov and Neocomian-Jurassic deposits at Gazprom Group fields
- Developing technology for cost-effective development of hard-to-recover hydrocarbon reserves

In particular, plans include the ramp-up to design capacity of the Novoportovskoye field, start of commercial development of the Alexander Zhagrin field, and start of commercial development and ramp-up to design capacity for oil rims of the Yen-Yakhinskoye, Zapadno-Tarkosalynskoye and Pestsovoye fields of the Nadym-Pur-Taz region. Plans also include the start of commercial development of the Tazovskoye field, ramp-up to design capacity of the Vostochno-Messoyakhskoye field, as well as the start of commercial development of the Chonsky cluster in Eastern Siberia (Tympuchikansky, Ignyalinsky and Vakunaysky licence areas).

Transportation of gas

The table below shows information on the assets and capital expenditures in the Transportation of gas segment:

	As at 31 December		
	2019	2018	
Assets, RUB million	7,000,467	7,023,399	
Share in the Group's total assets, %	35.2	36.6	

	For the year ended 31 December		
	2019 2018		
Capital expenditures, RUB million	464,203	640,063	
Share in the Group's total capital expenditures, %	25.5	35.6	

Gas transportation system

The UGSS of Russia is a centrally operated system of natural gas production, processing, treatment, transportation and storage. The UGSS incorporates the world's longest network of high-pressure trunk pipelines covering European Russia and Western Siberia. In addition, the Group owns trunk gas pipelines in the Russian Far East: the Power of Siberia, Sakhalin–Khabarovsk–Vladivostok, and Sobolevo–Petropavlosk-Kamchatsky pipelines. Gazprom's GTS, which is unique in its size and quality parameters, ensures highly reliable and flexible gas supplies for consumers in Russia and abroad.

To secure reliable gas supplies Gazprom Group is focused on the continuous development of the GTS – building new, hi-tech gas pipelines and renovating, upgrading, and retrofitting the existing pipeline capacity, as well as implementing a programme to decommission excess gas transportation capacity.

As at 31 December 2019, the combined length of trunk pipelines and connections operated by the Group's gas transportation subsidiaries in Russia totalled 175.4 thousand km (including technological jumpers).

During 2019, a total 678.96 bcm of gas were supplied into Gazprom's GTS in Russia (2018: 693.07 bcm). The decrease from the previous year was driven by the natural gas demand dynamics in Russia and abroad. In 2019, the amount of natural gas consumed for the GTS' own operational needs was 37.99 bcm (2018: 40.14 bcm).

As the owner of the Russian section of the GTS, PJSC Gazprom leases out free gas pipeline capacity (subject to its availability) to independent companies provided they have documents confirming their ownership of gas supplies or the existence of contractual obligations to buy (sell) gas, and a proof of the customer's readiness to accept the stated gas supplies within the gas delivery period. Independent companies using PJSC Gazprom's GTS are also required to ensure treatment of gas to the applicable standards and technical regulations prior to its transportation, and accounting for gas supplies at custody transfer stations.

In 2019, the volume of gas transported via Gazprom Group's GTS in Russia by companies outside Gazprom Group was 132.12 bcm (2018: 136.42 bcm). The reduced access to the GTS capacity was due to the overall declines in gas production by companies outside Gazprom Group, as well as lower gas supplies to Russian consumers in general.

Gazprom Group companies own the gas transportation systems in Belarus (OJSC Gazprom transgaz Belarus), Armenia (CJSC Gazprom Armenia) and Kyrgyzstan (LLC Gazprom Kyrgyzstan), ensuring supplies of natural gas to consumers in these countries. The trunk gas pipelines owned and operated by OJSC Gazprom transgaz Belarus, the Group's core gas transportation asset outside Russia, also carry transit supplies of Russian natural gas to European countries and Russia's Kaliningrad Region. Daily requests by PJSC Gazprom to transport Russian natural gas through Belarus were satisfied in full during 2019.

The table below shows the volumes of gas injected into the gas transportation system of Belarus:

(bcm)	For the year ended 31 December	
	2019	2018
Belarus		
(OJSC Gazprom transgaz Belarus and the Yamal–Europe trunk		
gas pipeline)	60.8	62.6
including gas in transit	40.5	42.3

Nord Stream (operated by joint venture Nord Stream AG) and Blue Stream (operated by Blue Stream Pipeline Company B.V., which is included in the list of entities in which Gazprom has investments classified as joint operations), offshore cross-border pipeline systems constructed with Gazprom's involvement, secure gas supplies to consumers in Northwest and Central Europe, as well as in Turkey.

The key drivers of gas pipeline capacity utilisation include demand from European consumers and regulatory restrictions by supervisory authorities on access to pipeline capacity for transit supplies.

In the reporting year, gas supplies to consumers in Northwest and Central Europe (Nord Stream, 58.5 bcm of gas) and Turkey (Blue Stream, 11.1 bcm of gas) were provided.

As at 31 December 2019, both strings of the TurkStream trunk gas pipeline's offshore section were filled with gas and ready to start supplies. South Stream Transport B.V., a Gazprom Group subsidiary, is the owner and operator of the trunk gas pipeline's offshore section, as well as the owner of the offshore section's receiving terminal.

Under the relevant agreements, gas transportation companies of neighbouring countries provide gas transportation services to PJSC Gazprom. In the reporting year, documents and agreements were signed to provide for continued gas transit through Ukraine beyond 31 December 2019.

Major capex projects

The bulk of gas transportation capex in 2019 was spent on the following projects:

• Expansion of UGSS' gas transportation capacity at the Gryazovets – Slavyanskaya CS section in the North-West region

- Construction of the Power of Siberia, Nord Stream 2 and TurkStream trunk gas pipelines
- Construction of loopings at the Gryazovets–Vyborg gas pipeline to connect the second string at the Gryazovets–Volkhov section

Within its gas transportation capex projects, in 2019 Gazprom commissioned the following facilities:

- One 128 MW compressor station at the Power of Siberia trunk gas pipeline
- 2,279.3 km of new trunk gas pipelines and connections in Russia, including 2,250.9 km of the Power of Siberia trunk gas pipeline
- 1,876 km of the two strings of the TurkStream trunk gas pipeline's offshore section, and a receiving terminal for the pipeline's offshore section in Turkey
- 2 revamped gas pumping units with a combined capacity of 32 MW in Russia

In 2019, the construction of Nord Stream 2 and the expansion of the Northern Gas Transmission Corridor were continued. In the Baltic Sea, the installation of the Nord Stream 2 gas pipeline sections was completed on schedule in the territorial waters of Finland, Sweden and Russia. As at 31 December 2019, over 2,300 km of pipe were laid under the Baltic Sea across all sections (94% of the route's total length). The construction of onshore sections in Germany and Russia is nearing completion.

As part of the UGSS expansion project in the North-West region, welding of the 880 km linear section of the pipeline between Gryazovets and Slavyanskaya CS was completed, the starting point of the Nord Stream 2 gas pipeline.

Events in the reporting year

In December 2019, an official ceremony was held to celebrate the start of the first-ever Russian pipeline gas supplies to China via the Power of Siberia gas pipeline, one of the largest investment projects in the global gas industry. As part of the project, a gas production hub was established in Yakutia, about 2,200 km of gas pipeline were laid, and a cross-border section with a two-line underwater crossing of the Amur River was built jointly with CNPC.

In 2019, the Group completed the construction of the TurkStream trunk gas pipeline's offshore section linking Russia and Turkey via the Black Sea, and the onshore transit section of the TurkStream pipeline running across Turkey to its border Bulgaria. Pipeline gas supplies via the new route commenced in January 2020, contributing to the energy and environmental security of Turkey and European countries.

On 30 October 2019, the approval was obtained for the Nord Stream 2 gas pipeline route to run in Denmark's exclusive economic zone south-east of the island of Bornholm.

On 20 December 2019, following the signing of the National Defense Authorization Act for Fiscal Year 2020 by U.S. President Donald Trump, Allseas vessels laying pipeline at depths of over 100 feet left the Nord Stream 2 pipe-laying area as, among others, the bill contained sanctions against companies involved in the implementation of the Nord Stream 2 and TurkStream projects. The offshore pipe-laying operations for the gas pipeline have been suspended, and various alternative options are being explored to complete the construction of the pipeline and put it into operation.

Outlook for the Transportation of gas segment

Strategic priorities in gas transportation:

- Comprehensive expansion of gas production, transportation and storage capacity in tandem with export projects, taking into account the degree of readiness to receive gas shown by new consumers
- Diversification of gas export routes
- Construction of new gas transportation capacity
- Upgrades and retrofits of existing gas transportation facilities

2020 and mid-term (2021–2024) objectives in gas transportation in the context of strategic priorities:

- Construction of gas transportation capacity to ensure diversification of gas export routes
- Construction of new gas transportation capacity in Russia to ensure gas supplies to the domestic market and meet obligations under export contracts, including gas transportation capacity intended to carry gas from the Yamal fields to the Nord Stream 2 gas pipeline
- Implementation of comprehensive programmes for revamping and retrofitting existing gas transportation facilities
- Decommissioning of excess capacity of the Central Gas Transmission Corridor

In particular, plans include the commissioning of the Nord Stream 2 gas pipeline, continued development of gas transportation facilities at the Gryazovets – Slavyanskaya CS section, phased commissioning of the Power of Siberia trunk gas pipeline, completing looping of the linear section of the Sakhalin–Khabarovsk–Vladivostok trunk gas pipeline, the ramp-up to full capacity of the Ukhta–Torzhok 2 and Bovanenkovo–Ukhta 2 gas pipelines, and the start of the phased commissioning of the Bovanenkovo–Ukhta 3 and Ukhta–Torzhok 3 gas pipelines.

Underground Gas Storage

The table below shows information on the assets and capital expenditures in the Gas storage segment:

	As at 31 December	
	2019	2018
Assets, RUB million	370,887	393,700
Share in the Group's total assets, %	1.9	2.1

	For the year ended 31 December	
	2019	2018
Capital expenditures, RUB million	14,268	19,391
Share in the Group's total capital expenditures, %	0.8	1.1

The network of underground gas storage facilities (UGSFs) is an integral part of Russia's UGSS. Gas storage facilities level off seasonal, weekly and daily fluctuations in gas demand, accounting for 20% to 40% of Gazprom's total gas supplies during the heating season. Peak and base load gas storage facilities ensure the reliability of the UGSS infrastructure and optimise technical parameters and capital intensity of gas transportation systems. Gazprom Group's UGSFs are used to manage seasonal fluctuations in gas consumption, support extra gas supplies in the event of cold snaps or technical faults within the UGSS, and ensure reliability of gas exports and long-term reservation.

In Russia, Gazprom operates 23 UGSFs. As at 31 December 2019, Gazprom Group's UGSFs in Russia had an aggregate total gas storage capacity of 75.01 bcm. By the start of the withdrawal season, the potential maximum daily deliverability was increased by 30.8 mmcm from 2018 and totalled 843.3 mmcm of gas. The improved performance was due to the commissioning of the Volgogradskoye UGSF, and the expansion and revamps of the existing gas storage facilities – the Kasimovskoye UGSF and the Punginskoye UGSF. As at the start of the 2019/2020 withdrawal season, operating gas reserves in Russian UGSFs amounted to 72.232 bcm.

During 2019, withdrawal and injection amounts for Russian UGSFs totalled 40.54 bcm and 45.04 bcm of gas, respectively.

The UGSFs outside Russia enable Gazprom Group to build strategic natural gas reserves mitigating export transit risks. To ensure reliable gas supplies, Gazprom makes extensive use of gas storage facilities located in FSU and far abroad countries.

In the FSU countries, Gazprom operates UGSFs in Belarus (Pribugskoye, Osipovichskoye, and Mozyrskoye), in Armenia (the Abovyanskaya underground gas storage station), and employs capacities of the Inčukalns UGSF in Latvia during repairs and emergencies.

By the start of the 2019/2020 withdrawal season, the operating gas reserves in FSU-based UGSFs totalled 1.18 bcm. No operating gas reserves were built at the Inčukalns UGSF for the

2019/2020 withdrawal season. A range of measures are being implemented in Belarus to expand the Mozyrskoye UGSF, which will increase the volume of operating gas reserves at the facility from 0.50 bcm at start of the 2019/2020 withdrawal season to 0.65 bcm.

In 2019, Gazprom Group injected 0.96 bcm of gas into FSU-based UGSFs, and withdrew a total of 1.09 bcm.

Gazprom makes extensive use of gas storage facilities located in far abroad countries: in Austria (Haidach), Germany (Jemgum, Rehden, Katarina, and Etzel), Serbia (Banatski Dvor), and the Czech Republic (Dambořice).

By the start of the 2019/2020 withdrawal season, Gazprom's storage capacity contracted by LLC Gazprom export in far abroad European countries totalled approximately 8.5 bcm of working gas. The additional commercial gas storage contracts valid until 31 March 2021 secured another 3.0 bcm of gas storage capacity at UGSFs in Austria, Hungary and Slovakia. As at 31 December 2019, the total volume of operating gas reserves at European UGSFs was 11.7 bcm.

In 2019, a total of 8.2 bcm of PJSC Gazprom's gas were injected into UGSFs in far abroad European countries under OOO Gazprom export contracts (2018: 6.6 bcm), with a total gas withdrawal of 2.2 bcm (2018: 7.2 bcm). This has allowed PJSC Gazprom to meet its obligations to counterparties during repairs at the GTS and avoid penalties for short supplies, as well as earn extra revenue from gas sales. The decrease in gas withdrawal in 2019 as compared to 2018 was due to weather conditions. At the same time, PJSC Gazprom executed transactions to monetise natural gas reserves kept in underground storage at UGSFs in European far abroad countries – the total amount of 7.6 bcm of gas under repo agreements.

Major capex projects

The bulk of capital expenditures on underground gas storage in 2019 was spent on the following projects:

- Expansion and revamp of the Kanchurinsko-Musinsky UGS complex
- Revamps of existing and construction of new facilities at the Kaliningradskoye UGSF
- Expansion of the Punginskoye UGSF
- Revamps of UGSF operating wells in Russia

Within its gas storage capex projects, in 2019 Gazprom commissioned the following facilities in Russia:

- 6 new operating wells at the Sovkhoznove UGSF
- 42 operating wells, following revamps at the Stepnovskoye, Kasimovskoye, Shchelkovskoye, Peschano-Umetskoye and Elshano-Kurdyumskoye UGSFs in Russia

Outlook for the Gas storage segment

Strategic priorities in gas storage:

- Sustaining the capacity levels achieved for the UGSF network, improving the flexibility of the UGSF system, increasing daily productivity and operating gas reserve in existing underground gas storage facilities, and providing UGSF capacity to Russian regions where such capacity is in short supply
- Expanding Gazprom Group's UGSF capacity outside Russia

2020 and mid-term (2021–2024) objectives in gas storage in the context of strategic priorities:

- Revamps and replacement of worn-out and obsolete fixed assets at existing UGSFs
- Construction and expansion of the peak-shaving Kaliningradskoye, Volgogradskoye, and Shatrovskoye UGSFs, as well as the Udmurtskoye reserve complex

- Providing UGSF capacity to regions where such capacity is in short supply (the prospective areas for the construction of new UGSFs are Russia's Northwestern, Siberian, and Far Eastern Federal Districts)
- Improving the flexibility of Russia's UGSF system by constructing small peak-shaving gas storage facilities in salt caverns to maintain deliverability rates during increased gas withdrawal periods through to 1 February

Distribution of Gas

The table below shows information on the assets and capital expenditures in the Distribution of gas segment:

	As at 31 December	
	2019	2018
Assets, RUB million	1,691,356	1,719,640
Share in the Group's total assets, %	8.5	9.0

	For the year ended 31 December	
	2019	2018
Capital expenditures, RUB million	25,827	39,078
Share in the Group's total capital expenditures, %	1.4	2.2

The table below shows Gazprom Group's natural gas sales volumes by geographic segment:

(ham)	For the year ended 31 December		Change,
(bcm)	2019	2018	%
Russia	235.8	239.7	-1.6%
FSU countries ⁽¹⁾	38.7	38.1	1.6 %
Europe and other countries ⁽¹⁾	232.4	243.3	-4.5%
Total	506.9	521.1	-2.7 %

Note:

In 2019, Gazprom Group sold 232.4 bcm of natural gas to Europe and other countries. The decrease in gas sales was due to weather conditions and higher LNG supplies, as well as the economic situation in certain countries (primarily Turkey).

Net sales (net of excise tax and customs duties) was RUB 2,490.4 bn, down 15.6% year-on-year. The change was mostly due to the decrease in average rouble prices (including excise tax and customs duties) and the declines in volumes of gas sold.

Gazprom Group is a key supplier of natural gas to European far abroad countries. In the reporting year, the Group's gas exports were mostly sold to the UK, Germany, Italy, the Netherlands and Turkey.

The bulk of the natural gas sold in far abroad countries is exported from Russia via LLC Gazprom export. In response to changes in the European market, LLC Gazprom export is gradually expanding its business in the short-term gas market, including in gas trading, as well as investing in joint ventures active in European countries, including in end-user markets.

In 2019, 0.3 bcm of pipeline gas was sold to China via the Power of Siberia trunk gas pipeline.

According to management estimates, large-scale LNG sales from Gazprom Group's trading portfolio totalled 3.78 mm tonnes, or 5.04 bcm, in 2019, a decrease of 2.7% as compared to 2018.

Corporates in China, India, UK, Spain, South Korea, and Japan were the key buyers of LNG in 2019. Gazprom is the largest natural gas supplier on the Russian market. In 2019, gas consumption in Russia totalled 481.0 bcm, down by 2.5%, or 12.2 bcm, from 2018. The largest consumers of natural gas in

Sales to FSU countries, and to Europe and other countries include both gas exports from the Russian Federation, and sales of gas purchased by the Group outside Russia.

Russia include electricity and heat generators, household consumers, the oil industry, the housing and utilities sector, and metallurgy.

In the reporting year, Gazprom Group sold 235.8 bcm of gas to consumers in the Russian Federation, with net sales (excluding VAT) at RUB 970.9 bn, up by 1.7% year-on-year. The change was mostly due to the increase in average rouble prices (excluding VAT), which was partially offset by the declines in volumes of gas sold.

The reduction in sales volume was a consequence of warmer weather conditions in Q1 and Q4 2019 and was mainly observed for those groups of consumers, whose gas use is of a pronounced seasonal nature: generators, housing and utilities and households.

During 2019, Gazprom took steps to retain existing consumers and win back lost major consumers by offering them more attractive gas payment terms, as well as capitalise on the opportunities to purchase gas through exchange-based gas trades at Saint Petersburg International Mercantile Exchange (AO SPIMEX) for resale to consumers.

Gazprom Group covers a significant portion of natural gas demand in FSU countries.

In 2019, Gazprom Group sold 38.7 bcm of gas to the FSU countries, with net sales (net of customs duties) at RUB 356.1 bn, up by 2.1% year-on-year. The change was mostly due to the increase in volumes of gas sold.

The increase in natural gas supplies to the FSU countries in 2019 was largely driven by the agreements reached to deliver additional commercial gas supplies to Kazakhstan in July–December 2019. During the repair period at the Armenian nuclear power plant, gas withdrawals increased in Armenia to replace the corresponding generating capacity. Also in 2019, a new contract was signed for gas supplies to Georgia.

Domestic natural gas prices

The table below shows the average prices of natural gas sold by Gazprom Group in the domestic market:

	For the year ended	For the year ended 31 December	
	2019	2018	
	(net of V	(net of VAT)	
RUB per mcm	4,118.2	3,981.3	

In accordance with applicable Russian laws, end consumers buy gas at regulated prices which are differentiated between consumer groups (households vs industrial consumers), as well as by price zone, based on the relative distance from the gas production region to the consumer.

The table below shows the weighted average wholesale regulated prices (net of VAT) of PJSC Gazprom's gas for industrial and household consumers:

	For the year ended 31 December	
	2019	2018
RUB per mcm	(net of VA	Γ)
Weighted average annual price for industrial and		_
household consumers ⁽¹⁾	4,224.8	4,117.2
Weighted average annual price for industrial consumers ⁽²⁾	4,423.7	4,316.4
Weighted average annual price for subsequent resale to		
households ⁽²⁾	3,734.4	3,640.0

Notes:

In Russia, gas is sold and purchased using two different pricing approaches, which results in the existence of two gas sales sectors – with prices fixed by the Government or unregulated prices.

Gas produced by PJSC Gazprom subsidiaries is sold mostly at prices fixed by the Government. In accordance with applicable Russian laws, wholesale prices of gas produced by PJSC Gazprom and its affiliates are subject to regulation.

As per the Forecast of Russia's Socio-economic Development drafted by the Russian Ministry of Economic Development and approved by the Government in September 2019, a 3% annual increase in regulated domestic wholesale gas prices is expected in 2020–2024 for all consumer categories, with prices indexed annually on 1 July.

To promote market-driven pricing principles, PJSC Gazprom is actively engaged in exchange-based gas trade at Saint Petersburg International Mercantile Exchange (AO SPIMEX). For instance, PJSC Gazprom's gas volumes sold through the exchange totalled 10.5 bcm in 2019.

Natural gas prices in FSU, Europe and other countries

The table below shows the average prices of natural gas (including excise tax and customs duties) sold by Gazprom Group to FSU, Europe and other countries:

	For the year ended 31 December	
	2019	2018
	(including excise tax and	customs duties)
Natural gas sales to Europe and other countries ⁽¹⁾		
USD per mcm ⁽²⁾	210.6	246.4
RUB per mcm	13,613.0	15,499.5
Natural gas sales to FSU countries ⁽¹⁾		
USD per mcm ⁽²⁾	157.4	162.6
RUB per mcm	10,175.9	10,225.9

Notes:

- (1) VAT is not charged on sales to Europe and other countries, as well as to FSU countries.
- (2) Calculated on the basis of average exchange rate between the RUB and US Dollar.

Major capex projects

The bulk of capital expenditures for the Distribution of Gas segment in 2019 was spent on the construction of an LNG production, storage, and shipping complex near the Portovaya CS in the Leningrad Region, and on the expansion of gas infrastructure in Russian regions.

The Programme for Expansion of Gas Infrastructure in Russian Regions approved for 2019 covered 66 constituent entities of the Russian Federation. In 2019, Gazprom completed the construction of 124 gas supply facilities with a total length of 1,880 km and extended gas infrastructure to connect 68.31 thousand households and apartments and 179 boiler houses across 305 locations.

Events in the reporting year

A commissioning ceremony was held in the Kaliningrad Region in January 2019 for an offshore gas receiving terminal and a floating storage and regasification unit, Marshal Vasilevskiy. The option of receiving LNG seaborne shipments improves the energy security of the region.

⁽¹⁾ Calculated as the combined weighted average prices for industrial and household consumers for the year indicated. Weighting is based on actual volumes delivered to each price zone for household and industrial consumers, respectively (exclusive of gas volumes supplied pursuant to Resolution of the Government of the Russian Federation No. 333 dated 28 May 2007 On Improvement of State Gas Price Regulation).

⁽²⁾ Weighting is based on actual volumes delivered to each price zone for each group of consumers separately, household and industrial consumers, respectively (exclusive of gas volumes supplied pursuant to Resolution of the Government of the Russian Federation No. 333 dated 28 May 2007 On Improvement of State Gas Price Regulation).

Outlook for the Distribution of Gas segment

Strategic priorities in distribution of gas include expansion of gas supply and gas infrastructure in Russian regions, as well expansion of LNG production capacity.

2020 and mid-term (2021–2024) objectives in gas distribution in the context of strategic priorities include the implementation of LNG projects in Russia including the commissioning of an LNG production, storage, and shipping complex near the Portovaya CS and an integrated complex for gas processing and liquefaction near the seaport of Ust-Luga in the Leningrad Region (a joint project between PJSC Gazprom and JSC RusGazDobycha), as well as further expansion of gas supply and gas infrastructure in Russian regions.

Refining

The table below shows information on the assets and capital expenditures in the Refining segment:

	As at 31 December	
	2019	2018
Assets, RUB million	2,555,819	2,059,715
Share in the Group's total assets, %	12.8	10.7

	For the year ended 31 December	
	2019	2018
Capital expenditures, RUB million	437,758	309,417
Share in the Group's total capital expenditures, %	24.1	17.2

Processing of hydrocarbons and production of refined products

The table below shows the volumes of Gazprom Group's hydrocarbon processing:

	For the year ended 31 December	
	$2019^{(1)}$	$2018^{(1)}$
Natural and associated gas, bcm	31.47	31.06
Liquid hydrocarbon feedstocks, mm tonnes	67.13	67.40

Note:

Gazprom has significant reserves of multicomponent gas. Its production and subsequent processing enable the Group to expand its product portfolio. Two gas processing megaprojects are currently in progress – the construction of the Amur GPP in eastern Russia and an integrated complex in the seaport of Ust-Luga in the western part of the country. These projects are the examples of the practical implementation of Gazprom's economic model for comprehensive monetisation of hydrocarbon reserves to diversify revenue sources.

In 2019, Gazprom Group processed 31.47 bcm of natural and associated gas, excluding tolling arrangements, up 1.3% year-on-year. The increase was due to higher natural gas processing volumes at the Astrakhan GPP owned by LLC Gazprom pererabotka.

Processing of liquid hydrocarbon feedstocks (crude oil, gas condensate, and fuel oil) was almost flat year-on-year at 67.13 mm tonnes. The decrease in oil and stable gas condensate processing volumes at Gazprom Neft refineries due to scheduled repairs was offset by increased processing volumes of unstable gas condensate at the Urengoy Condensate Pre-Transportation Preparation Plant and of oil and gas condensate mixture at the Surgut Condensate Stabilisation Plant (CSP) owned by LLC Gazprom pererabotka.

⁽¹⁾ Excluding tolling arrangements.

The table below shows production volumes of major refined products of Gazprom Group:

For the year	ended 31 December
2010(1)	2010(1)

	201	9(1)	2018	(1)
_	Total	including abroad	Total	including abroad
Dry gas, bcm	23.93	_	23.59	_
Liquefied petroleum gases, mm tonnes	3.66	0.08	3.61	0.10
including Gazprom Neft Group	0.72	0.08	0.80	0.10
Natural gas liquids, mm tonnes	1.38	_	1.47	_
Stable gas condensate and crude oil, mm tonnes	8.36	_	8.23	_
Oil products, mm tonnes	50.85	3.28	51.40	3.68
including Gazprom Neft Group	39.33	3.28	40.44	3.68
including Gazprom neftekhim Salavat Group	5.37	_	5.27	_
Helium, mmcm	4.73	_	5.09	_
Sulphur, mm tonnes	5.38	$0.0^{(2)}$	5.18	$0.0^{(2)}$
including Gazprom Neft Group	0.19	$0.0^{(2)}$	0.16	$0.0^{(2)}$

Notes:

The table below shows Gazprom Group's output of oil products:

(mm tonnes)	For the year ended 31 December	
	2019	2018
Diesel fuel	15.51	15.66
Motor gasolines	11.70	12.05
Fuel oil	7.17	6.88
Aviation fuel	3.43	3.55
Marine fuel	2.80	2.95
Bitumens	2.96	3.12
Lubricants	0.54	0.49
Other oil products	6.74	6.70
Total	50.85	51.40

Note:

Excluding tolling arrangements.

Sales of refined products

In 2019, Gazprom Group's sales of oil and gas refined products were 70.18 mm tonnes.

Net sales amounted to RUB 2,111.2 bn (net of excise tax, VAT, and customs duties). The decrease in net sales of refined products was due to a decrease in average sale prices for refined products by Gazprom Neft Group to consumers located in Europe and other countries, as well as a decrease in sales volumes in the Russian Federation and FSU.

⁽¹⁾ Excluding tolling arrangements.

⁽²⁾ Less than 0.05.

The table below shows sales of refined and petrochemical products by Gazprom Group:

(mm tonnes)	For the yea 31 Decer		Change, %
	2019	2018	
Russia	43.12	43.18	-0.1%
including Gazprom Neft Group	28.51	29.57	-3.6%
FSU countries	3.55	4.37	-18.8%
including Gazprom Neft Group	2.88	3.02	-4.6%
Europe and other countries	23.51	21.31	10.3%
including Gazprom Neft Group	13.93	13.22	5.4%
Total	70.18	68.86	1.9%

Note:

Excluding intra-group sales and sales of helium.

The table below shows sales of refined products by Gazprom Group:

(mm tonnes) For the year ended 31 l		31 December
	2019	2018
Motor gasoline	13.53	13.64
Diesel fuel	17.36	17.20
Aviation fuel	3.98	3.94
Fuel oil	7.00	6.46
Lubricants	0.48	0.48
LPG	4.25	4.10
Sulphur	6.46	5.24
Mineral fertilisers	0.81	0.86
Polymers	0.10	0.11
Other refined, petrochemical, and gas chemical products	16.21	16.83
Total	70.18	68.86

Note:

Excluding intra-group sales and sales of helium.

The table below shows Gazprom Group's sales of helium:

	For the year ended 31 December		Change, %
	2019	2018	
Gaseous helium, mmcm	3.63	3.42	6.1%
Liquid helium, tonnes	214.6	260.1	-17.5%

Note:

Excluding intra-group sales.

The increase in Gazprom Group's sales of refined products to Europe and other countries in 2019 was mainly due to higher sales of sulphur, motor gasolines and fuel oil as this geographical segment offers higher sales margins compared to sales in the domestic market and the FSU countries.

The decrease in total helium sales was due to lower production and processing volumes of helium-rich gas at the Orenburgskoye OGCF. The increased share of gaseous helium in the total supplies of marketable helium was due to higher demand for the gaseous product in the domestic market. LLC Gazprom pererabotka's liquid helium production capacity at the Orenburg Helium Plant was fully utilised, and the output of marketable liquid helium did not decrease. In turn, liquid helium filling and regasification capacities were utilised to match consumer demand for liquid and gaseous products.

Major capex projects

The bulk of capital expenditures for refining in 2019 was spent on the following projects:

- Construction of the Amur GPP
- Implementation of projects to enable liquid hydrocarbon transportation from the Nadym-Pur-Taz region
- Revamp of the Astrakhan GPP
- Construction and upgrade of Gazprom neftekhim Salavat's refining and petrochemical facilities (construction of a complex for catalytic cracking, technical sulphur production and a hydrogen production unit)
- Construction and upgrades of production facilities at Moscow Refinery (construction of the Euro+ combined refining unit and construction of the elemental sulphur production unit)
- Construction and upgrades of production facilities at Omsk Refinery (construction of a primary refining unit, advanced oil refining facility, delayed coking unit, diesel fuel hydrotreating/dewaxing unit and biological wastewater treatment facilities)
- Construction of a delayed coking unit and revamp of a catalytic cracking unit at Pančevo Refinery in Serbia
- Construction of a catalyst plant in Omsk

Within its refining capex projects, in 2019 Gazprom commissioned:

- A propane fraction methanol removal unit with a marketable product drying module at the Surgut Condensate Stabilisation Plant (designed to remove methanol from the propane fraction feedstock)
- A gas purification unit for catalytic cracking regeneration gases at Omsk Refinery
- A revamped diesel fuel hydrotreating unit at Omsk Refinery
- An automated fuel loading system at Moscow Refinery

Events in the reporting year

In March 2019, PJSC Gazprom and JSC RusGazDobycha finalised the configuration of their joint project – an integrated complex for gas processing and liquefaction near the seaport of Ust-Luga (Leningrad Region). The complex will have an annual capacity to process 45.0 bcm of ethanecontaining natural gas from Gazprom fields in the Nadym-Pur-Taz region, which will be delivered via dedicated gas pipelines. LNG production is expected to total approximately 13 mm tonnes per year. Marketable products will include dry stripped gas, LPG, ethane and pentane-hexane fractions. The complex will be operated by LLC RusKhimAlyans, a joint venture established on a parity basis between a PJSC Gazprom subsidiary and JSC RusGazDobycha. Phase 1 of the complex is scheduled to be commissioned in late 2023, Phase 2 – in late 2024.

Overall project completion for the Amur Gas Processing Plant (GPP) stood at 55.2% at end-2019. The plant is an essential part of the process chain of gas supplies to China via the Power of Siberia gas pipeline, and in December 2019, Gazprom raised an unprecedented EUR 11.4 bn in project financing for the plant construction. Commissioning of the the Amur GPP's first start-up complex is scheduled for 2021.

Outlook for the Refining segment

Strategic priorities in processing of gas and gas condensate:

- Construction of new gas processing facilities to support hydrocarbon developments in Eastern Siberia and the Far East
- Processing and transportation of the projected volumes of liquid hydrocarbons produced at fields in Western Siberia, the Yamal Peninsula and the adjacent continental shelf of the Kara Sea

• Processing of ethane-containing gas from fields in Western Siberia

2020 and mid-term (2021–2024) objectives in processing of gas and gas condensate in the context of strategic priorities:

- Construction of new gas processing facilities to support hydrocarbon developments in Eastern Siberia and the Far East as well as processing of the projected volumes of liquid hydrocarbons produced at fields in Western Siberia
- Revamps of existing facilities.

In particular, the commissioning of projects to enable liquid hydrocarbon transportation from the Nadym-Pur-Taz region has been scheduled, as well as the commissioning of the Amur GPP and the integrated complex for gas processing and liquefaction in Ust-Luga in the Leningrad Region (a joint project of PJSC Gazprom and JSC RusGazDobycha).

Strategic priorities in oil refining:

- Increasing the refining depth and yields for light products
- Enhancing the efficiency of processing and marketing
- Improving conventional business sustainability through developing petrochemical businesses
- Maintaining leadership and growing market shares in existing and new markets for Gazprom products

Further upgrades and capacity expansions across refineries are the 2020 and mid-term (2021–2024) objectives in oil refining in the context of strategic priorities, along with the construction of a catalyst plant.

In particular, plans include the commissioning of new integrated facilities at Moscow Refinery (the Euro+ combined refining unit and an advanced oil refining facility) and Omsk Refinery (a primary refining unit, advanced oil refining facility and delayed coking unit), as well as a new delayed coking unit at Pančevo Refinery in Serbia. In addition, a new catalyst plant is scheduled to be commissioned in Omsk.

Power Generation

The table below shows information on the assets and capital expenditures in the electricity and heat generation and sales segment:

	As at 31 December	
	2019	2018
Assets, RUB million	882,264	911,036
Share in the Group's total assets, %	4.4	4.8

	For the year ended 31 December	
	2019	2018
Capital expenditures, RUB million	79,001	72,907
Share in the Group's total capital expenditures, %	4.3	4.1

In 2019, the Group completed a large-scale power generation program. In 2007–2019, 9 GW of advanced generating capacities were commissioned. Gazprom is an established leader in electricity generation at heat generation facilities and in heat generation in Russia.

Gazprom Group has established one of the largest vertically integrated power generation holdings in Russia, which has consolidated electricity and heat generating assets, heat transmission and distribution assets, as well as assets in related segments.

Gazprom Group's generating assets are consolidated within its 100% subsidiary, LLC Gazprom energoholding, managing PJSC TGC-1, PJSC Mosenergo, PJSC WGC-2, and PJSC MIPC.

Outside Russia, Gazprom Group owns Unit 5 at the Hrazdan TPP through its subsidiary CJSC Gazprom Armenia.

The table below shows information on Gazprom Group's key generating assets:

As at 31 December 2019 **Installed heat Installed electrical** capacity, GW capacity, thousand Gcal/h Gazprom energoholding Group including 38.75 67.32 PJSC Mosenergo 12.82 43.21 PJSC MIPC and subsidiaries 6.66 PJSC WGC-2⁽¹⁾ 19.01 3.96 PJSC TGC-1 and subsidiaries 6.92 13.49 0.90 Other generating assets in Russia 2.92 Generating assets abroad 0.48 0.03 Total 40.13 70.27

The table below shows the volumes of Gazprom Group's electricity generation:

(bn kWh)	For the year ended	l 31 December
	2019	2018
Gazprom energoholding Group		
including	143.07	146.56
PJSC Mosenergo	60.11	58.31
PJSC MIPC and subsidiaries	_	_
PJSC WGC-2	54.69	58.92
PJSC TGC-1 and subsidiaries	28.27	29.33
Other generating assets in Russia	4.93	4.94
Total in Russia	148.00	151.50
Generating assets abroad	1.02	1.69
Total in Russia and abroad	149.02	153.19

Note.

The table shows electricity generation, i.e. the amount of electricity generated by power stations.

⁽¹⁾ Including the capacity of the Krasnoyarskaya GRES-2 operated by PJSC WGC-2 until the end of the transition period after which the Krasnoyarskaya GRES-2 will be operated by JSC Yeniseiskaya TGC (TGC-13) pursuant to the agreement for the sale of the Krasnoyarskaya GRES-2 entered into in December 2019.

The table below shows the volumes of Gazprom Group's heat generation:

(mm Gcal)	For the year ended 31 December	
	2019	2018
Gazprom energoholding Group		
including	115.26	124.36
PJSC Mosenergo	75.37	82.29
PJSC MIPC and subsidiaries ⁽¹⁾	9.07	10.17
PJSC WGC-2	6.65	7.01
PJSC TGC-1 and subsidiaries	24.17	24.89
Other generating assets in Russia	7.12	6.89
Total in Russia	122.38	131.25
Generating assets abroad	_	_
Total in Russia and abroad	122.38	131.25

Note.

The table shows heat supply from TPPs, i.e. the amount of heat supplied by a power station to consumers at the asset ownership / interface boundary points.

During 2019, the Group generated 148.00 billion kWh of electricity (in 2018 – 151.50 billion kWh of electricity) and 122.38 million Gcal of heat (in 2018 – 131.25 million Gcal of heat) at its generating assets in Russia. The decline in electricity production was due to the equipment load assigned by JSC System Operator of the United Power System and the streamlining of the load for inefficient generating capacities. Heat supply decreased due to higher average temperatures during the heating season.

Outside Russia, Gazprom Group generated 1.02 billion kWh of electricity (in 2018 – 1.69 billion kWh of electricity). The year-on-year decrease at Unit 5 of the Hrazdan TPP in 2019 reflected the actual operation modes of Armenia's national power grid.

In 2019, Gazprom Group's net electricity and heat sales (net of VAT) were flat year-on-year at RUB 518.4 bn. Lower production and sales of heat and electricity in Russia and other FSU countries were offset by higher volume of capacity supply and higher competitive (unregulated) electricity prices in Russia.

Major capex projects

The bulk of capital expenditures in electricity and heat generation in 2019 was allocated to the following projects:

- Completing the construction of Unit 2 at the Grozny TPP
- Construction of the Svobodnenskaya TPP and Pančevo CHPP (Serbia)
- Retrofitting, revamping generating facilities, maintaining operational reliability and efficiency of equipment, ensuring safety of generating facilities, and replacement of worn-out power generating equipment

Events in the reporting year

In accordance with capacity supply agreements, the final facility of the investment program for the construction of new generating capacities under the CSA programme, Unit 2 at the Grozny TPP, came on stream in 2019 with a capacity of 184 MW.

In 2019, first tenders for upgrading generating facilities at thermal power plants were conducted as part of the large-scale upgrade programme launched in Russia in the reporting year. The selected projects included facilities of Gazprom Group (15 facilities of PJSC TGC-1, PJSC WGC-2, PJSC Mosenergo, and LLC Novo-Salavatskaya CHPP) with a capacity of 1.92 GW, or 14% of the

⁽¹⁾ Heat generation figures include PJSC MIPC's subsidiaries LLC TSK Novaya Moskva (in 2019 merged with PJSC MIPC) and LLC TSK Mosenergo.

first price zone quota, with capacity supplies to commence in 2022–2025. The benchmark rate of return under the new upgrade programme will be 14%, with 16-year supply periods under contracts concluded with winners.

In December 2019, Gazprom energoholding acquired JSC REP Holding and became a major player in the power engineering market. PJSC WGC-2 and JSC Yeniseiskaya TGC (TGC-13) entered into an agreement for the sale of the Krasnoyarskaya GRES-2 in the same month, with PJSC WGC-2 to remain the Krasnoyarskaya GRES-2 operator until the end of the transition period.

Outlook for the electricity and heat generation and sales segment

The strategic goal of Gazprom Group in the power generation sector is to maintain its leadership in electrical and heat capacity installed in Russia by remaining a reliable supplier of heat and electricity for consumers and delivering sustainable profit growth, while staying committed to high social and environmental responsibility standards.

Strategic priorities in production and sales of heat and electricity:

- Optimising the generation capacity mix
- Improving operational efficiency and optimising costs
- Constructing new and upgrading existing generating capacity, and decommissioning low-performing facilities
- Improving technology
- Diversifying the power generation business by entering promising markets in Russia and abroad

2020 and mid-term (2021–2024) objectives in production and sales of heat and electricity in the context of strategic priorities:

- Generating fleet upgrades: nine facilities of PJSC TGC-1, PJSC WGC-2, PJSC Mosenergo, and LLC Novo-Salavatskaya CHPP, which were selected through tenders for upgrading generating facilities at thermal power plants, are scheduled for upgrades during the period until 2024
- Decommissioning of over 2.2 GW of low-performing capacity by 2024
- Implementation of operational efficiency and cost optimisation initiatives

In particular, for 2020 the Group has scheduled the commissioning of the Svobodnenskaya TPP for power supply of the Amur GPP; Pančevo CHPP in Serbia for heat supply of Gazprom Neft Group subsidiary Naftna Industrija Srbije (NIS) and electricity sales in the open market.

INNOVATION-DRIVEN DEVELOPMENT

Gazprom aims for technology leadership in the industry. The Group is applying primarily domestic hi-tech equipment meeting the best world standards and invests in research and development. Engaging Russia-based R&D organisations is a significant part of this process.

In its evolution as a global energy company and a reliable energy supplier, Gazprom focuses on research and application of new knowledge and technology, as well as on continuous improvement of its innovation capabilities and acceleration of innovation to address a number of strategic, technological, and economic challenges that such leadership involves.

PJSC Gazprom's Innovative Development Programme until 2025 is a fundamental instrument for long-term planning and management of innovations embedded into Gazprom's strategic planning framework and covering the gas, oil, and power generation business of PJSC Gazprom. PJSC Gazprom Neft, LLC Gazprom energoholding, and other subsidiaries and associates implement R&D programmes (plans) to achieve the priority technology and organisational priorities set out in the Programme.

Technological priorities set by PJSC Gazprom's Innovative Development Programme:

Gas business:

- Hydrocarbon field exploration and appraisal, including development of unconventional resources
- Brownfield enhancement
- Hydrocarbon development on the continental shelf
- Greenfield development
- Efficiency enhancement of trunk gas pipelines, and diversification of gas distribution methods
- Enhancement of gas storage
- Enhancement of gas and gas condensate processing
- LNG production
- Gas marketing and utilisation

Oil business:

- Driving mature asset performance
- Development of multiphase fields
- Production from low-permeability reservoirs
- Effective and safe shelf operations in ice conditions
- Development and production of catalysts for refining processes

Power generation business:

- Increasing efficiency in power generation
- Reducing the environmental footprint of operations
- Implementing advanced engineering solutions

Gazprom has in place an extensive innovation management framework. The R&D Committee of PJSC Gazprom serves as a platform to discuss all matters related to R&D performance at PJSC Gazprom and its subsidiaries through comprehensive review and collective decision making driven by the principles of openness, fairness, and independence while balancing the interests of operations, economics, and prospective development.

As part of its Corporate Framework for Management of Innovations at Subsidiaries of PJSC Gazprom, PJSC Gazprom focuses on further use (roll-out) and commercialisation of R&D results and protected intellectual property that deliver a positive and meaningful impact for

PJSC Gazprom as well as on reviewing and following up compliance of its subsidiaries' innovation efforts with Russian laws and internal documents of PJSC Gazprom.

The total number of patents for patent objects owned by PJSC Gazprom and its subsidiaries as of 31 December 2019 was 2,674.

PJSC Gazprom has designed and successfully maintains an intellectual property management framework, which is essentially intended to determine company-wide principles governing the creation, legal protection, registration, commercialisation, and monitoring of the use of intellectual property across Gazprom Group, as well as to provide incentive schemes encouraging employees of Gazprom Group companies to create intellectual property.

In 2019, PJSC Gazprom approved its Patent Strategy until 2025, an instrument regulating decision making on the best patenting method for developed technical and/or technology solutions based on their development grounds, R&D capabilities, and geography.

The Group's R&D efforts aim to develop and implement high-tech equipment and sophisticated engineering complexes unrivalled in the world, as well as to create advanced R&D solutions.

In 2019, RUB 12.1 bn worth of R&D was carried under R&D projects commissioned by Gazprom Group entities (RUB 9.0 bn in 2018).

PERSONNEL

The most important strategic tool of Gazprom is its personnel – a professional workforce aiming for the highest performance. The key drivers of PJSC Gazprom's consistently high profile as an employer include its responsible social policy, ample opportunities for fulfilling potential and upgrading skills.

PJSC Gazprom strictly complies with the requirements of Russian labour laws. PJSC Gazprom's local regulations are aligned with Conventions of the International Labour Organisation and international standards regulating employee pay, hours, working conditions, remuneration for work, social security, and holidays with pay.

Personnel structure

As at 31 December 2019, the total headcount of Gazprom Group entities was 473.8 thousand employees (466.1 thousand in 2018) (excluding entities in which Gazprom has investments classified as joint operations).

Higher headcount at Gazprom Group in 2019 was due to the implementation of strategic gas production and transportation projects and the growth of the Group's operations in oil and power generation businesses.

The table below shows the gender balance of Gazprom Group's workforce:

	As at 31 December 2019, %
Women	28.9
Men	71.1

Note.

Excluding entities in which Gazprom has investments classified as joint operations.

The table below shows the age balance of Gazprom Group's workforce:

	As at 31 December 2019, %
Under 30 years	13.4
30 to 40 years	32.3
40 to 50 years	29.9
50 years and older	24.4

Note.

Excluding entities in which Gazprom has investments classified as joint operations.

The table below shows the profile of Gazprom Group's workforce:

	As at 31 December 2019
Employees with a higher education degree, %	52.0
Candidates of Sciences	2,522
Doctors of Sciences	159
Mean age, years	41.4

Note.

Excluding entities in which Gazprom has investments classified as joint operations.

Employee training and development

To facilitate the upgrading of professional skills, PJSC Gazprom has in place its Continuous Vocational Education and Training System which ensures that Gazprom's employees are trained throughout their professional life under corporate training programmes.

The Continuous Vocational Education and Training System includes mandatory (for admission to perform works at hazardous production facilities of PJSC Gazprom), special-purpose (proactive) and regular (skill upgrading) trainings. In 2019, 456.2 thousand employees of Gazprom Group were trained under career enhancement and retraining programmes (381.1 thousand employees in 2018), a considerable increase year-on-year driven by active development and implementation of distance learning solutions.

Gazprom runs targeted employee training programmes tailored for specific activities, such as development of hydrocarbon fields on the continental shelf, GTS dispatch control, LNG production, use of innovative process equipment, and a wide range of talent pool building programmes.

Remuneration and social security

PJSC Gazprom has in place the Remuneration Management Policy for Employees of PJSC Gazprom Entities, which sets out uniform corporate remuneration standards for Gazprom Group employees. Its purpose is to provide a framework for attracting and retaining people with required skills, and motivate employees to perform as expected.

Current remuneration schemes link fixed salaries and pay rates to qualifications and business skills, and also provide for monthly performance bonuses, premiums and additional allowances for work scope and conditions, as well as ad hoc and annual bonuses.

The interests of Gazprom Group's employees are represented by Gazprom's Interregional Trade Union, which is part of the Russian Oil, Gas and Construction Workers' Union.

PJSC Gazprom's social policy provides it with a competitive advantage in the employment market, seeks to additionally motivate employees for strong and sustainable performance, and aims to form stable professional teams.

The mechanism of social partnership in the form of a dialogue between employees and employers on social and labour relations is central to implementing our social policy, with its key aspects set out in the General Collective Bargaining Agreement of PJSC Gazprom and its entities and in the collective bargaining agreements of its subsidiaries. Gazprom's social policy is implemented mainly through long-term programmes which facilitate attracting and retaining of duly qualified and experienced employees.

Key aspects of employees' social security include:

- Social benefits which provide for necessary social security of both all PJSC Gazprom employees and certain employee groups (employees of subsidiaries located in regions of the Far North and equated localities, young talent, families with many children, employees supporting dependant children with disabilities, etc.)
- Voluntary medical insurance programmes providing for comprehensive medical services for employees, retirees and their families (including rehabilitation treatment) by leading

healthcare providers, including medical and preventive treatment facilities of Gazprom Group

- The corporate housing programme funded by both employees and the employer through bank mortgage lending facilities (using a co-financing approach). Operational needs based participation in the programme allows PJSC Gazprom to retain key employees for longer periods
- The private pension arrangement, which is part of the employee long-term incentive scheme and provides for post-employment social benefits. The arrangement is run through Non-State Pension Fund GAZFOND

OCCUPATIONAL SAFETY

Gazprom puts the health and safety of its employees at the top of its agenda by consistently improving its safety management system and monitoring risks and challenges to its stable operations.

In its activities, PJSC Gazprom is guided by its Occupational Health, Industrial, Fire and Traffic Safety Policy the key objectives of which are to:

- create safe working conditions and protect the health and safety of employees
- reduce the risks of accidents and incidents at hazardous industrial facilities
- reduce the risks of traffic accidents resulting from operating activities
- ensure fire safety.

Integrated Occupational Health and Safety Management System

The Company has in place an Integrated Occupational Health and Safety Management System (IOHSMS). It is a part of PJSC Gazprom's integrated management system developed and introduced to manage occupational health, industrial and fire safety risks and meet the Company's objectives and commitments under its Occupational Health, Industrial, Fire and Traffic Safety Policy. The scope of the IOHSMS covers PJSC Gazprom, its major gas exploration, production, processing, transportation, underground storage, and energy subsidiaries, as well as subsidiaries supporting the operation of the Russian UGSS, with a total headcount of around 319 thousand employees.

In 2014, the IOHSMS was certified to OHSAS 18001:2007 and is annually audited for compliance with this international standard by relevant organisations while also being expanded to cover more subsidiaries of PJSC Gazprom.

In 2019, corporate requirements to the IOHSMS were reviewed to comply with ISO 45001:2018. The IOHSMS is planned for certification to ISO 45001:2018 in 2020.

Gazprom Group makes consistent efforts to prevent injuries, occupational diseases, accidents, incidents, and fires.

Based on the identified critical and material risks, PJSC Gazprom develops and approves its industrial safety targets for the year, and develops programmes to achieve the annual targets while all its subsidiaries and entities develop programmes to improve labour conditions and action plans to ensure occupational safety at hazardous industrial facilities.

Pre-FEED and design documents are reviewed by internal experts for compliance with statutory regulations and PJSC Gazprom's requirements to occupational safety.

Compliance with PJSC Gazprom's OHS standards and regulations by suppliers and contractors operating at the facilities of PJSC Gazprom and its subsidiaries is an essential requirement of occupational safety. In its activities, PJSC Gazprom engages suppliers and contractors who share the principles set out in Gazprom's Occupational Health, Industrial, Fire and Traffic Safety Policy.

2019 saw a significant reduction in the number of injuries caused by accidents and the number of man-made incidents and fires, as compared to previous years.

2019 saw 10 incidents in the field of industrial safety at hazardous production facilities of organizations falling within the scope of the IOHSMS (2018: 16). The number of accidents decreased

from 63 in 2018 to 37 in 2019. The number of people injured in accidents in 2019 was 47 people (2018: 89).

However, the number of accidents with fatalities increased to six (three in 2018) with seven employee deaths, including four employees at gas and condensate processing facilities. LLC Gazprom pererabotka conducted a number of investigations to identify the root causes, followed by the development of technical, organisational, and HR improvement measures.

A plan that included organisational and technical measures to ensure fire safety was implemented in the reporting period. The plan consisted of 53 measures and resulted from a root cause analysis of, and contributing factors to, fires that happened in the previous periods. The Company continuously improves the performance of professional emergency response services and fire safety units that maintain and protect PJSC Gazprom's facilities.

Occupational Health and Safety at Gazprom Group entities outside the IOHSMS

Gazprom Group has in place the Occupational Health and Safety Management System across its oil, power generation, and petrochemical businesses.

The table below shows the occupational health and safety management structure at Gazprom Group entities outside the IOHSMS:

	Occupational health and safety management	Certification
Gazprom Neft Group	Vertically integrated industrial and environmental safety, occupational safety, and civil protection management system	ISO 14001
Gazprom energoholding Group	Occupational health and safety management in line with the requirements of Russian Federation laws and applicable statutory regulations	-
Gazprom neftekhim Salavat Group	Occupational Health and Safety Management System	OHSAS 18001:2007 / ISO 45001:2018, GOST 12.0.230– 2007

A total of 34 people, 8 people, and 2 people were injured in accidents across entities of Gazprom Neft Group, Gazprom energoholding Group, and Gazprom neftekhim Salavat Group, respectively.

ENVIRONMENTAL PROTECTION

Gazprom sets a good example as environmentally conscious company efficiently using green technologies throughout the process chain. While steadily developing, the Group has the lowest carbon footprint across the world's largest oil and gas companies. PJSC Gazprom's Environmental Policy is based on the aspiration to maintain a clean and safe environment for the benefit of present and future generations.

Environmental responsibility is a key element in Gazprom Group's sustainable development strategy, based on the corporate Environmental Policy and effective environmental management system.

The Environmental Policy of PJSC Gazprom reflects current trends in environmental protection, energy efficiency, and climate impact mitigation. It defines obligations and mechanisms of following these trends, such as: ensuring environmental security, including the development of hydrocarbon fields on the continental shelf and in the Arctic zone of the Russian Federation; mitigating environmental risks, including the impact on particularly vulnerable natural sites and areas of high conservation value. PJSC Gazprom's Environmental Policy was recommended by the Board of Directors for adoption across Gazprom Group entities.

To reduce its environmental impact and maintain its competitive edge in the global market, Gazprom pursues a targeted policy of reducing greenhouse gas (GHG) emissions. PJSC Gazprom implements the Programme for Expansion of Gas Infrastructure in Russian Regions and consistently works on developing NGV fuel markets, as well as on reducing its carbon footprint.

PJSC Gazprom's climate policy and strategy on management of GHG emissions and reduction of man-made impact on the environment meets the requirements of the Russian Federation for energy efficiency, energy saving, and environmental protection.

Participation of PJSC Gazprom in the international Carbon Disclosure Project (CDP) on GHG emissions disclosure is an important part of PJSC Gazprom's efforts to improve transparency of its activities and a factor driving its investment case. According to the CDP's international rating, Gazprom has been a top player in the energy sector for eight years.

Environmental Management System

The Environmental Management System (EMS) is a key tool to implement PJSC Gazprom's Environmental Policy. The EMS covers PJSC Gazprom's business units, the Environmental Inspection Service, and 34 wholly-owned subsidiaries engaged in core activities: gas and condensate exploration, production, transportation, storage, and processing, or capital project management.

In 2019, PJSC Gazprom's EMS underwent an independent recertification audit, receiving a certificate of compliance with ISO 14001:2015, valid until December 2020.

Corporate Environmental Targets are set and environmental activities are grouped into focused programmes within PJSC Gazprom's EMS and based on an annually updated list of significant environmental aspects. PJSC Gazprom's Corporate Environmental Targets are set for three-year periods.

In 2019, PJSC Gazprom met all its Corporate Environmental Targets for 2017–2019:

	Corporate Environmental Target	Progress against the target (vs the 2014 baseline)
1.	Reduction of methane emissions (when making gas transportation system repairs)	Down 13.1%
2.	Reduction of specific emissions of nitrogen oxides	Down 5.0%
3.	Reduction of waste and effluent water discharge into surface water bodies	Down 28.2%
4.	Reduction of landfill share	Down 52.9%
5.	Reduction of above-limit impact charges as an integrated negative environmental impact indicator	Down 7.5%
6.	Reduction of fuel & energy consumption for own operational needs	Down 0.4%

The Gazprom Group companies not covered by PJSC Gazprom's EMS also have in place their own effective, business-specific environmental management systems.

The table below shows key metrics for the environmental impact from Gazprom Group's operations in the Russian Federation:

Key metrics	For the year ended 31 December	
	2019	2018
Air pollutant emissions, thousand tonnes	2,862.7	2 894.0
GHG emissions, mm tonnes of CO ₂ equivalent	236.4	240.0
Wastewater discharge into surface water bodies, mmcm	3,241.8	3,658.4
Waste generation, thousand tonnes	3,337.1	3,555.1
Area of land disturbed during the year, thousand ha	22.9	25.8
Area of land rehabilitated, thousand ha	17.7	15.8

The highest reduction of air pollutant emissions was registered for sulphur dioxide due to replacement of coal and fuel oil with natural gas in the fuel mix of Gazprom energoholding.

The decrease in wastewater discharge into surface water bodies across Gazprom Group is attributed to the transfer of treatment facilities by the Troitskaya GRES, a branch of PJSC WGC-2, to the books of the Troitsk Administration. The share of clean and treated as per standards wastewater in the total volume discharged into surface water bodies was 97.3%.

The decrease in waste generation was due to lower Class 5 (mostly bottom ash) waste levels at Gazprom energoholding's facilities due to the fuel mix shift to natural gas.

The area of land disturbed by construction was smaller in the reporting year due to the completion of construction by LLC Gazprom dobycha Urengoy and by LLC Gazprom dobycha Nadym. Land remediation in 2019 increased year-on-year and will continue in 2020 in accordance with existing remediation plans.

Implementation of the Roadmap for the GHG Management System at Gazprom Group Companies until 2020 and Looking Forward to 2030 helped reduce specific GHG emissions in the gas business according to plan: from 0.275 tonnes of CO₂ equivalent /toe in 2014 to 0.259 tonnes of CO₂ equivalent/toe in 2019. Key Roadmap activities included reduction of fuel gas consumption, prevention of gas venting when making trunk gas pipeline repairs, and reduction of methane emissions in production processes. Presented below is information on the environmental protection costs related to Gazprom Group's operations in the Russian Federation:

(RUB bn)	For the year ended 31 December	
	2019	2018
Current environmental protection costs	32.18	39.15
Capital expenditures for environmental protection and sustainable		
use of natural resources	20.42	29.19
Negative environmental impact charges	0.62	0.62
Total	53.22	68.96

Lower current environmental protection costs in the Russian Federation in 2019 mainly resulted from changes in recording current operating costs within environmental protection at LLC Gazprom neftekhim Salavat and, overall, had no negative impact on environmental protection efforts.

The decline in capital investments in environmental protection was due to the completion by Gazprom Neft of a number of capital-intensive hydrocarbon exploration and production projects in 2018.

Gazprom Group's subsidiaries operating abroad are also committed to minimising their environmental footprint in strict compliance with both local regulations and PJSC Gazprom's Environmental Policy.

In particular, Gazprom EP International B.V., a single operator of PJSC Gazprom's projects focused on prospecting, exploration and development of hydrocarbon fields outside the Russian Federation,

is using innovative technology and research specifically aimed at minimising the environmental footprint.

In the FSU countries, PJSC Gazprom operates through its subsidiaries – OJSC Gazprom transgaz Belarus, CJSC Gazprom Armenia, and LLC Gazprom Kyrgyzstan. From the date their assets were acquired by PJSC Gazprom, these companies have been putting much focus on upgrading production facilities and enhancing environmental management systems in line with PJSC Gazprom's corporate standards and ISO 14001. In the reporting year, OJSC Gazprom transgaz Belarus conducted a number of activities to reduce air pollutant emissions, including the replacement of less sophisticated boilers at the Syanno gas distribution station, the replacement of boiler combustion equipment with adjustments to off-gas fume collection piping at the Minskaya CS, reduction of gas venting when conducting repairs or maintenance of pipeline valves at the Orsha CS and the Orshanskaya CS. In addition to these activities, the subsidiary optimised its production waste management practices to reduce landfill waste.

In 2019, operations of PJSC Gazprom's subsidiaries outside Russia did not have a significant environmental impact.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION

The official Russian Ruble ("RUB") to US Dollar foreign exchange rate as determined by the Central Bank of the Russian Federation was as follows:

- as of December 31, 2019 61.9057;
- as of December 31, 2018 69.4706.

The official RUB to Euro foreign exchange rate as determined by the Central Bank of the Russian Federation was as follows:

- as of December 31, 2019 69.3406;
- as of December 31, 2018 79.4605.

The average exchange rates of RUB for the year ended December 31, 2019 and for the year ended December 31, 2018 were:

- to US Dollar 64.7362 and 62.7078, respectively;
- to Euro 72.5021 and 73.9546, respectively.

RESULTS OF OPERATION

(in RUB million)	Year ended December 31,	
	2019	2018
Sales	7,659,623	8,224,177
Net (loss) gain from trading activity	(24,957)	18,015
Operating expenses	(6,387,071)	(6,181,191)
Impairment loss on financial assets	(127,738)	(130,971)
Operating profit	1,119,857	1,930,030
Finance income	654,916	503,091
Finance expense	(354,835)	(813,042)
Share of profit of associates and joint ventures	207,127	232,483
Profit before profit tax	1,627,065	1,852,562
Current profit tax expense	(327,618)	(278,233)
Deferred profit tax expense	(29,930)	(45,333)
Profit tax	(357,548)	(323,566)
Profit for the year	1,269,517	1,528,996
Other comprehensive income (loss):		
Items that will not be reclassified to profit or loss: Gain arising from changes in fair value of financial assets measured		
at fair value through other comprehensive income, net of tax	22,631	148,963
Remeasurement of provision for post-employment benefits	(186,066)	19,854
Total other comprehensive (loss) income that will not be reclassified		
to profit or loss	(163,435)	168,817
Items that may be reclassified subsequently to profit or loss:		
Share of other comprehensive (loss) income of associates and joint ventures	(4,276)	13,923
Translation differences	(182,165)	222,221
Gain from hedging operations, net of tax	13,321	10,082
Total other comprehensive (loss) income that may be reclassified subsequently to profit or loss	(173,120)	246,226
Total other comprehensive (loss) income for the year, net of tax	(336,555)	415,043
Comprehensive income for the year	932,962	1,944,039
Profit for the year attributable to:	,	, ,
Owners of PJSC Gazprom	1,202,887	1,456,270
Non-controlling interest	66,630	72,726
	1,269,517	1,528,996
Comprehensive income for the year attributable to:		
Owners of PJSC Gazprom	877,328	1,858,486
Non-controlling interest	55,634	85,553
	932,962	1,944,039

Sales

The following table sets out volumes and sales prices:

(in RUB million unless indicated otherwise)	Year en Decembe	
Sales of gas	2019	2018
Europe and other countries	2 1 6 2 9 9 1	2 770 201
Gross sales (1)	3,163,881	3,770,291
Customs duties	(615,611)	(764,395)
Excise tax	(57,898)	(54,681)
Net sales	2,490,372	2,951,215
Volumes in bcm	232.4	243.3
Average price, US Dollar per mcm (2) (including excise tax and customs duties) (3)	210.6	246.4
Average price, RUB per mcm (2) (including excise tax and customs duties)	13,613.0	15,499.5
Former Soviet Union countries		
Gross sales (1)	393,526	389,217
Customs duties	(37,424)	(40,592)
Net sales	356,102	348,625
Volumes in bcm	38.7	38.1
Average price, US Dollar per mcm (2) (including customs duties) (3)	157.4	162.6
Average price, RUB per mcm (2) (including customs duties)	10,175.9	10,225.9
Russian Federation		
Gross sales (net of VAT)	970,913	954,493
Net sales	970,913	954,493
Volumes in bcm	235.8	239.7
Average price, RUB per mcm (2) (net of VAT)	4,118.2	3,981.3
Total gas sales		
Gross sales (net of VAT)	4,528,320	5,114,001
Customs duties	(653,035)	(804,987)
Excise tax	(57,898)	(54,681)
Retroactive gas price adjustments	(16,657)	49,338
Net sales	3,800,730	4,303,671
Volumes in bcm	506.9	521.1
Net sales of refined products (net of excise tax, VAT and customs duties)	2,111,181	2,179,772
Net sales of crude oil and gas condensate (net of VAT and customs duties)	752,790	734,953
Electric and heat energy net sales (net of VAT)	518,373	522,095
Gas transportation net sales (net of VAT)	215,335	225,673
Other sales (net of VAT)	261,214	258,013
Total sales (net of excise tax, VAT and customs duties)	7,659,623	8,224,177

Notes:

 $^{^{(1)}}$ VAT is not charged on sales to Europe and other countries as well as Former Soviet Union countries.

 $^{^{\}left(2\right) }$ One mcm is equivalent to 35,316 cubic feet.

 $^{^{(3)}}$ Calculated on the basis of average exchange rate between the RUB and US Dollar.

Total sales (net of excise tax, VAT and customs duties) decreased by RUB 564,554 million, or 7 %, to RUB 7,659,623 million for the year ended December 31, 2019 compared to the prior year. The decrease in sales was mainly due to a decrease in sales of gas to Europe and other countries.

Net sales of gas accounted for 50 % of total net sales for the year ended December 31, 2019 (52 % for the prior year).

Net sales of gas decreased by RUB 502,941 million, or 12 %, from RUB 4,303,671 million for the year ended December 31, 2018 to RUB 3,800,730 million for the year ended December 31, 2019.

Net sales of gas to Europe and other countries decreased by RUB 460,843 million, or 16 %, to RUB 2,490,372 million for the year ended December 31, 2019 compared to the prior year. The change was mainly due to the decrease in average prices (including excise tax and customs duties) denominated in the Russian Ruble by 12 % and the decrease in volumes of gas sold by 4 % for the year ended December 31, 2019 compared to the prior year. At the same time average prices denominated in US Dollar decreased by 15 % compared to the prior year.

Net sales of gas to Former Soviet Union countries increased by RUB 7,477 million, or 2 %, to RUB 356,102 million for the year ended December 31, 2019 compared to the prior year. The change was mainly due to the increase in volumes of gas sold by 2 % for the year ended December 31, 2019.

Net sales of gas in the Russian Federation increased by RUB 16,420 million, or 2 %, to RUB 970,913 million for the year ended December 31, 2019 compared to the prior year. This change was explained by the increase in average prices (net of VAT) in the Russian Ruble by 3 % for the year ended 31 December 2019 compared to the prior year, that was partially compensated by the 2 % decrease in volumes of gas sold for the year ended 31 December 2019.

Operating expenses

Operating expenses increased by RUB 205,880 million, or 3 %, to RUB 6,387,071 million for the year ended December 31, 2019 compared to RUB 6,181,191 million for the prior year. Operating expenses as a percentage of sales increased from 75 % for the year ended December 31, 2018 to 83 % for the year ended December 31, 2019. The table below presents a breakdown of operating expenses in each period:

(in RUB million)	Year ended			
	December	December 31,		
	2019	2018		
	1 400 240	1 400 250		
Taxes other than on profit	1,409,248	1,498,278		
Purchased gas and oil	1,403,572	1,468,885		
Staff costs	749,708	600,812		
Depreciation	715,229	647,993		
Transit of gas, oil and refined products	665,552	650,829		
Materials	274,821	264,190		
Cost of goods for resale, including refined products	253,121	249,911		
Repairs and maintenance	149,939	137,821		
Electricity and heating	120,154	114,465		
Foreign exchange differences on operating items	78,287	(28,029)		
Social expenses	45,114	42,789		
Insurance	32,135	32,628		
Impairment loss on non-financial assets	29,382	21,743		
Transportation expenses	27,541	24,544		
Processing services	20,718	18,961		
Research and development	19,226	13,591		
Lease	16,585	37,177		
Derivatives (gain) loss	(15,225)	1,849		
Other	515,032	427,990		
	6,510,139	6,226,427		
Change in balances of finished goods, work in progress and other effects	(123,068)	(45,236)		
Total operating expenses	6,387,071	6,181,191		

Taxes other than on profit

Taxes other than on profit consist of:

(in RUB million)

Year ended
December 31

	December 31,	
	2019	2018
Mineral extraction tax	1,115,003	1,163,882
Property tax	148,634	162,928
Excise tax	113,528	157,113
Other taxes	32,083	14,355
Total taxes other than on profit	1,409,248	1,498,278

Taxes other than on profit decreased by RUB 89,030 million, or 6 %, to RUB 1,409,248 million for the year ended December 31, 2019 compared to RUB 1,498,278 million for the prior year. The change was mainly due to a decrease in the mineral extraction tax and the excise tax.

Mineral extraction tax (MET) decreased by RUB 48,879 million or 4 % to RUB 1,115,003 million for the year ended December 31, 2019 compared to RUB 1,163,882 million for the prior year. MET decreased mainly due to a decrease in crude oil prices and also by a decrease in coefficient values in the MET formula for gas.

Excise tax decreased by RUB 43,585 million, or 28 %, to RUB 113,528 million for the year ended December 31, 2019 compared to RUB 157,113 million for the prior year. Excise tax decreased due to an implementation of crude oil materials excise duty deduction including dempfer part since January 1, 2019, which was partially trimmed by motor oil excise rates increase.

Purchased gas and oil

Cost of purchased gas and oil decreased by RUB 65,313 million, or 4 %, to RUB 1,403,572 million for the year ended December 31, 2019 compared to RUB 1,468,885 million for the prior year. The change was mainly due to a decrease in cost of purchased gas.

Cost of purchased gas included in the purchased gas and oil decreased by RUB 62,556 million, or 6 %, to RUB 914,293 million for the year ended December 31, 2019 compared to RUB 976,849 million for the prior year. The change was mainly due to a decrease in average prices denominated in the Russian Ruble.

Staff costs

Staff costs increased by RUB 148,896 million, or 25 %, to RUB 749,708 million for the year ended December 31, 2019 compared to RUB 600,812 million for the prior year. The change was mainly due to the recognition of income from change in provision for post-employment benefits for the year ended December 31, 2018 caused by the increase in a retirement age according to the legislation of the Russian Federation.

Depreciation

Depreciation increased by RUB 67,236 million, or 10 %, to RUB 715,229 million for the year ended December 31, 2019 compared to RUB 647,993 million for the prior year. The change was mainly due to charging of depreciation of right-of-use assets caused by the application of IFRS 16 Leases since January 1, 2019.

Foreign exchange differences on operating items

The foreign exchange loss on operating items amounted to RUB 78,287 million for the year ended December 31, 2019 compared to the foreign exchange gain in the amount of RUB 28,029 million for the prior year. This change was mainly due to the revaluation of accounts receivable from foreign customers and loans issued, which was caused by the depreciation of the US Dollar and the Euro against the Russian Ruble by 11 % and 13 %, respectively, for the year ended December 31, 2019 compared to the appreciation of the US Dollar and the Euro against the Russian Ruble by 21 % and 15 %, respectively, for the prior year.

Lease

Lease expenses decreased by RUB 20,592 million, or 55 %, to RUB 16,585 million for the year ended December 31, 2019, compared to RUB 37,177 million for the prior year. The change was mainly due to the application of IFRS 16 Leases since January 1, 2019.

Derivatives (gain) loss

The derivatives gain amounted to RUB 15,225 million for the year ended December 31, 2019, compared to the derivatives loss in the amount of RUB 1,849 million for the prior year. The gain or loss from changes in the fair value of derivatives was attributable to the remeasurement of derivative financial instruments as at the reporting date. The increase in the result for the year ended December 31, 2019 was mainly due to changes in the price and currency rates prevailing as at the reporting date.

Other operating expenses

Other operating expenses increased by RUB 87,042 million, or 20 %, to RUB 515,032 million for the year ended December 31, 2019 compared to RUB 427,990 million for the prior year. Other expenses include gas and gas condensate production expenses, services from gas distribution companies, bank charges, security services, legal and consulting services, charity and financial aid and advertising.

Change in balances of finished goods, work in progress and other effects

The line item Change in balances of finished goods, work in progress and other effects changed by RUB 77,832 million, or 172 %, to the negative amount of RUB 123,068 million for the year ended December 31, 2019 compared to the negative amount of RUB 45,236 million for the prior year. The change in this line item was due to an increase in the balances of finished goods for year ended December 31, 2019 was more than an increase in the balances of finished goods for the prior year.

Impairment loss on financial assets

The impairment loss on financial assets decreased by RUB 3,233 million, or 2 %, to RUB 127,738 million for the year ended December 31, 2019 compared to RUB 130,971 million for the prior year. The change was mainly due to a decrease in the accrual of the allowance for expected credit losses on accounts receivable due from NJSC Naftogaz of Ukraine for the year ended December 31, 2019 compared to the prior year.

Operating profit

As a result of the factors discussed above, operating profit decreased by RUB 870,173 million, or 42 %, to RUB 1,119,857 million for the year ended December 31, 2019 compared to RUB 1,930,030 million for the prior year. The operating profit margin decreased from 23 % for the year ended December 31, 2018 to 15 % for the year ended December 31, 2019.

Net finance income (expense)

(in RUB million)		Year ended December 31,	
	2019 2018		
Foreign exchange gain	563,990	430,439	
Foreign exchange loss	<u>(278,409)</u>	(762,664)	
Net foreign exchange gain (loss)	285,581	(332,225)	
Interest income	90,926	72,652	
Interest expense	<u>(76,426)</u>	(50,378)	
Net finance income (expense)	300,081	(309,951)	

The net foreign exchange gain amounted to RUB 285,581 million for the year ended December 31, 2019 compared to the net foreign exchange loss of RUB 332,225 million for the prior year. The change was explained by the depreciation of the US Dollar and the Euro against the Russian Ruble by 11 % and 13 %, respectively, for the year ended December 31, 2019 compared to the appreciation of the US Dollar and the Euro against the Russian Ruble by 21 % and 15 %, respectively, for the prior year.

Interest income increased by RUB 18,274 million, or 25 %, to RUB 90,926 million for the year ended December 31, 2019 compared to RUB 72,652 million for the prior year.

Interest expense increased by RUB 26,048 million, or 52 %, to RUB 76,426 million for the year ended December 31, 2019 compared to RUB 50,378 million for the prior year. Interest expense includes interest expense on lease liabilities under IFRS 16 Leases in the amount of RUB 16,847 million for the year ended December 31, 2019.

Share of profit of associates and joint ventures

Share of profit of associates and joint ventures decreased by RUB 25,356 million, or 11 %, to RUB 207,127 million for the year ended December 31, 2019 compared to RUB 232,483 million for the prior year. This change was mainly caused by a decrease in the share of profit of JSC NPF GAZFOND.

Profit tax

Total profit tax increased by RUB 33,982 million, or 11 %, to RUB 357,548 million for the year ended December 31, 2019 compared to RUB 323,566 million for the prior year. The effective profit tax rate was 22.0 % and 17.5 % for the years ended December 31, 2019 and December 31, 2018, respectively.

The change in the effective profit tax rate was mainly driven by an increase in other expenses non-deductible for tax purposes for the year ended December 31, 2019 compared to the prior year.

Profit for the year attributable to the owners of PJSC Gazprom

As a result of the factors discussed above, profit attributable to the owners of PJSC Gazprom decreased by RUB 253,383 million, or 17 %, to RUB 1,202,887 million for the year ended December 31, 2019 compared to RUB 1,456,270 million for the prior year.

Profit for the year attributable to non-controlling interest

Profit attributable to non-controlling interest decreased by RUB 6,096 million, or 8 %, to RUB 66,630 million for the year ended December 31, 2019 compared to RUB 72,726 million for the prior year.

Liquidity and capital resources

The following table summarises the cash flows for the year ended December 31, 2019 and for the year ended December 31, 2018:

(in RUB million)	Year ended December 31,	
	2019	2018
Net cash from operating activities	1,709,384	1,617,384
Net cash used in investing activities	(1,938,109)	(1,617,718)
Net cash from (used in) financing activities	152,375	(96,070)

Net cash from operating activities

Net cash from operating activities increased by RUB 92,000 million, or 6 %, to RUB 1,709,384 million for the year ended December 31, 2019 compared to RUB 1,617,384 million for the prior year. This change was mainly driven by a decrease in short-term deposits within working capital for the year ended December 31, 2019 compared to their increase for the prior year.

Net cash used in investing activities

Net cash used in investing activities increased by RUB 320,391 million, or 20 %, to RUB 1,938,109 million for the year ended December 31, 2019 compared to RUB 1,617,718 million for the prior year. The change was mainly due to an increase in loans issued for the year ended December 31, 2019 compared to the prior year.

Net cash from (used in) financing activities

Net cash from financing activities amounted to RUB 152,375 million for the year ended December 31, 2019 compared to net cash used in financing activities in the amount of RUB 96,070 million for the prior year. This change was mainly due to a decrease in repayments of long-term borrowings and proceeds from sale of treasury shares, that was partially compensated by an increase in dividends paid compared to the prior year.

Working Capital

The working capital surplus (current assets less current liabilities) was RUB 1,300,677 million as of December 31, 2019 and RUB 1,738,535 million as of December 31, 2018. The decrease in the working capital by RUB 437,858 million in the year ended December 31, 2019 was mainly due to a decrease in accounts receivable and an increase in the current portion of long-term borrowings.

Management believes that the working capital is sufficient to meet the requirements of the Group for at least next twelve months, however, the Group is dependent on the short-term credit markets to finance the working capital.

Capital expenditures

Total capital expenditures (excluding the effect of acquisitions of subsidiaries) by segments for the years ended December 31, 2019 and 2018 in denominated in the Russian Ruble are presented in the following table:

(in RUB million)	Year ended December 31,		
	2019	2018	
Transportation of gas	464,203	640,063	
Refining	437,758	309,417	
Production of gas	360,215	308,007	
Production of crude oil and gas condensate	316,011	257,932	
Electric and heat energy generation and sales	79,001	72,907	
Distribution of gas	25,827	39,078	
Gas storage	14,268	19,391	
All other segments	121,394	149,089	
Total	1,818,677	1,795,884	

Total capital expenditures increased by RUB 22,793 million, or 1 %, from RUB 1,795,884 million for the year ended December 31, 2018 to RUB 1,818,677 million for the year ended December 31, 2019.

The largest portion of capital expenditures refers to the Transportation of gas segment. The amount of capital expenditures of Transportation of gas segment decreased by RUB 175,860 million, or 27 %, to RUB 464,203 million for the year ended December 31, 2019 mainly due to the completion of the laying of the TurkStream gas pipeline, as well as putting the Power of Siberia gas pipeline into operation.

Debts obligation

Net debt balance (defined as the sum of short-term borrowings, current portion of long-term borrowings, short-term promissory notes payable, long-term borrowings, long-term promissory notes payable, net of cash and cash equivalents) increased by RUB 153,444 million, or 5 %, from RUB 3,014,403 million as of December 31, 2018 to RUB 3,167,847 million as of December 31, 2019. This change was mainly due to a decrease in cash and cash equivalents balances.

The following table shows borrowings and promissory notes as of December 31, 2019 and December 31, 2018:

(in RUB million unless indicated otherwise)	As of December 31,		
	2019	2018	
Long-term borrowings			
Fixed interest rate borrowings	2,238,028	2,709,599	
Weighted average interest rates for fixed rate borrowings	5.77%	5.97%	
Variable interest rate borrowings	1,472,051	1,079,332	
Weighted average interest rates for variable rate borrowings	3.37%	2.88%	
Total long-term borrowings	3,710,079	3,788,931	
Russian Ruble denominated borrowings	845,269	694,548	
Foreign currency denominated borrowings	<u>2,864,810</u>	3,094,383	
Total long-term borrowings	3,710,079	3,788,931	
Less: current portion of long-term borrowings	(620,377)	<u>(494,170)</u>	
Total long-term debt obligations	3,089,702	3,294,761	
Short-term borrowings			
Fixed interest rate borrowings	30,659	31,877	
Weighted average interest rates for fixed rate borrowings	7.08%	7.92%	
Variable interest rate borrowings	123,166	43,014	
Weighted average interest rates for variable rate borrowings	<u>2.46%</u>	8.82%	
Total short-term borrowings	153,825	74,891	
Russian Ruble denominated borrowings	89,119	66,839	
Foreign currency denominated borrowings	64,706	8,052	
Total short-term borrowings	153,825	74,891	
Add: current portion of long-term borrowings	<u>620,377</u>	494,170	
Total short-term debt obligations	774,202	569,061	

The following table shows the breakdown by currency of foreign currency denominated long-term borrowings as of December 31, 2019 and December 31, 2018 as well as the same balances expressed in Russian rubles:

3,863,904

3,863,822

	As of December 31,	
	2019	2018
U.S. dollar denominated (expressed in millions of U.S. dollars)	13,405	15,813
Euro denominated (expressed in millions of U.S. dollars) ⁽¹⁾	28,697	24,001
Other currencies denominated (expressed in millions of U.S. dollars)	4,175	<u>4,729</u>
Total long-term foreign currency denominated borrowings expressed in millions of U.S. dollars	46,277	44,543
Total long-term foreign currency denominated borrowings expressed in millions of Russian Rubles $^{(2)}$	2,864,810	3,094,383

Notes:

Total borrowings

- (1) Converted at euro to U.S. dollar exchange rates of 1.12 and 1.14 as of December 31, 2019 and as of December 31, 2018, respectively.
- (2) Converted at the exchange rate as of period-end.

The following table shows the schedule of repayments of long-term borrowings as of December 31, 2019 and December 31, 2018:

(in RUB million)	As of Decemb	As of December 31,	
	2019	2018	
Between one and two years	448,815	607,775	
Between two and five years	1,637,203	1,654,576	
After five years	<u>1,003,684</u>	1,032,410	
Total	3,089,702	3,294,761	

SHAREHOLDING STRUCTURE AND STOCK MARKET OF PJSC GAZPROM

PJSC Gazprom's share capital is RUB 118,367,564,500 divided into 23,673,512,900 ordinary registered shares with a par value of RUB 5 each. The Company has no preferred shares.

As a major shareholder of PJSC Gazprom, the Russian Federation holds a more than 50% controlling stake (including direct and indirect ownership) in PJSC Gazprom. The Russian Federation does not have a special right to manage PJSC Gazprom's affairs (a "golden share").

The following table summarises quotations for PJSC Gazprom shares and ADRs:

(0/)	As at 31 D	ecember
(%)	2019	2018
The Russian Federation represented by the Federal Agency for		
State Property Management	38.37	38.37
JSC ROSNEFTEGAZ ⁽¹⁾	10.97	10.97
JSC Rosgazifikatsiya ⁽¹⁾	0.89	0.89
ADR holders ⁽²⁾	19.70	24.13
Other registered holders	30.07	25.64

Notes:

- (1) As at 31 December 2018 and 31 December 2019, the cumulative share in PJSC Gazprom directly or indirectly controlled by the Russian Federation totals 50.23% and is owned through the full ownership of the Russian Federation in JSC ROSNEFTEGAZ which also holds a 74.55% stake in JSC Rosgazifikatsiya.
- (2) The Bank of New York Mellon issued ADRs on PJSC Gazprom shares.

As at 31 December 2019, the holders of American depositary receipts (ADRs) on PJSC Gazprom shares accounted for 19.7% of PJSC Gazprom's share capital.

As at 31 December 2019, there were no PJSC Gazprom shares the title to which was transferred to PJSC Gazprom. At the same time, as at the said date, PJSC Gazprom's subsidiaries held 29 million ordinary shares of PJSC Gazprom representing 0.1% of the total number of ordinary shares of PJSC Gazprom.

The key reason behind the reduction of the ADR holders' stake in PJSC Gazprom in 2019 was the conversion of ADRs into ordinary shares through the sale of the Company's quasi-treasury shares in November 2019. Moreover, the reduction of the ADR stake was influenced by the increasing appetite of global investors for shares in Russian companies, largely driven by infrastructure improvements in the Russian securities market, as well as the fact that most international funds buying shares of Russian public companies already have direct access to trading on the Moscow Exchange.

In July and November 2019, PJSC Gazprom's subsidiaries sold 2.93% and 3.59% of PJSC Gazprom's shares (in the form of ordinary shares and ADRs) through the Moscow Exchange stock exchange transaction technology, for total amounts of RUB 139 bn and RUB 188 bn, respectively.

PJSC Gazprom shares are included in the first (top) level quotation list of the Moscow Exchange and the Saint Petersburg Exchange.

In October 1996, PJSC Gazprom listed depositary receipts on the London Stock Exchange. The ADRs certifying the rights to PJSC Gazprom ordinary shares under foreign law were issued by The Bank of New York Mellon as depositary bank. An ADR stands for two PJSC Gazprom shares.

ADRs on PJSC Gazprom shares are traded on the London, Berlin, and Frankfurt exchanges, the Moscow Exchange, the US OTC market, and on the Singapore OTC market among qualified institutional buyers (QIBs). The London Stock Exchange accounts for the bulk of trade in PJSC Gazprom ADRs.

The following table summarises quotations for PJSC Gazprom shares and ADRs:

	As at 31 December		Change,
	2019	2018	%
Moscow Exchange			
Share closing price, RUB			
at year-end	256.40	153.50	67
minimum	149.49	132.20	13
maximum	270.74	172.11	57
Average daily trading volume, mm	36.96	26.31	40
Average daily trading volume, RUB bn	8.13	3.89	109
London Stock Exchange			
ADR closing price, USD			
at year-end	8.23	4.43	86
minimum	4.47	4.14	8
maximum	8.35	5.31	57
Average daily trading volume, mm	8.06	9.19	-12
Average daily trading volume, USD mm	52.57	43.27	21

PJSC Gazprom's market capitalisation in 2019 increased and stood at RUB 6.1 tn as at 31 December 2019.

2019 saw a notable increase in the average daily trading in PJSC Gazprom ordinary shares on the Moscow Exchange and in ADRs on PJSC Gazprom ordinary shares on the London Stock Exchange. The major positive impact on capitalisation and average daily trading was largely driven by increased dividend payouts and the announcement of a new Dividend Policy being drafted to provide for the payout ratio of 50% of the adjusted IFRS net profit of Gazprom Group. Other factor that captured investor attention was progress in the construction of export gas pipelines. In addition, the attention of the investment community was attracted by the sale of PJSC Gazprom shares owned by subsidiaries.

As at 31 December 2019, dividend payouts in 2019 based on PJSC Gazprom's performance results for 2018 were as follows:

	Accrued, RUB thousand	Paid, RUB thousand	Unpaid, RUB thousand ⁽¹⁾	Unpaid to accrued, %
Total	393,217,049	392,565,849	651,200	0.17
including dividends on shares:				
held by the Russian Federation represented by the Federal Agency for State Property Management	150,890,965	150,890,965	_	_
held by individuals and corporate entities whose rights to shares are accounted for in the register	55,982,946	55,612,794	370,152	0.66
held by individuals and corporate entities whose rights to shares are accounted for by the depositary maintaining a nominee holder account in the issuer's				
register ⁽²⁾	186,342,826	186,062,090	280,736	0.15
held by unidentified persons	312	_	312	100.00

Notes:

- (1) No dividend payouts were made to individuals or corporate entities who had failed to provide clear payout details as per clauses 8 and 9 of Article 42 of Federal Law No. 208-FZ On Joint Stock Companies dated 26 December 1995. Dividends accrued on shares held by unidentified persons are paid out as soon as the title to securities is established.
- PJSC Gazprom paid out RUB 186,342,826 thousand in dividends to nominee holders on 1 August 2019 in execution of the Annual General Shareholders Meeting's resolutions on dividend payouts based on PJSC Gazprom's 2018 results, which was held on 28 June 2019. As at 31 December 2019, the amount of dividends nominee holders failed to transfer as prescribed by the securities laws of the Russian Federation for reasons beyond their control (clause 8 and clause 9, Article 42 of Federal Law No. 208-FZ dated 26 December 1995) totalled RUB 280,736 thousand.

CORPORATE GOVERNANCE

The rights of PJSC Gazprom's shareholders and the regulatory framework for PJSC Gazprom's governing bodies are determined and exercised in accordance with Russian laws and may differ from the regulatory practice applicable to UK companies.

Key documents of PJSC Gazprom ensuring protection of shareholder rights:

- Articles of Association of Public Joint Stock Company Gazprom (amended in 2019)
- Code of Corporate Governance of PJSC Gazprom
- Code of Corporate Ethics of PJSC Gazprom (amended in 2019)
- Dividend Policy of PJSC Gazprom (approved in 2019)
- Regulations on the General Shareholders Meeting of PJSC Gazprom (amended in 2019)
- Regulations on the Board of Directors of PJSC Gazprom (amended in 2019)
- Induction Programme for First-Time Elected Members of the Board of Directors of PJSC Gazprom (approved in 2019)
- Regulations on the Audit Committee of JSC Gazprom's Board of Directors (amended in 2019)

- Regulations on the Nomination and Remuneration Committee of PJSC Gazprom's Board of Directors (amended in 2019)
- Regulations on the Management Committee of PJSC Gazprom (amended in 2019)
- Regulations on the Chairman of the Management Committee of PJSC Gazprom
- Regulations on the Audit Commission of JSC Gazprom, new version
- Procedure for Documenting Shareholder Proposals and Requests Related to the Convocation of the General Shareholders Meeting of PJSC Gazprom
- Procedure for Providing Information about PJSC Gazprom to Shareholders
- Regulations on Information Disclosure by PJSC Gazprom
- Regulations of on Monitoring Compliance with Laws on Countering the Illegal Use of Insider Information and Market Manipulation at PJSC Gazprom (approved in 2019)
- Anti-Corruption Policy of PJSC Gazprom
- Regulations on the Hotline for Fighting Fraud, Corruption, and Embezzlement at Gazprom Group

The Articles of Association and regulatory documents of PJSC Gazprom are available on PJSC Gazprom's website (https://www.gazprom.com/investors/documents/).

Enhancement of PJSC Gazprom's corporate governance standards in 2019

PJSC Gazprom continuously improves its corporate governance system. When shaping approaches to enhancement of its corporate governance, PJSC Gazprom primarily refers to its role in the national and global economy as a leader in the global energy market and the national capital market.

In 2018, following a scheduled independent audit of the corporate governance, PJSC Gazprom developed a Further Corporate Governance Enhancement Plan of PJSC Gazprom for 2018–2019. All scheduled and a number of unscheduled corporate governance enhancement activities have been completed in the reporting year.

In 2019, PJSC Gazprom enhanced its corporate governance standards in the following focus areas:

Focus area	Progress in 2019
Strategic planning	PJSC Gazprom's Long-Term Development Programme approved by the resolution of PJSC Gazprom's Board of Directors in 2019, expanded to the oil and power generation businesses of Gazprom Group ⁽¹⁾ .
Shareholder rights	PJSC Gazprom's Articles of Association and the Regulations on the General Shareholders Meeting of PJSC Gazprom stipulate procedures for electronic voting at the General Shareholders Meeting ⁽¹⁾ .
	A new version of the Dividend Policy of PJSC Gazprom with a focus on dividend accrual transparency was approved. The new formula is based on the Group's IFRS net profit adjusted for five non-cash items. The new Dividend Policy provides for a gradual increase of the lowest dividend payout ratio from 30% to 50% within a three-year period.
	PJSC Gazprom's treasury shares were sold (2.93% and 3.59% of the share capital of PJSC Gazprom).
Governing bodies	Performance of PJSC Gazprom's Board of Directors, the Audit Committee, and the Nomination and Remuneration Committee was duly assessed by means of a written survey (questionnaires) covering their composition and profile, activities, and key functions (the performance assessment was recommended by the Corporate Governance Code approved by the Board of Directors of the Bank of Russia on 21 March 2014).
	The Induction Programme for First-Time Elected Members of the Board of Directors of PJSC Gazprom was approved.

Focus area	Progress in 2019
	The Regulations on the Board of Directors of PJSC Gazprom were supplemented by provisions on identifying and preventing conflicts of interest of Board members.
Corporate ethics	The Code of Corporate Ethics of PJSC Gazprom was amended in order to extend its provisions to members of PJSC Gazprom's Board of Directors.
	The Code compliance clause for PJSC Gazprom's contracts with counterparties was drafted.
	The standards of corporate ethics were extended to members of boards of directors at entities controlled by PJSC Gazprom.
	Employees of such entities started taking ethical awareness tests on a regular basis.
Insider information protection	A new version of the Regulations On Monitoring Compliance with Laws on Countering the Illegal Use of Insider Information and Market Manipulation at PJSC Gazprom was approved. The new version sets forth a general monitoring profile for monitoring compliance of PJSC Gazprom with the requirements of Federal Law No. 224-FZ On Countering the Misuse of Insider Information and Market Manipulation and Amending Certain Laws of the Russian Federation and with relevant regulations adopted thereunder.
Shareholder and investor relations	The practice of interfacing with the investment community and shareholders was continued at conferences, meetings in the offices of PJSC Gazprom, in a conference call format, as well as during the Investor Day.
	Targeted meetings of independent directors (Vladimir Mau and Viktor Martynov) with investors were held, including meetings on matters pertaining to the environment, environmental protection, and corporate governance. Dedicated foreign roadshows on corporate governance were conducted.

Note:

Corporate governance model

The corporate governance model in place at PJSC Gazprom relies on Russian laws, the requirements of Russian stock exchanges applicable to issuers whose shares have been included in the first (top) level quotation list.

PJSC Gazprom's Corporate Governance Model ensures robust corporate governance while protecting the interests of shareholders and maintaining the highest standards of disclosure. This model also implies the establishment and continuous operation of an effective risk management and internal control system and provides for a clear division of roles and responsibilities and a performance assessment framework for each governing body of PJSC Gazprom. In addition, PJSC Gazprom's corporate governance model and practice reflect particularly high levels of transparency and commitment to shareholder interests.

The basic principles of PJSC Gazprom's corporate governance are set forth in the Code of Corporate Governance of PJSC Gazprom, the new version of which was approved by the General Shareholders Meeting of PJSC Gazprom on 30 June 30 2017.

PJSC Gazprom's corporate governance pillars include governing and supervisory bodies: the General Shareholders Meeting, the Board of Directors, the Management Committee, the Chairman of the Management Committee, and the Audit Commission.

⁽¹⁾ Under the Further Corporate Governance Enhancement Plan of PJSC Gazprom for 2018–2019.

PJSC Gazprom's Board of Directors has set up the Audit Committee and the Nomination and Remuneration Committee of the Board of Directors of PJSC Gazprom to preview the most important matters of PJSC Gazprom's business reserved to the Board of Directors.

Financial and business operations of PJSC Gazprom are reviewed by an independent external auditor.

The Department of the Management Committee Administration is responsible for internal audit, performs an impartial assessment of internal controls and develops improvement recommendations. In order to maintain a transparent and constructive dialogue with the investment community, PJSC Gazprom has in place the Coordinating Committee for Shareholder and Investor Relations (set up by JSC Gazprom's Order No. 292 dated 17 November 2008). Relations with the investment community are governed by the annual plan of the Coordinating Committee.

PJSC Gazprom has in place the role of Corporate Secretary (Resolution of the Board of Directors No. 2817 dated 30 September 2016). The responsibilities of the Corporate Secretary are distributed, to the extent recommended by the Russian Corporate Governance Code, among several business units of PJSC Gazprom, in line with the regulations governing their functions as approved by the Board of Directors.

PJSC Gazprom also has in place the Coordinating Committee for Responsible Use of Natural Resources. PJSC Gazprom's environmental management system covers different levels of management, from the Board of Directors to branches and production facilities of PJSC Gazprom's subsidiaries. To ensure an integrated approach and coordinate the environmental management activities of PJSC Gazprom's business units, PJSC Gazprom has in place a permanent Working Group for EMS Enhancement.

Membership of the Board of Directors

As at 31 December 2019, the membership of PJSC Gazprom's Board of Directors was as follows:

Name	Year of birth	Position
Viktor A. Zubkov	1941	Chairman of PJSC Gazprom's Board of Directors
		Russia's Special Presidential Representative for Cooperation with the Gas Exporting Countries Forum
		Chairman of the Board of Directors of LLC Gazprom gazomotornoe toplivo
		Chairman of the Board of Directors of LLC Gazprom LNG Technologies
Alexey B. Miller	1962	Deputy Chairman of PJSC Gazprom's Board of Directors
		Chairman of PJSC Gazprom's Management Committee
Andrey I. Akimov	1953	Chairman of the Management Board of Gazprombank (Joint Stock Company)
Timur A. Kulibaev	1966	Chairman of the Association of Legal Entities the Kazakh Association of Oil, Gas and Energy Companies (KAZENERGY)
		Chairman of the Presidium of the National Chamber of Entrepreneurs of the Republic of Kazakhstan (Atameken)
Denis V. Manturov	1969	Minister of Industry and Trade of the Russian Federation
Vitaly A. Markelov	1963	Deputy Chairman of PJSC Gazprom's Management Committee
Viktor G. Martynov	1953	Rector of the Federal State Autonomous Educational Institution of Higher Education "Gubkin Russian State University of Oil and Gas (National Research University)"

Name	Year of birth	Position
Vladimir A. Mau	1959	Rector of the Russian Presidential Academy of National Economy and Public Administration (Federal State Budgetary Educational Institution of Higher Education)
Alexander V. Novak	1971	Minister of Energy of the Russian Federation
Dmitry N. Patrushev	1977	Minister of Agriculture of the Russian Federation
Mikhail L. Sereda	1970	Deputy Chairman of PJSC Gazprom's Management Committee – Head of PJSC Gazprom's Management Committee Administration

There were no changes to the Board of Directors in 2019.

In 2019, the Board held a total of 55 meetings, including 13 meetings held in person and 42 meetings held in absentia. At these meetings, 166 resolutions were passed, including 48 resolutions in person and 118 resolutions in absentia.

Audit Committee of the Board of Directors

In 2019, the Audit Committee of PJSC Gazprom's Board of Directors continued its work. The Committee reports to the Board of Directors and operates as set forth in the Regulations on the Audit Committee of JSC Gazprom's Board of Directors approved by Resolution of the Board of Directors of PJSC Gazprom No. 2314 dated 25 February 2014 (with subsequent amendments approved by Resolution No. 3333 of the Board of Directors of PJSC Gazprom dated 29 October 2019). The Committee is primarily responsible for: reviewing the Company's financial statements for completeness, accuracy and reliability; reviewing the reliability and effectiveness of the risk management and internal control systems; assurance of independence and fairness of the internal and external audit; assessment of proposed Company's auditors and reviewing the auditor's opinion.

As at 31 December 2019, the Board of Directors' Audit Committee had three members of PJSC Gazprom's Board of Directors: Viktor Martynov, Mikhail Sereda, and Vladimir Mau. Viktor Martynov was the Chairman of the Committee.

During the year, the Committee held 9 meetings, including 2 meetings held in person. In 2019, the Committee reviewed the information of LLC FBK on the most important audit matters pertaining to PJSC Gazprom and its subsidiaries, the external auditor's reports on ensuring an independent and robust external audit, as well as on the corporate risk management system of PJSC Gazprom, risk assessments and regular updates.

The Audit Committee maintained close contact with the external auditor LLC FBK, the Audit Commission, and PJSC Gazprom's Internal Audit Department, as well as PJSC Gazprom's department charged with risk management and internal control.

Nomination and Remuneration Committee of the Board of Directors

In 2019, the Nomination and Remuneration Committee of PJSC Gazprom's Board of Directors continued its work. The Committee reports to the Board of Directors and operates as set forth in the Regulations on the Nomination and Remuneration Committee of JSC Gazprom's Board of Directors approved by Resolution of the Board of Directors of PJSC Gazprom No. 2819 dated 30 September 2016 (with subsequent amendments approved by Resolution of the Board of Directors of PJSC Gazprom No. 3329 dated 17 October 2019).

As at 31 December 2019, the Board of Directors' Nomination and Remuneration Committee had three members of PJSC Gazprom's Board of Directors: Mikhail Sereda, Vladimir Mau, and Viktor Martynov. Mikhail Sereda was the Chairman of the Committee.

In 2019, the Committee held 16 meetings, including 2 meetings held in person. The Committee reviewed the following matters: election of members of PJSC Gazprom's Management Committee; approval of the PJSC Gazprom's actual 2019 KPI values for the purposes of the Annual Bonus

Scheme for the Management of PJSC Gazprom, as well as target (planned), threshold, and maximum KPI values for 2019; remuneration of members of PJSC Gazprom's Board of Directors and Audit Commission; assessment of the Board of Directors' and its committees' performance, etc.

Membership of the Management Committee

Members of PJSC Gazprom's Management Committee as at 31 December 2019:

Name	Year of birth	Position	
Alexey B. Miller	1962	Chairman of PJSC Gazprom's Management Committee	
Oleg E. Aksyutin	1967	Deputy Chairman of the Management Committee – Head of Department (prospective development)	
Elena V. Burmistrova	1971	Deputy Chairwoman of PJSC Gazprom's Management Committee, Director General of LLC Gazprom export	
Elena A. Vasilieva	1959	Deputy Chairwoman of PJSC Gazprom's Management Committee – Chief Accountant of PJSC Gazprom	
Vitaly A. Markelov	1963	Deputy Chairman of PJSC Gazprom's Management Committee	
Mikhail E. Putin	1967	Deputy Chairman of PJSC Gazprom's Management Committee	
Famil K. Sadygov	1968	Deputy Chairman of PJSC Gazprom's Management Committee	
Sergey F. Khomyakov	1953	Deputy Chairman of PJSC Gazprom's Management Committee, Director General of PJSC Gazprom's Corporate Security Service Branch	
Sergey I. Kuznets	1970	Head of Department (legal support)	
Vladimir K. Markov	1955	Head of Department (relations with the Russian Federation authorities)	
Sergey N. Menshikov	1968	Head of Department (Hydrocarbon Exploration and Production)	
Elena V. Mikhailova	1977	Head of Department (asset management and corporate relations)	
Vyacheslav A. Mikhalenko	1965	Head of Department (gas transportation and underground storage)	
Gennady N. Sukhov	1961	Head of Department (hydrocarbon processing, sales of hydrocarbons and refined products in the domestic market, power generation)	

Changes to the Management Committee in 2019 were as follows:

Members of the Management Committee elected by the Board of Directors in 2019

Name	Number and date of the Board of Directors resolution	Date of election to the Management Committee
Sergey N. Menshikov	No. 3232 dated 20 March 2019	2 April 2019
Elena V. Burmistrova	No. 3237 dated 2 April 2019	1 April 2019
Sergey I. Kuznets	No. 3240 dated 2 April 2019	2 April 2019
Famil K. Sadygov	No. 3247 dated 10 April 2019	15 April 2019

Members of the Management Committee whose powers were terminated by the Board of Directors in 2019.

Name	Number and date of the Board of Directors resolution	Date of termination of powers of the Management Committee member
Valery A. Golubev	No. 3223 dated 26 February 2019	26 February 2019
Alexander I. Medvedev	No. 3224 dated 26 February 2019	26 February 2019
Vsevolod V. Cherepanov	No. 3225 dated 26 February 2019	26 February 2019
Sergey F. Prozorov	No. 3238 dated 2 April 2019	1 April 2019
Igor Y. Fyodorov	No. 3239 dated 2 April 2019	1 April 2019
Andrey V. Kruglov	No. 3241 dated 2 April 2019	1 April 2019
Kirill G. Seleznev	No. 3254 dated 16 April 2019	12 April 2019

Remuneration of key executives

Pursuant to the Regulations on the Board of Directors of PJSC Gazprom approved by the annual General Shareholders Meeting (Minutes No. 1 dated 30 June 2016, as amended) and PJSC Gazprom's Articles of Association, members of the Board of Directors may be remunerated and/or reimbursed during the period of their service for expenses incurred by them as members of the Board of Directors. The amount of remuneration and/or reimbursement is determined by the General Shareholders Meeting.

Members of the Board of Directors holding public or civil office in the Russian Federation receive no remuneration from PJSC Gazprom.

Approaches to determining the amount of remuneration to members of the Board of Directors are set forth by the Regulations on the Guidelines on Remuneration of the Board of Directors of JSC Gazprom (approved by Resolution of the Board of Directors of JSC Gazprom No. 2523 dated 15 April 2015).

Remuneration of PJSC Gazprom's Management Committee members (including the Chairman of the Management Committee) and other executives of PJSC Gazprom (including the remuneration of executives who are also members of the PJSC Gazprom's Board of Directors, which is not related to their service on the Board of Directors) is determined by their employment agreements and is short-term. Members of the Management Committee are not remunerated for their service on PJSC Gazprom's Management Committee. Short-term remuneration of PJSC Gazprom's key executives (members of the Board of Directors and the Management Committee), including salaries, bonuses, and remuneration for serving on the management bodies of the Group's entities amounted to approximately RUB 3,180 million and RUB 4,312 million for the years ended 31 December 2019 and 31 December 2018, respectively.

Liability insurance of directors' and officers' (D&O) and PJSC Gazprom

PJSC Gazprom insures the liability of its directors (excluding directors holding public office), officers, and PJSC Gazprom. Under the liability insurance contract, shareholders, creditors or other third parties are compensated for damages incurred as a result of in-scope errors (omissions) by PJSC Gazprom's key executives.

The terms of the 2019 liability insurance programme for directors, officers, and PJSC Gazprom are as follows:

Insurance coverage	USD 100 mm	
Insurance premium	USD 900 thousand	
Persons insured	 members of the Board of Directors of PJSC Gazprom (excluding directors who hold public office) 	
	 PJSC Gazprom's Management Committee members 	
	 heads of PJSC Gazprom's Departments who are not members of PJSC Gazprom's Management Committee. 	
Risks insured	 risk of third-party claims against the insured for losses arising from unintentional errors made by the insured in their management roles 	
	 risk of third-party claims against PJSC Gazprom for losses arising from unintentional errors made by the insured in their management roles: claims related to PJSC Gazprom's securities; claims initially made against the insured. 	

The insurance coverage under the current liability insurance policy is in line with PJSC Gazprom's needs and Russian and international insurance standards in terms of risk coverage and indemnity limits.

PJSC Gazprom shares held by members of the Board of Directors and Management Committee

As at 31 December 2019, members of the Board of Directors, members of the Management Committee, and the Chairman of the Management Committee had a 0.010577% stake in PJSC Gazprom (direct ownership).

Audit Commission

The Audit Commission's authority is set forth in the Federal Law On Joint-Stock Companies and PJSC Gazprom's Articles of Association. The Audit Commission operates under the Regulations on the Audit Commission of JSC Gazprom approved by the Resolution of JSC Gazprom's Annual General Shareholders Meeting (Minutes No. 1 dated 28 June 2013).

Key roles of the Audit Commission:

- Monitor the fairness of presentation of PJSC Gazprom's financial and accounting statements and other information on PJSC Gazprom's financial and business operations and condition of its assets
- Supervise statutory compliance of PJSC Gazprom's accounting practices and of submission of its financial statements and information to relevant authorities and shareholders
- Prepare proposals on enhancing PJSC Gazprom's asset management and other financial and business operations of PJSC Gazprom, mitigate financial and operating risks, and improve internal controls

The Audit Commission is accountable to the General Shareholders Meeting and coordinates its activities with the Audit Committee of the Board of Directors.

Following an audit of PJSC Gazprom's financial and business operations, the Audit Commission presented its opinion confirming the fairness of data in PJSC Gazprom's statements and other financial documents.

The Audit Commission of nine members is elected by the General Shareholders Meeting. Internal Audit

Internal audit assists in achieving the PJSC Gazprom's goals through applying a holistic consistent approach to assessment and improvement of risk management, internal control, and corporate governance processes.

To improve the internal audit function and in accordance with Directive of the Russian Government for persons representing interests of the Russian Federation No. 3984p-P13 dated 24 June 2015, PJSC Gazprom developed and approved the Regulations on Internal Audit of PJSC Gazprom in 2015 (Resolution of the Board of Directors No. 2621 dated 6 November 2015, amended versions No. 3212 dated 1 February 2019 and No. 3335 dated 29 October 2019).

These Regulations determine the goals, objectives, status, powers, and liability of the Internal Audit Department of PJSC Gazprom, as well as the scope of internal audit.

Pursuant to the Regulations, the internal audit at PJSC Gazprom is organised by the relevant Department, a business unit of PJSC Gazprom, and by internal audit units – at PJSC Gazprom's subsidiaries.

The key priority of the Department is to provide the Board of Directors (through the Audit Committee of the Board of Directors) and management of PJSC Gazprom with independent and unbiased assurances and advice as to the improvement of PJSC Gazprom's operations.

The Department has administrative subordination to the Chairman of PJSC Gazprom's Management Committee within the Management Committee Administration and functionally reports to the Board of Directors (through the Board of Directors' Audit Committee). The Head of the Department is appointed and dismissed by the Chairman of the Management Committee of PJSC Gazprom. The Audit Committee of the Board of Directors is responsible for preliminary approval of candidates for the position of the Head of the Department, extension of their term, and their dismissal.

The Department is responsible for organising and conducting internal audits of PJSC Gazprom's business units, subsidiaries and entities in accordance with the established procedure and Russian and international best practices for internal audit. The Department conducted its 2019 audits to identify risks and assess the performance for PJSC Gazprom's significant business segments and processes based on:

- achievement by the auditees of their objectives
- efficiency and effectiveness of operations
- protection of assets
- compliance of operations with the terms and conditions of contracts, legal requirements, and local regulations.

Results of internal audits conducted by the Department are used to develop and submit proposals to PJSC Gazprom's management on elimination of violations, irregularities, and root causes. Based on the proposals made by the Department, the Chairman of the Management Committee gives instructions to PJSC Gazprom's business units, subsidiaries and entities, aimed at improving PJSC Gazprom's performance. The Department monitors the execution of such instructions.

External Audit

The External Audit Policy for PJSC Gazprom, its subsidiaries and entities approved by PJSC Gazprom's Board of Directors (Resolution of the Board of Directors of PJSC Gazprom No. 2847 dated 15 November 2016) sets forth the key principles of organising and conducting external audits of PJSC Gazprom and its subsidiaries and entities, the auditor selection procedure and criteria, as well as approaches to ensuring the auditor's compliance with the principles of independence and absence of a conflict of interest.

PJSC Gazprom selects its auditor annually by a public tender in accordance with applicable Russian laws. Assessment of potential auditors is one of the main duties of the Audit Committee of PJSC Gazprom's Board of Directors.

LLC FBK won the public tender for the service contract to audit PJSC Gazprom's accounting (financial) statements, Gazprom Group's consolidated accounting statements, and Gazprom Group's consolidated IFRS financial statements for 2019 and 2020.

The contract price for auditing PJSC Gazprom's accounting (financial) statements, Gazprom Group's consolidated accounting statements, and Gazprom Group's consolidated IFRS financial statements for 2019 offered by the winner was RUB 210,000,000 (exclusive of VAT) and was approved by Resolution of the Board of Directors No. 3274 dated 21 May 2019.

By resolution of PJSC Gazprom's General Shareholders Meeting held on 28 June 2019, LLC FBK became an approved auditor responsible for auditing PJSC Gazprom's accounting (financial) statements, Gazprom Group's consolidated accounting statements, and Gazprom Group's consolidated IFRS financial statements for 2019.

LLC FBK provides other audit-related services to PJSC Gazprom outside the audit contract. In 2019, a fee of RUB 3,660,900 (inclusive of VAT) was paid for other audit-related services.

Anti-Corruption Efforts

PJSC Gazprom has developed and adheres to the anti-corruption framework while effective local regulations adopted as part of anti-corruption measures help foster negative sentiment towards corrupt conduct, prevent or resolve conflicts of interest, and prevent unlawful behaviour.

PJSC Gazprom's anti-corruption practices comply with the main international and Russian regulations.

The anti-corruption package of documents of PJSC Gazprom consists of:

- Anti-Corruption Policy of PJSC Gazprom PJSC Gazprom's primary anti-corruption document
- Code of Corporate Ethics
- Risk Management and Internal Control Policy of PJSC Gazprom
- Regulations on the Corporate Ethics Commission of PJSC Gazprom
- Regulations on the Hotline for Fighting Fraud, Corruption, and Embezzlement at Gazprom Group
- Procedure for a Conflict of Interest Disclosure and Conflict of Interest Resolution
- Procedure for reporting offences with signs of corruption committed by employees, counterparties or third parties, which have become known to an employee, and for dealing with allegations of corruption
- Procedure for reporting cases when an employee is incited to commit offences, and for reviewing such reports
- Procedure for protecting whistle blowers who have reported offences relevant to the Company's operations

The Board of Directors and executive bodies of PJSC Gazprom are involved in preventing and combating corruption.

The process of preventing and revealing corrupt practices at Gazprom Group is being improved. PJSC Gazprom implements the Anti-Corruption Plan for 2018–2020 approved by PJSC Gazprom's Board of Directors (Resolution of the Board of Directors of PJSC Gazprom No. 3194 dated 18 December 2018).

PJSC Gazprom has adopted its Code of Corporate Ethics developed with due account for Russian and international corporate governance best practices.

The document details PJSC Gazprom's corporate values and determines the fundamental rules of business conduct stemming from such values, which rule out any conflicts of interest or corrupt practices and, in particular, impose restrictions on nepotism, employee engagement with PJSC Gazprom's competitors, their serving on elected government bodies, acceptance of gifts.

The Code specifies the procedure to be followed by employees in the event of a conflict of interest, declares zero tolerance for corrupt conduct, and establishes the obligation of managers and employees to notify the employer of any corrupt offers made to them. The Code also affirms environmental responsibility and non-discriminatory principles, and establishes implementation and supervision practices on compliance with corporate ethics standards.

The Code provisions are mandatory for PJSC Gazprom's employees and legal entities under its control and optional for employees of PJSC Gazprom's affiliates which are not under its control, and for PJSC Gazprom's counterparties.

PJSC Gazprom and its subsidiaries organise awareness days to communicate to their employees the effective rules of business, including anti-corruption corporate ethics.

The standing Corporate Ethics Commission of PJSC Gazprom, which also considers cases of employee conflicts of interest, is responsible for the implementation of the Code of Corporate Ethics, which is one of the anti-corruption standards at PJSC Gazprom.

The Commission's performance is reported to the Chairman of PJSC Gazprom's Management Committee on an annual basis. The Chairman of PJSC Gazprom's Management Committee may impose sanctions stipulated by the Code at his own initiative or at the Commission's suggestion, or at the initiative of the violator's immediate superior.

RISK MANAGEMENT AND INTERNAL CONTROL

Gazprom has in place an effective risk management and internal control system which helps achieve corporate goals and optimise business process management to ensure the Group's sustainable development.

PJSC Gazprom has developed an effective risk management and internal control system (RMICS) which helps promptly identify, assess, and respond to, potential events, circumstances, and internal and external factors that may influence the achievement of its goals.

PJSC Gazprom acknowledges that its operations are exposed to uncertainties such as risks, and implements measures to provide adequate assurance that the goals set for PJSC Gazprom by its governing bodies are achieved.

The RMICS is an integral part of PJSC Gazprom's corporate governance and is embedded into the planning and project management systems, and occupational health and safety management programmes. The RMICS covers all operations of PJSC Gazprom and Gazprom Group entities, as well as all management levels, business segments, and risks across PJSC Gazprom and Gazprom Group entities.

Key Risk Factors

In 2019, the key risk factors identified for the Company remained largely unchanged. PJSC Gazprom conducts assessments of the possible impact of short- and medium-term consequences of the COVID-19 outbreak on its operations, including financial and market risk, as well as risks associated with PJSC Gazprom's operations.

Risk	Description	Risk management / mitigation
Strategic and country risks	S	
Risks related to the global economy	An unfavourable economic environment can lead to a slowdown in energy demand and drive the cost of borrowed capital	To ensure growth of energy sales, PJSC Gazprom considers numerous markets and distribution channels and expands the uses of natural gas. To maintain its financial stability, PJSC Gazprom optimises leverage
European gas market risks	The EU pursues a policy of diversifying its gas supply sources and increasing the share of natural gas exchange trade,	To minimise the risk of lower supply levels, a set of initiatives continues to be implemented to both build new infrastructure and bolster demand for

Risk	Description	Risk management / mitigation
	which affects PJSC Gazprom as one of the main suppliers of natural gas to the EU countries	natural gas, as well as strengthen PJSC Gazprom's position in the sectors with a potential for extra supplies
Political risk	Starting from 2014, Russia is under sanctions imposed by the EU, the United States, and other countries	PJSC Gazprom pursues a policy of ensuring technological independence
Natural gas transit risks	Gas transmission via third countries is associated with the risks of the counterparties defaulting on their transit obligations, as well as uncertainty about the future conditions of transit contracts, which exposes Gazprom Group to the risk of improper performance of its obligations under gas supply contracts	A number of measures are taken such as diversification of export routes, expanding access to UGSFs abroad, and development of LNG trade
Russian regulatory risks for the gas industry	PJSC Gazprom's operations are regulated by Federal Law No. 147-FZ On Natural Monopolies dated 17 August 1995	PJSC Gazprom is engaged in intensive dialogue with government authorities to improve the pricing and tariff policy; objective supporting cases are prepared to inform decision making by PJSC Gazprom's Board of Directors
Unconventional gas development risks	Shale gas appeals mostly to countries with limited conventional gas reserves and resources; however, the risk that these countries will reduce gas imports in the mid-term is assessed as insignificant	PJSC Gazprom continuously monitors the evolution of the shale gas industry and developments in other unconventional hydrocarbons industries around the world. The monitoring results, including the economics of unconventional gas production and its potential as a competition to PJSC Gazprom in its existing or prospective markets, are reviewed by PJSC Gazprom's governing bodies on a regular basis, which enables PJSC Gazprom to efficiently implement its marketing policy in respective regions taking into account various mechanisms of gas sales
Renewable energy risks	Renewable energy output can be expected to grow in some countries, which may squeeze gas consumption in these markets	The use of natural gas, inter alia, for power generation offers consumers economic, technological, and environmental benefits, which, PJSC Gazprom believes, will support natural gas as common energy source. In most cases, renewable electricity generation supplements other sources and may entail certain risks for the natural gas market if subsidising renewable energy is

Risk	Description	Risk management / mitigation
		maintained at national and/or supranational levels
Customs, currency, and tax	regulation risks	
Risk of changes in the Russian currency regulation and tax legislation	Currency regulation and tax legislation risks persist, along with the risk of a heavier tax burden on companies operating in the fuel and energy sector. Changes in the Russian currency regulation and tax legislation, as well as tax legislation changes in the countries in which Gazprom Group has a presence may affect the operations of PJSC Gazprom and Gazprom Group entities	Changes in currency and tax laws are consistently monitored. PJSC Gazprom liaises with government authorities to ensure timely adjustment of its operations in line with changes in Russian and international laws
Risks related to changes in Russian rules on customs control and duties	Customs authorities may introduce additional customs requirements if the rules of customs control and export duty payment are amended	PJSC Gazprom complies with the requirements of customs laws and communicates with government authorities
Financial risks		
Foreign exchange and inflation rate risks	Potential cash flow reduction due to adverse change in foreign exchange rates. High exchange rate volatility coupled with income and expenses denominated in different currencies affect PJSC Gazprom's performance. The current inflation rate has no significant influence on PJSC Gazprom's financial position	PJSC Gazprom ensures the optimal ratio of assets and liabilities denominated in foreign currency, calculates earnings considering the foreign exchange risk, and forecasts exchange rates to develop a forecast balance. To minimise losses from exchange rate volatility, PJSC Gazprom hedges its foreign exchange and interest rate risks
Credit and liquidity risks	Delayed or incomplete discharge of contractual obligations by some counterparties entails risks for PJSC Gazprom's operations	Relations with credit institutions are subject to credit risk limits revised on a regular basis and reflecting, inter alia, the calculated credit rating. Performance of contractual obligations is monitored and credit quality of counterparties is assessed with the adoption of measures to reduce risks in case of low creditworthiness
Market risks		
Market price and size risks	If oil prices and gas exchange quotations drop and/or maintain at current levels for a long time, resulting risks may lead to a decline in revenues. There are also volume risks associated with a certain flexibility that	These risks are managed by adjusting contract terms and conditions or entering into new contracts, determining approved types of transactions and financial instruments and counterparties to enter into such transactions

Risk	Description	Risk management / mitigation
	buyers have in terms of gas withdrawal	
PJSC Gazprom's operatin	g risks	
Risks of early termination and suspension of subsoil licences	Non-compliance with licence agreements exposes PJSC Gazprom to risks of early termination or suspension of subsoil licences for survey, exploration, and production of hydrocarbons	Regular monitoring, control of compliance with licence requirements, and timely amendment of licence agreements minimise the likelihood of licence revocation and suspension
Risks of failure to reach peak gas withdrawal capacity at UGSFs	Failure to reach necessary gas supply volumes in the context of steep increase in gas consumption	UGSFs are tested to confirm their maximum daily deliverability
Risk of power outages at UGSS facilities	Internal and external factors may lead to power outages at UGSS facilities	PJSC Gazprom implements comprehensive programmes to enhance reliability of power supply facilities, insure equipment, and create reserves to cover potential losses
Risks related to occupational health, industrial and fire safety	PJSC Gazprom's performance depends on its occupational health, industrial and fire safety practices	PJSC Gazprom has in place and operates the IOHSMS integrated into its management system to manage OHS risks and meet the objectives and commitments relating to occupational health, industrial, and fire safety
Cost risks	Increased prices for equipment, technical devices, components, as well as works and services, which form the actual cost of capital construction projects, constitute an investment risk	Entering into contracts for performance of works (provision of services, supply of inventory) with a fixed price, and relevant monitoring during the execution of contracts help reduce the cost risks of investment activities
Facilities risks	The key operations, including hydrocarbon production, transportation, processing/refining, and storage, carry process and engineering, natural and climatic risks, as well as risks of adverse actions by personnel or third parties	The Unified Gas Supply System (UGSS) ensures reliable gas supplies. Stable operation of the system is achieved by implementing advanced and innovative diagnostic methods, carrying out timely overhaul and maintenance, revamping and upgrading existing facilities. Insurance coverage is provided to protect Gazprom Group entities' property interests, which includes property insurance (including offshore facilities), business interruption insurance, and liability insurance for construction, repair, and operation of production facilities
Hydrocarbon reserve estimation risks	PJSC Gazprom's strategic and financial goals depend on hydrocarbon reserves. Thus,	Reserve estimation procedures have been developed and are implemented, including in

Risk	Description	Risk management / mitigation
	inaccurate reserve estimation bears potential risks for PJSC Gazprom's operations	accordance with international standards. Gazprom's reserves estimated under Russian reserves classification standards are recorded in its books after the annual review and approval by the State Reserves Commission of the Russian Ministry of Natural Resources
Environmental risks	The key operations, including hydrocarbon production, transportation, refining/processing, and storage, carry environmental risks (risks of environmental pollution, noncompliance with environmental regulations) that may lead to legal, financial, and reputational implications	PJSC Gazprom implements a uniform Environmental Policy, programmes, and initiatives to reduce its environmental footprint, takes out voluntary environmental liability insurance, introduces best available innovative technology for mitigating the environmental impact. PJSC Gazprom has developed and operates an efficient EMS integrating environmental controls of both PJSC Gazprom and Gazprom Group entities. Efforts taken by PJSC Gazprom help maintain high levels of environmental risk manageability
Climate risks		
Climate change risk	Identification and assessment of climate risks are central to PJSC Gazprom's commitment to adapting to climate change	PJSC Gazprom's risk mitigation measures include expanding gas infrastructure across Russian regions to reduce GHG emissions, implementing energy saving and carbon footprint reduction initiatives, and adapting to possible climate changes

BRANCHES AND REPRESENTATIVE OFFICES OF PJSC GAZPROM

The list of branches and representative offices of PJSC Gazprom as at 31 December 2019:

Name	Location
Branch Avtopredpriyatie of PJSC Gazprom	Saint Petersburg
Branch Corporate Premises Management of PJSC Gazprom	Saint Petersburg
Branch Bogorodskoye Reception House	Moscow
Branch Souyz Holiday Hotel	Moscow Region
Branch Morozovka Holiday Hotel	Moscow Region
Branch Corporate Security Services of PJSC Gazprom	Saint Petersburg
Branch Central Interregional Security Division of PJSC Gazprom	Moscow Region
Branch Main Security Division of PJSC Gazprom in Saint Petersburg	Saint Petersburg
Branch Southern Interregional Security Division of PJSC Gazprom	Krasnodar
Branch Volga Interregional Security Division of PJSC Gazprom	Samara
Branch North Urals Interregional Security Division of PJSC Gazprom	Novy Urengoy
Branch South Urals Interregional Security Division of PJSC Gazprom	Yekaterinburg
Branch Siberian Interregional Security Division of PJSC Gazprom	Tomsk
Branch Far Eastern Interregional Security Division of PJSC Gazprom	Khabarovsk
Branch Office 644 of PJSC Gazprom in Saint Petersburg	Saint Petersburg
Representative office in Ukraine in Kiev	Kiev
Representative office in the People's Democratic Republic of Algeria in Algiers	Algiers
Representative office in the Islamic Republic of Iran in Tehran	Tehran
Representative office in the Republic of Turkey in Ankara	Ankara
Representative office in the People's Republic of China in Beijing	Beijing
Representative office in the Republic of India in New Delhi	New Delhi
Representative office in Turkmenistan in Ashgabat	Ashgabat
Representative office in the Republic of Kazakhstan in Nur-Sultan	Nur-Sultan
Representative office in the Republic of Latvia in Riga	Riga
Representative office in the Federative Republic of Brazil in Rio de Janeiro	Rio de Janeiro
Representative office in the Republic of Moldova in Chişinău	Chişinău
Representative office in the State of Qatar in Doha	Doha
Representative office in the Kingdom of Belgium in Brussels	Brussels
Representative office in Japan in Tokyo	Tokyo
Representative office in Azerbaijan in Baku	Baku

UNITS OF MEASUREMENT AND CONVERSION TABLE

Name	Definition	Conversi	on ratios
		Metric measure	U.S. measure
cu m of gas	A cubic metre of natural gas measured at 1 Pa pressure and 20°C, with a calorific value of 8,850 kcal per cu m	1,000 cu m of gas	6.49 barrels of oil 0.885 tonnes of oil equivalent
tonne of oil	Tonne of oil	1 tonne of oil	7.33 barrels of oil 7.33 barrels of oil equivalent 1 tonne of oil equivalent
tonne of gas condensate	Tonne of gas condensate	1 tonne of gas condensate	8.18 barrels of gas condensate 8.18 barrels of oil equivalent 1 tonne of oil equivalent

GLOSSARY OF KEY TERMS AND ABBREVIATIONS

Terms and abbreviations	Description
A+B ₁ +C ₁ hydrocarbon reserves	Explored reserves estimated under the Russian Classification of Reserves and Resources with high geological certainty and corresponding to the previously used A+B+C ₁ reserves. Recovery factors for oil, gas, and gas condensate reserves are determined based on field geology with account for existing technologies
Adjusted EBITDA	The sum of operating profit, depreciation, impairment loss or reversal of impairment loss on financial assets and non-financial assets, less changes of allowance for expected credit losses on accounts receivable and impairment allowance on advances paid and prepayments.
ADR of PJSC Gazprom	American Depositary Receipt issued for PJSC Gazprom shares
APG	Associated petroleum gas
Associates	Entities over which the Group has significant influence and that are neither a subsidiary nor an interest in a joint arrangement. Significant influence occurs when the Group has the power to participate in the financial and operating policy decisions of an entity but has no control or joint control over those policies
boe	Barrel of oil equivalent
CDP	Carbon Disclosure Project
CGTU	Comprehensive gas treatment unit
СНРР	Combined heat and power plant
CS	Compressor station
CSA	Capacity Supply Agreement
CSP	Condensate Stabilisation Plant
cubic m	A cubic metre of natural gas measured at 1 Pa pressure and 20°C.
EMS	Environmental Management System
ESP	Electronic Sales Platform
Europe and other countries	Foreign countries other than FSU countries
European far abroad countries	25 EU countries (excluding Latvia, Lithuania, and Estonia), such non-EU countries as Turkey, Norway, and Switzerland, and the Balkan states of Bosnia, Bosnia and Herzegovina, Macedonia, and Serbia
FSU	Former Soviet Union republics, except for the Russian Federation
Gazprom Group, the Group, Gazprom	An aggregate of entities which includes PJSC Gazprom (parent company) and its subsidiaries
Gazprom energoholding Group	An aggregate of entities which includes LLC Gazprom energoholding (parent company) and its subsidiaries. Gazprom Group controls Gazprom energoholding Group

Gazprom neftekhim Salavat Group	An aggregate of entities which includes LLC Gazprom neftekhim Salavat (parent company) and its subsidiaries Gazprom Group controls Gazprom neftekhim Salavat Group
Gazprom Neft Group	An aggregate of entities which includes PJSC Gazprom Neft (parent company) and its subsidiaries. Gazprom Group controls Gazprom Neft Group
Gcal	Gigocalorie
GHG	Greenhouse gases
GPP	Gas and/or condensate processing plant
GRES	State district power station
GRF	Gas recovery factor
GTS	Gas Transportation System
GW	Gigawatt
IFRS	International Financial Reporting Standards
ISO 14001	International Organization for Standardization, the international environmental management standard
ISO 9001	International Organization for Standardization, the international quality management standard
ISO 45001	International Organization for Standardization, the international occupational health and safety standard
Joint operation	Joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligation for the liabilities, relating to the arrangement. Where the Group acts as a joint operator, the Group recognises in relation to its interest in a joint operation: its assets, including its share of any assets held jointly; its liabilities, including its share of any liabilities incurred jointly; its revenue from the sale of its share of the output arising from the joint operation; its share of the revenue from the sale of the output by the joint operation; and its expenses, including its share of any expenses incurred jointly
Joint venture	Joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. With regards to joint arrangements, where the Group acts as a joint venture, the Group recognises its interest in a joint venture as an investment and accounts for that investment using the equity method
km	Kilometre
kWh	Kilowatt hour
LNG	Liquefied natural gas
m	Metre
Moscow Exchange	Public Joint-Stock Company Moscow Exchange MICEX-RTS
MW	Megawatt

Net debt	The sum of short-term borrowings, current portion of long-term borrowings, short-term promissory notes payable, long-term borrowings, long-term promissory notes payable, net of cash and cash equivalents
NGV	Natural gas vehicle
OGCF	Oil and gas condensate field
OHS	Occupational Health and Safety
OHSAS 18001	Occupational Health and Safety Management Systems, the international standard for occupational health and safety management systems
PRMS standards	International classification and assessment of hydrocarbon reserves under PRMS (Petroleum Resources Management System).
QIBs	Qualified institutional buyers
R&D	Research and Development
RMICS	Risk Management and Internal Control System
RUB	Russian rouble
sq km	Square kilometre
tonne	Metric ton
Total debt	The sum of short-term borrowings, current portion of long-term borrowings, short-term promissory notes payable, long-term borrowings, long-term promissory notes payable
TPP	Thermal power plant
UGSF	Underground gas storage facility
UGSS	Unified Gas Supply System of Russia
USD	United States (US) dollars
IOHSMS	Unified Occupational Health and Safety Management System
VAT	Value Added Tax

CONTACTS

Full name

Public Joint Stock Company Gazprom

Abbreviated name

PJSC Gazprom

Location

Moscow, Russian Federation

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Phone: +7 495 719 3001

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 $+7\ 812\ 413\ 7333$

Website

www.gazprom.ru (in Russian)
www.gazprom.com (in English)

E-mail

gazprom@gazprom.ru

Certificate of entry into the Unified State Register of Legal Entities

by the Moscow Department of the Ministry of Taxation dated 2 August, 2002, OGRN 1027700070518

Taxpayer Personal Identification Number (INN)

7736050003

Contact for shareholders

Phone: +7 812 609 7657 (for shareholders of PJSC Gazprom)

Contact for investors

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Auditor

Limited Liability Company Financial and Accounting Consultants (LLC FBK).

LLC FBK is a member of the self-regulated organisation of auditors Auditor Association Sodruzhestvo.

Location address: 44/1 Myasnitskaya str., bld. 2 AB, Moscow, 101990, Russian Federation

Phone: +7 495 737 5353 Website: <u>www.fbk.ru</u>.

Registrar

Joint Stock Company Specialised Registrar – Register Keeper for Gas Industry Shareholders (JSC DRAGa)

Location and postal address: 71/32 Novocheryomushkinskaya str., Moscow, 117420, Russian

Federation

Phone: +7 495 719 4044Website: www.draga.ru

Depository bank (PJSC Gazprom ADRs)

Bank of New York Mellon

Website: www.bnymellon.com