

# ENERGY OF THE CAPITAL CITY

Annual report 2019

Preliminarily approved  
by the Board of Directors of Mosenergo PJSC  
Minutes No. 84  
dated May «27», 2020

# ANNUAL REPORT

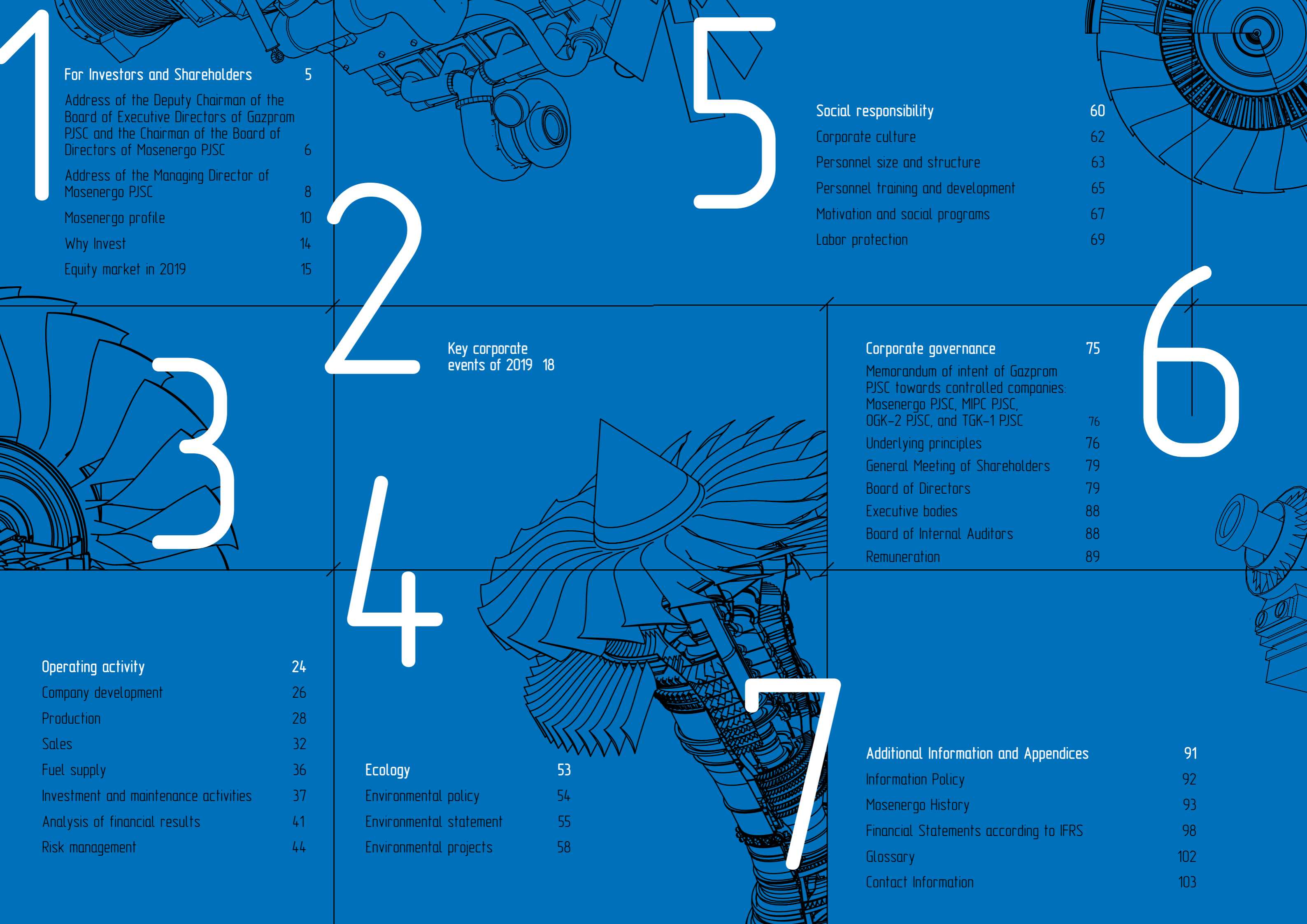
## Mosenergo PJSC

### 2019

Director General of Gazprom Energoholding LLC,  
Managing company of Mosenergo PJSC



Denis Fedorov



# 1 For Investors and Shareholders

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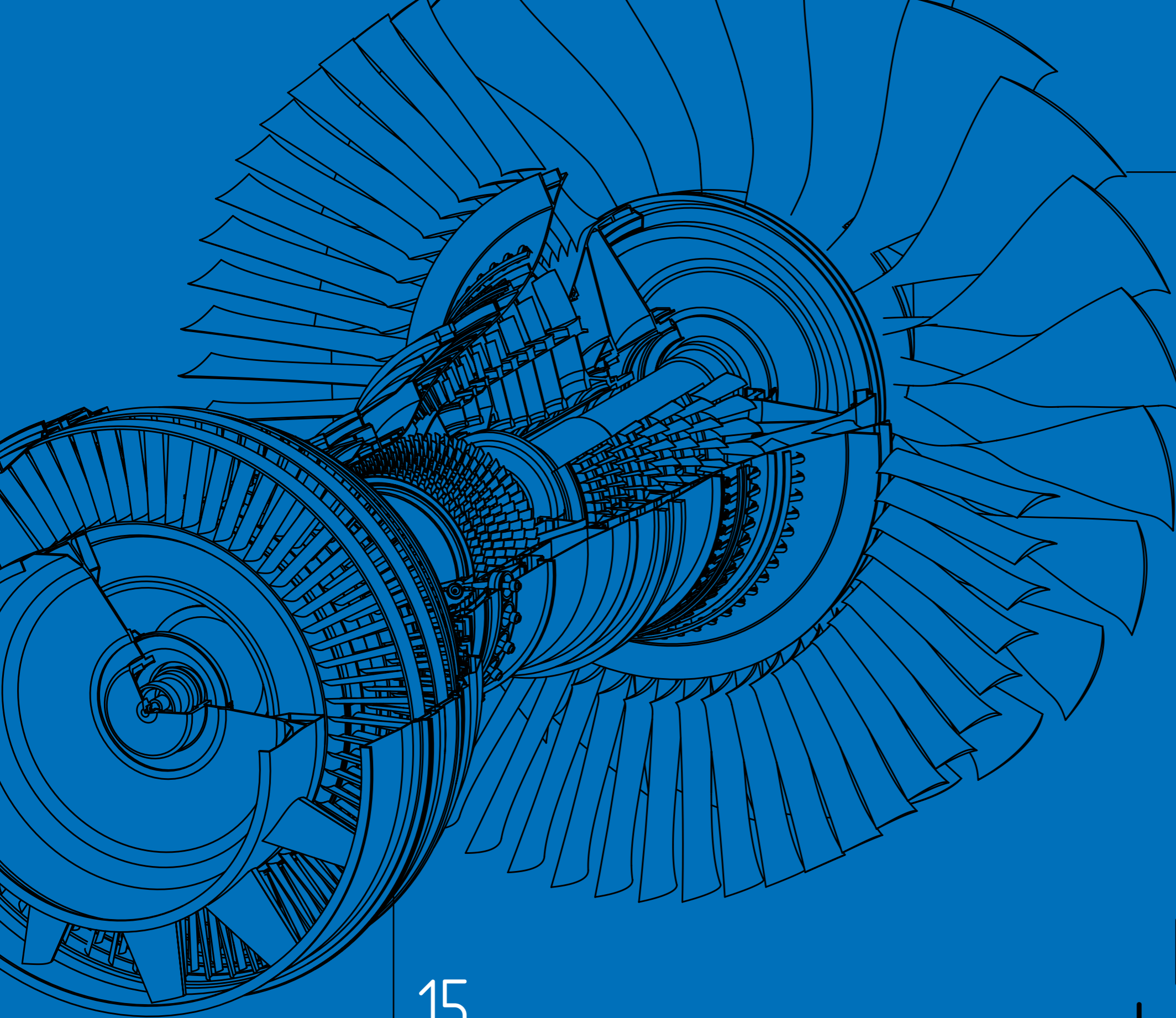
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189.8  
RUB bln

Revenue

60.1  
bln kWh

Electricity generation



15  
power plants

For Investors  
and Shareholders



Deputy Chairman of the Management Committee  
of Gazprom PJSC, Chairman of the Board of Directors  
of Mosenergo PJSC

Vitaly Markelov

“

## Dear Shareholders,

Mosenergo PJSC continues to follow the Strategy for Power Industry for the Years of 2018–2027 of Gazprom PJSC, which is primarily aimed at ensuring steady profit growth while maintaining high reliability of power supply for consumers. To fulfill it, the Company will continue completing generating asset renovation projects and improve operational efficiency.

In 2019, the Gazprom Group fulfilled all its obligations under capacity supply agreements (CSA) by commissioning the Grozny thermal power station (TPS) of OGK-2 PJSC. Since 2007, the Group completed 36 construction and modernization projects with the total electrical capacity of around 9 GW; nearly one out of every three such projects has been completed by Mosenergo. The latest facility of this Company's program—a 420 MW combined cycle power unit of thermal power plant TPP-20—was commissioned in Moscow in the end of 2015. Taking into account the gradual termination of financial conditions of CSA to Mosenergo's facilities, the Company has faced the need to effectively react to the corresponding challenges.

Challenges are never only about adverse circumstances, but also about new stimuli and opportunities.

The limiting factors that affected Mosenergo's financial performance in 2019 included termination of CSA regarding one combined cycle power unit of TPP-21 and two such units of TPP-27 in the previous period, as well as warm weather during the heating period that resulted in lower thermal power output.

At the same time, financial performance was positively affected by the increase in electric power sales, the activities aimed at transferring thermal load from heating plants to TPP, as well as by the introduction of the principle of a flexible service schedule of the combined cycle power unit of TPP-20; this helped to optimize maintenance service expenses and increase the chargeable capacity to 445 MW and the contribution margin.

Furthermore, in 2019, the Government of the Russian Federation approved the competitive power plant modernization selection program, and it already includes a few Mosenergo's facilities—250 MW power unit No. 10 of TPP-22 and 110 MW turbo generator TG-4 of TPP-23—to be commissioned in 2024.

Reliability and financial stability of Mosenergo managed by Gazprom are confirmed by the leading international and Russian rating agencies. On August 06, 2019, Fitch Ratings once again assigned Mosenergo PJSC the BBB- rating and increased the stable outlook to the positive one. As soon as on August 15, the agency increased the Company's rating to BBB with a stable outlook. In November, Expert Rating Agency once again assigned Mosenergo the ruAAA credit rating for non-financial corporations with a stable outlook.

Mosenergo's production facilities are situated in the most populated city of Russia, the largest northern metropolis in the world. That is the reason why the company pays special attention to environmental issues and consistently reduces its environmental impact.

Implementation of a joint energy source loading optimization program together with PJSC MIPC in 2019 resulted in the reduction of emission of greenhouse gases by 1 mn tons, of nitrogen oxides—by 867 tons, i.e., by around 2.5% of the total amount of emissions. The program involves transfer of the thermal load to Mosenergo's thermal power plants operating in the combined cycle of electric power and heat generation. The Company reduces airborne emissions by variably loading the more efficient TPP equipment in different periods of the year and increasing the share of combined heat and electric power generation.

In 2019, Mosenergo was recognized as one of the best companies in Russia in terms of greenhouse gas emission reduction as it took an award-winning place at the Third All-Russian Climate and Responsibility 2019 Contest.

Gazprom is interested in higher profits and shareholder value of the Group's electric utilities. I believe that the joint effort of the Mosenergo's Board of Directors and the management will promote the company's dynamic development to the benefit of all its shareholders and improve its operational and financial performance. We look forward to your support in implementation of the company's strategic plans!



Managing Director of Mosenergo PJSC

**Alexander Butko**

“

## Dear Shareholders,

In 2019, Mosenergo ensured reliable and effective operation of its production facilities generating electric and thermal power for consumers in the Moscow Region.

The Company worked hard to optimize composition of the generating equipment, prioritizing loading of the modern combined cycle power units and use of the most efficient combined heat and power mode of operation of generating assets in the heating period.

Last year, electricity generation by Mosenergo's power stations increased by 3.1% to 60.1 bn kWh as compared to 2018. At the same time, the amount of electricity generated by combined cycle power units (CCPU) increased by 10.3% and amounted to 18.8 bn kWh. The share of combined cycle generating assets in the total structure of the company's generation reached 31.2%. The heat supply by collectors of TPP, district and local power plants decreased by 8.4% to 75.4 mn Gcal due to warmer weather.

In 2019, the Mosenergo's crew reaffirmed their professionalism, commitment, and the ability to solve complex production problems. Achievements of the Company's employees include the second place taken by the Mosenergo's team in the games for repair personnel, the third place taken by the TPP-16's team in the competition for cross-connection TPS operating personnel, as well as the silver medals of the Best Ecologist Contest of Professional Skills organized by the Gazprom Energoholding Group won by environmental protection specialists. Three employees of Mosenergo won awards of the International Competition of Scientific, Technical, and Innovative Solutions held under the auspices of the Ministry of Energy of the Russian Federation.

The Company traditionally pays much attention to improving energy efficiency, saving natural resources, and environmental protection. In 2019, Mosenergo implemented an Energy Management System compliant with international standard ISO 50001:2011. The compliance of the current Mosenergo's Environmental Management System to ISO 14001:2015 was also confirmed.

In 2019, the Company reduced pollution emissions by unprecedented 14.7% despite the increased electricity generation. The Company managed to achieve such significant results by reducing fuel consumption, especially of coal, which is used only at TPP-22. Its share in the station's fuel balance has been steadily decreasing. Mosenergo is modernizing the equipment of TPP-22 to completely abandon coal combustion. TPP-22 also continues reconstruction of power unit No. 9 to commission the first production unit of T-295, the most powerful Russian cogeneration turbine, in 2021.

The Mosenergo's management undertake measures to strengthen the Company's financial stability and operational efficiency to respond to the decrease in revenue from capacity sales due to termination of capacity supply agreements.

The Company takes part in the competitive project selection procedures within the TPP modernization program approved by the Government of the Russian Federation. Power stations with CCPU undertake measures to increase the time to maintenance and statutory service life of gas turbines, as well as the chargeable capacity of power units.

The programs to improve the primary technical and economic features of TPP, decommission inefficient facilities, and optimize the water chemistry conditions at TPP-21, TPP-23, and TPP-25 are intended to improve operational efficiency.

The Company expects a positive effect of transferring MIPC heating plants to Mosenergo's sources, as well as of the measures to increase thermal power sales by connecting new areas and promising development sites.

The Mosenergo's management and employees will take whatever actions are appropriate to fulfill the company ambitious objectives and solidify its leading position within the industry.

# 1 Mosenergo profile

For Investors and Shareholders

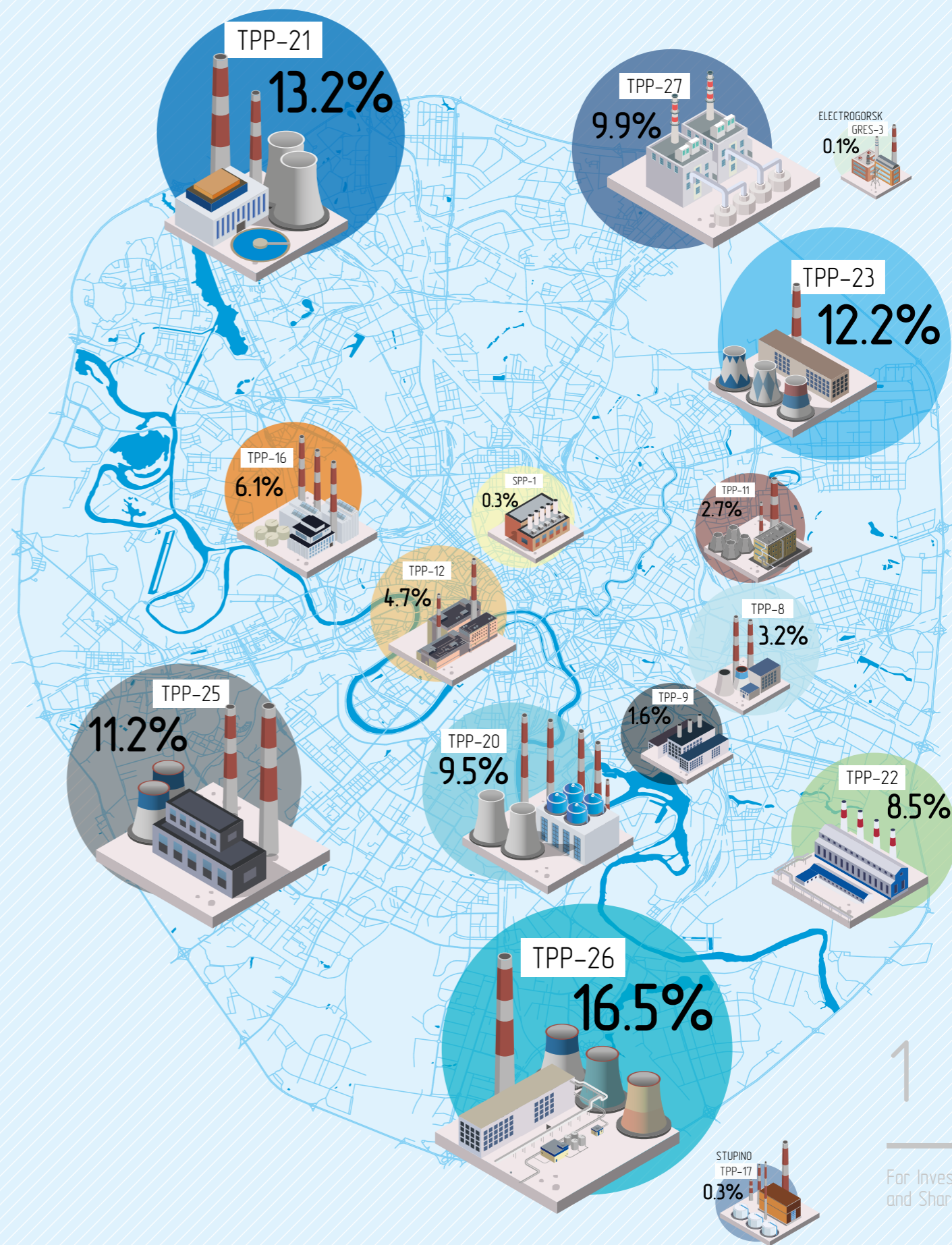
# 15 POWER PLANTS

installed electrical capacity  
**12.8 GW**

installed heat capacity  
**43.2 THOUSAND Gcal/h**

Station	Electricity generation, GW	Share in Mosenergo electricity generation	Heat output, thousand Gcal/h	Share in Mosenergo heat output
SPP-1	183	0.3%	1,177	1.6%
GRES-3	82	0.1%	261	0.3%
TPP-8	1,930	3.2%	2,536	3.4%
TPP-9	988	1.6%	1,091	1.4%
TPP-11	1,644	2.7%	2,205	2.9%
TPP-12	2,843	4.7%	3,368	4.5%
TPP-16	3,643	6.1%	3,457	4.6%
TPP-17	189	0.3%	495	0.7%
TPP-20	5,692	9.5%	4,422	5.9%
TPP-21	7,954	13.2%	10,698	14.2%
TPP-22	5,101	8.5%	8,317	11.0%
TPP-23	7,313	12.2%	8,506	11.3%
TPP-25	6,705	11.2%	7,547	10.0%
TPP-26	9,890	16.5%	8,558	11.4%
TPP-27	5,953	9.9%	3,297	4.4%
<b>Total for TPP</b>	<b>60,110</b>	<b>100.0%</b>	<b>65,934</b>	<b>87.5%</b>
District thermal power stations (DTPS), district thermal stations (DTS), block thermal stations (BTS)	-	-	9,432	12.5%
<b>Mosenergo PJSC</b>	<b>60,110</b>	<b>100.0%</b>	<b>75,366</b>	<b>100.0%</b>

POWER STATIONS OF MOSENERGO PJSC PROVIDE **OVER 60% OF THE ELECTRICITY** CONSUMED IN THE MOSCOW REGION AND MEET **AROUND 90% OF THE HEAT DEMANDS OF MOSCOW.**



For Investors and Shareholders

# 1 Equity capital<sup>1</sup>

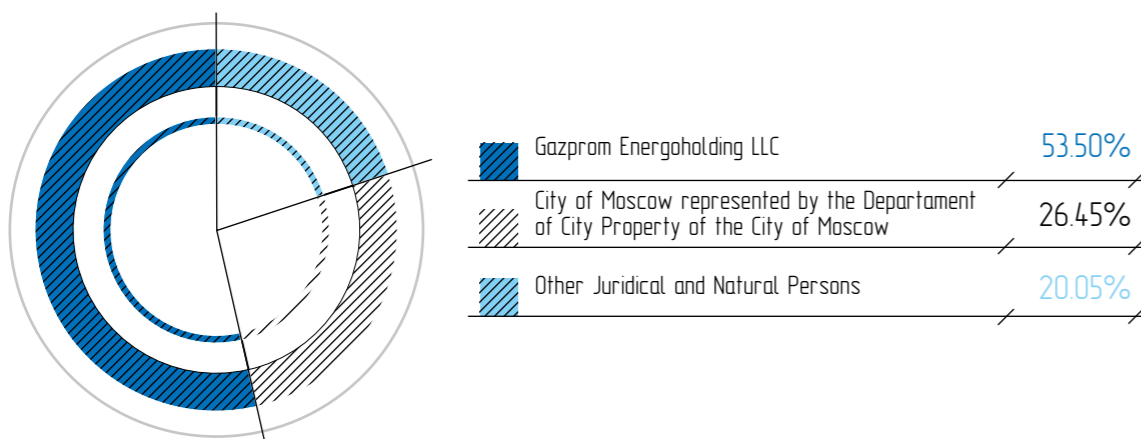
The authorized capital of Mosenergo PJSC is 39,749,359,700 rubles divided into 39,749,359,700 common registered uncertificated shares, each with the face value of one (1) Russian ruble.

Stock of Mosenergo PJSC is featured in the highest quotation list of Moscow Exchange.

Depository receipts of Mosenergo PJSC are traded on the over-the-counter market of the USA and Europe.

Ticker symbols:

- > Moscow Exchange—MSNG
- > Bloomberg—MSNG
- > Level 1 ADR on the over-the-counter market (New York)—AOMOY
- > Level 1 ADR (WKN) on the over-the-counter market (Frankfurt)—899416



## The authorized capital Mosenergo PJSC

39,749,359,700  
RUBLES



<sup>1</sup> As of December 31, 2019

## Credit ratings

Rating agency	Rating score	Date of assignment
Fitch Ratings	BBB / stable outlook	August 15, 2019
Standard&Poor's	BBB- / stable outlook	June 18, 2019
Expert Rating Agency	ruAAA / stable outlook	November 01, 2019

## Key performance indicators

	2017	2018	2019	Change 2019/2018
Installed electrical capacity at the end of the period, MW	12,873	12,798	12,825	+0.2%
Installed heat capacity at the end of the period, Gcal/h	42,761	43,136	43,211	+0.2%
Electricity generation, mn kWh	57,864	58,316	60,110	+3.1%
Busbar electricity output, mn kWh	52,999	53,456	55,204	+3.3%
Capacity sales, mn kWh	60,251	60,195	62,096	+3.2%
Heat output, thousand Gcal	79,447	82,291	75,366	-8.4%
Specific fuel consumption per unit of power output, goe/kWh	226.3	227.0	228.0	+0.4%
Specific fuel consumption per unit of heat output <sup>1</sup> , kg/Gcal	163.6	163.4	163.3	-0.1%

## Key financial indicators<sup>2</sup>, RUB mn

	2017	2018	2019	Change 2019/2018
Revenue	196,825	199,047	189,782	-4.7%
Prime cost	(163,191)	(170,705)	(172,256)	+0.9%
Sales profit	33,634	28,341	17,525	-38.2%
Net profit	25,282	23,770	16,465	-30.7%
	December 31, 2017	December 31, 2018	December 31, 2019	Change 2019/2018
Noncurrent assets	191,270	203,934	224,980	+10.3%
Current assets	88,471	88,872	96,487	+8.6%
Long-term liabilities	23,476	19,489	40,762	+109.2%
Short-term liabilities	28,130	16,810	15,721	-6.5%

<sup>1</sup> Including heating plants

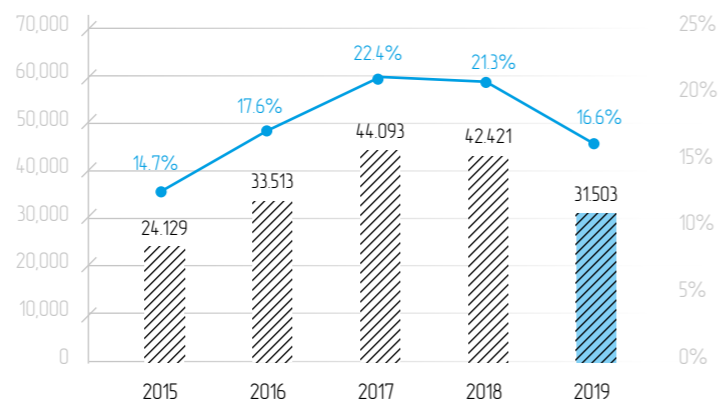
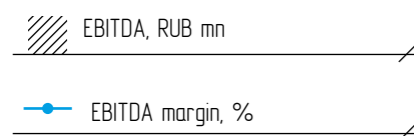
<sup>2</sup> According to the Russian Accounting Standards (RAS)



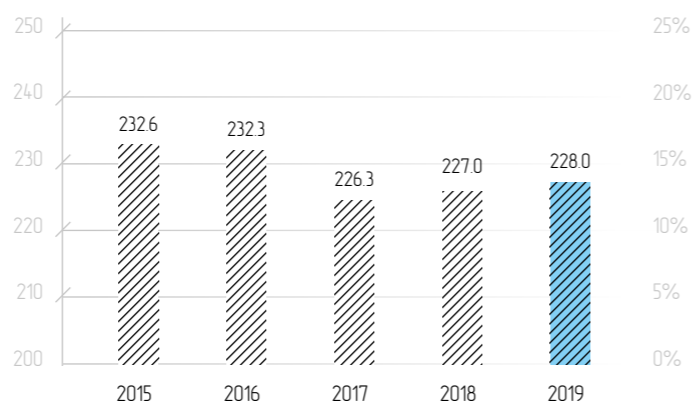
# 1 Why Invest<sup>1</sup>

For Investors and Shareholders

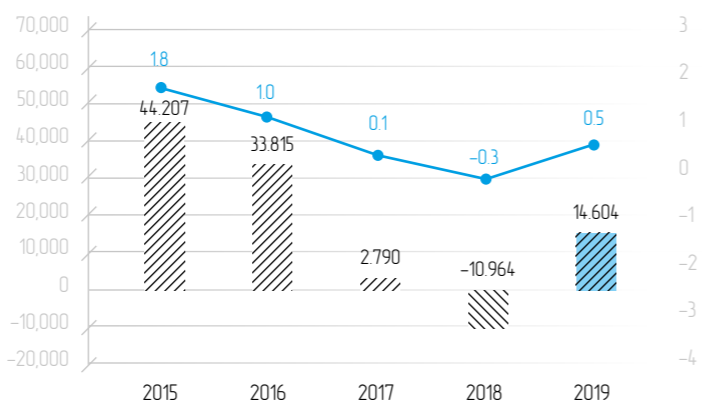
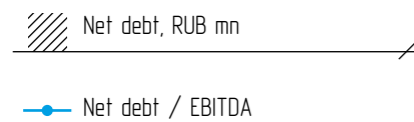
## Financial performance EBITDA (RUB mn) and EBITDA margin (%)



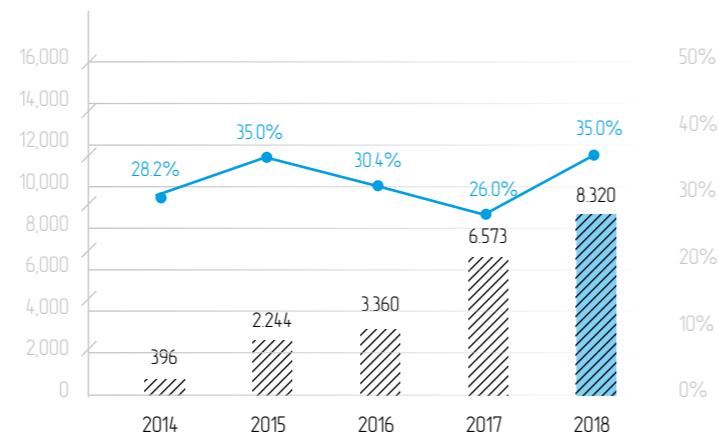
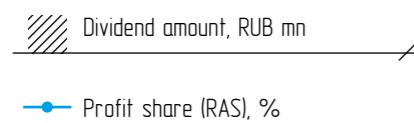
## High fuel efficiency Oil equivalent consumption per unit of power output, goe/kWh



## Low debt



## Dividend payout (for the given year)



<sup>1</sup> According to the RAS and the Company's management accounting

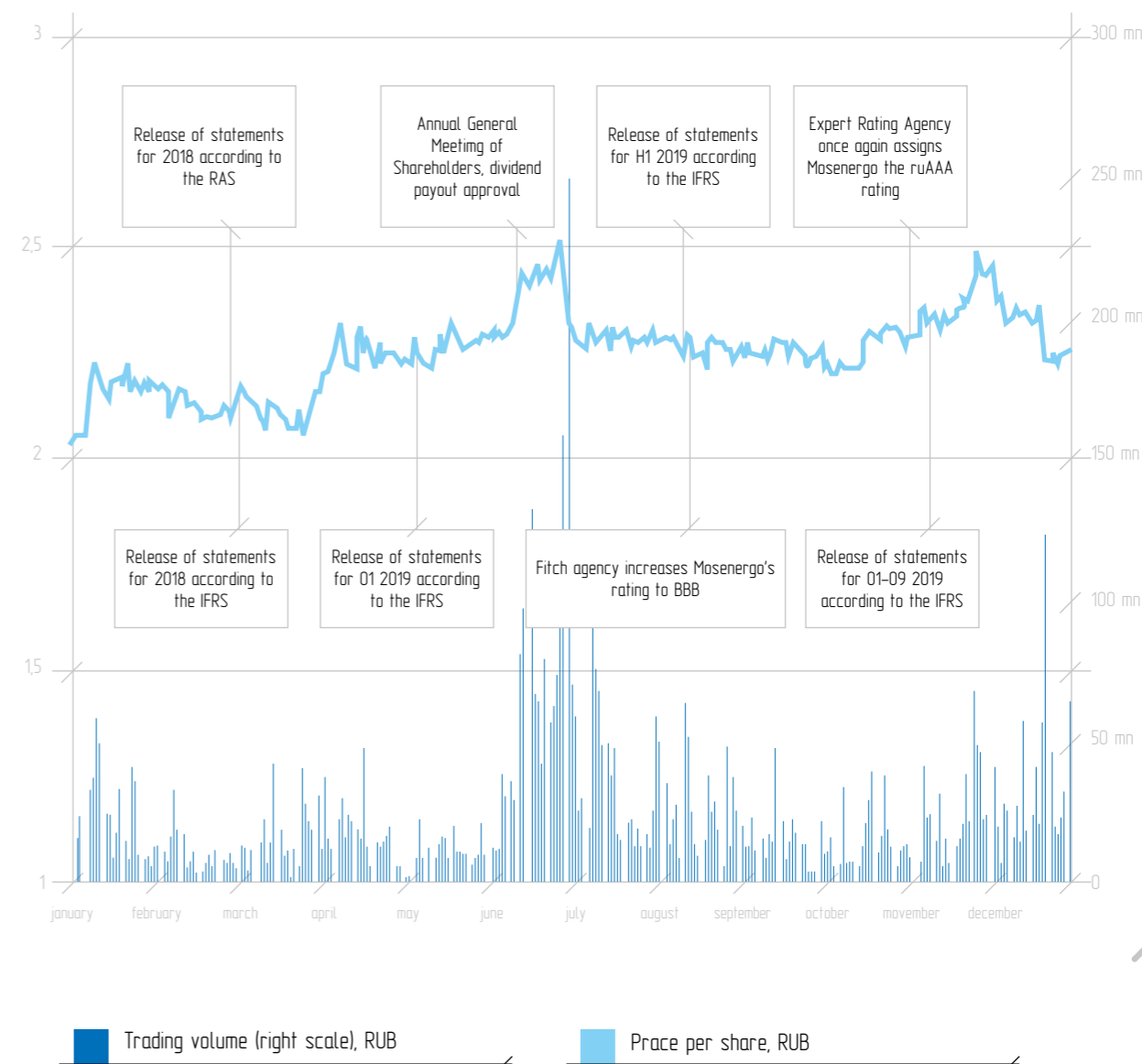
# Equity market in 2019

In 2019, the Russian stock market grew and featured one of the largest rates of return in the world. Reduction of interest rates in the world's economies, as well as relatively high dividend payouts by Russian companies (the average aggregate dividend yield was 6.7%<sup>1</sup>) sparked interest to the Russian market.

In 2019, the Moscow Exchange index grew by 28.6% and the electric utilities index grew by 25%<sup>2</sup>. Despite the fact that the sector index grew less than the benchmark index, stock of some energy companies significantly outpaced the market owing to the increase in monetary revenue from sales of the capacity commissioned within the CSA program.

Mosenergo's stock experienced such a price movement period in 2016, which is why in 2019, the stock price and the dividend rate of return grew mildly, by 9%<sup>3</sup> each, which is significantly higher than rates of return of bank deposits, state, municipal, or corporate bonds.

In 2019, the maximum price per share of Mosenergo PJSC reached RUB 2.51, and the maximum daily trading volume reached RUB 248.7 mn.



<sup>1</sup> According to Sberbank CIB

<sup>2</sup> According to Moscow Exchange

<sup>3</sup> As of the record date for the shareholders of Mosenergo PJSC entitled to dividend payout for 2018

1 Mosenergo PJSC depository receipt programs

	Level 1	Reg.S	Rule 144A
Coefficient	1:50 shares	1:50 shares	1:50 shares
Brief information	Receipts can be freely traded on the over-the-counter market of the USA and Europe.	Receipts are intended for a wider range of private professional investors outside the USA than stipulated by Rule 144A.	Receipts are intended for private offering to a restricted number of institutional investors, primarily in the USA.
Year of issue	1997	2008	2008
ISIN	US0373763087	US61954Q2093	US61954Q1004
Depository bank	The Bank of New York Mellon		

For Investors and Shareholders

The following principles are adhered to when calculating the amount of dividends:

- > transparency of the mechanism for defining the amount of dividends;
- > balance between short-term (income generation) and long-term (development of the Company) shareholder interests;
- > focus on increasing the Company's investment appeal and capitalization.

The amount of dividends is calculated in the following order:

- > part of the net profit is allocated to the reserve fund as stipulated by the Company's Articles of Association; allocation of funds from the net profit to the reserve fund ceases when the fund reaches the amount required by the Company's Articles of Association;
- > part of the net profit as recommended by the Board of Directors is used to pay out dividends;

> the part of the net profit remaining after all the deductions is at the Company's disposal.

In order to make decisions on paying out dividends, the Company's Board of Directors introduces recommendations concerning the amount of dividends to the General Meeting of Shareholders. After the shareholders at the General Meeting of Shareholders come to a decision, the dividends are paid out.

The total amount of declared dividends paid by Mosenergo PJSC for 2018 was RUB 8,319,501,718, or 35% of the net profit. As of December 31, 2019, the Company paid out dividends for 2018 in the amount of RUB 8,277,850,136, or more than 99.5% of the total amount of declared dividends

TOTAL DECLARED DIVIDENDS

2018 MOSENERGO PJSC

8,319,501,718

RUB

35%  
from net profit

Outstanding depository receipts

		December 31, 2017	December 31, 2018	December 31, 2019	2019/2018
Level 1	pcs	11,565,022	8,175,213	7,727,302	-5.5%
Reg.S	pcs	149,507	145,946	144,046	-1.3%
Rule 144A	pcs	14,349	14,349	14,349	0.0%
Total	pcs	11,728,878	8,335,508	7,885,697	-5.4%

Dividend policy

The dividend policy of Mosenergo PJSC was approved by the Board of Directors on September 12, 2017.

The dividend policy of Mosenergo PJSC was developed in compliance with the applicable laws of the Russian Federation, the Code of Corporate Conduct recommended by the Central Bank of the Russian Federation, the Arti-

cles of Association of Mosenergo PJSC, and internal documents of Mosenergo PJSC.

The amount of dividends is calculated on the basis of the Company's net profit as reflected in the annual financial statements produced in accordance with requirements of the laws of the Russian Federation

GRES-3

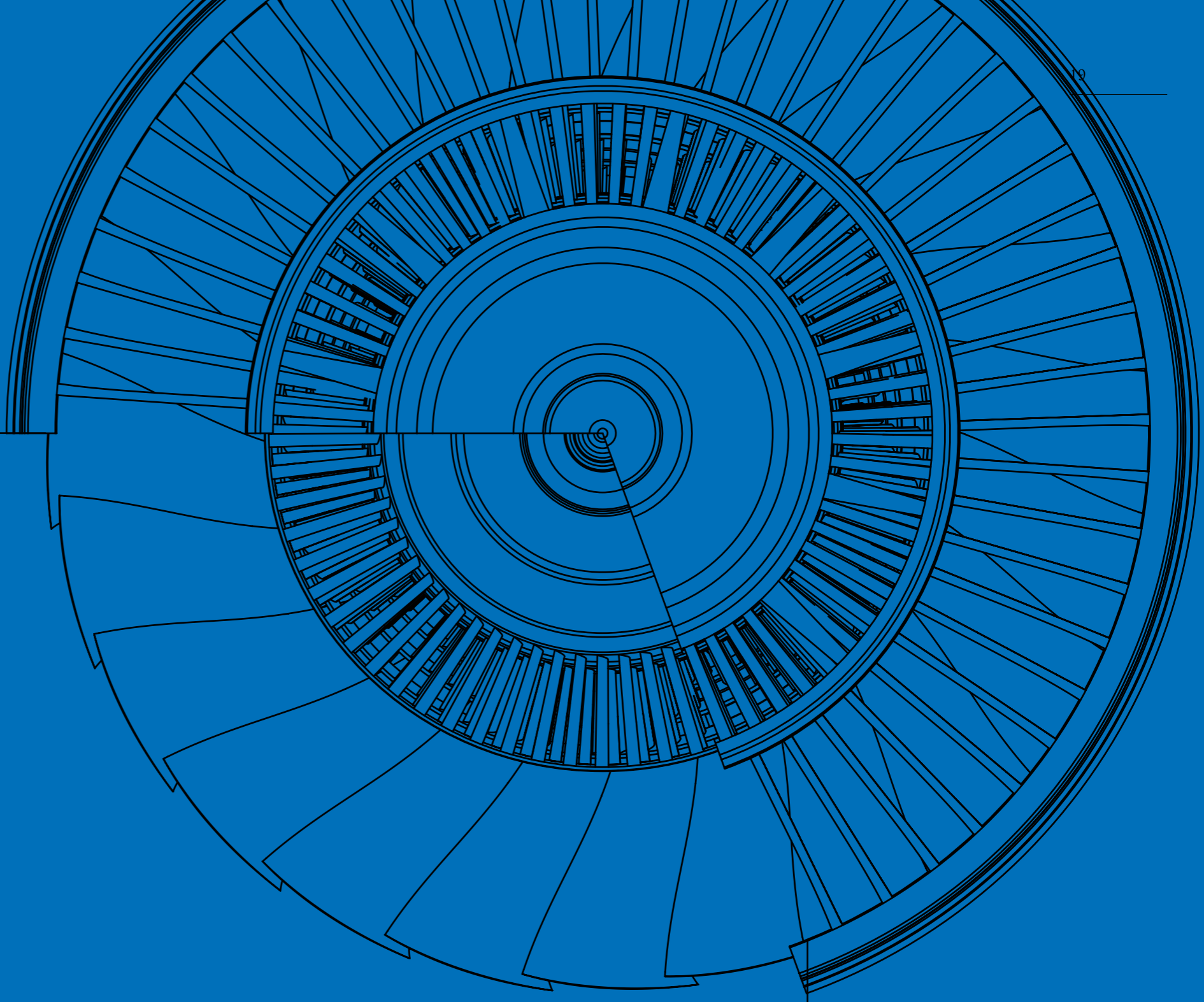


1

For Investors and Shareholders

2

Key corporate  
events of 2019



**FEBRUARY**

**February 01**

The installed electrical capacity of the CCPU of TPP-20 of Mosenergo PJSC increased from 418 MW to 455 MW following approval of certification testing results by the System Operator.



**MARCH**

**March 04**

Release of statements of Mosenergo PJSC for 2018 according to the RAS.



**March 07**

Release of statements of Mosenergo PJSC for 2018 according to the IFRS.

**APRIL**



**April 30**

Release of statements of Mosenergo PJSC for Q1 2019 according to the RAS.

Mosenergo PJSC took the fourth place in the Wholesale Generating Equipment Operation Results ranking 2018 published by Association "NP Market Council."

**MAY**

**May 08**

Release of statements of Mosenergo PJSC for Q1 2019 according to the IFRS.

**JUNE**



The team of TPP-16 of Mosenergo PJSC took the third place in the competition for operating personnel of the Gazprom Energoholding Group's cross-connection thermal power stations.



Mosenergo's employees won awards of the International Competition of Scientific, Technical, and Innovative Solutions Intended to Develop the Fuel and Energy and Extractive Industries (FEI-2019 Competition).

**June 13**

Annual General Meeting of Shareholders of Mosenergo PJSC.

**JULY**

**July 02**

Mosenergo PJSC received a certificate of compliance with the harmonized international energy management standard, ISO 50001:2011.

**July 10**

The Board of Directors of Mosenergo PJSC approved purchase of heating plants of MIPC PJSC and transactions with shares of Mosenergo PJSC and OGG-2 PJSC.



**AUGUST**

**August 01**

Release of statements of Mosenergo PJSC for H1 2019 according to the RAS.

**August 06**

Fitch Ratings once again assigned Mosenergo PJSC the BBB- rating and increased the stable outlook to the positive one.

**August 12**

Release of statements of Mosenergo PJSC for H1 2019 according to the IFRS.

**August 15**

Fitch Ratings increased the rating of Mosenergo PJSC to BBB with a stable outlook from BBB- with a positive outlook.

**August 16**

Extraordinary General Meeting of Shareholders of Mosenergo PJSC.

**SEPTEMBER**

**September 05**



Mosenergo PJSC took the third place in the "Best organization of the Russian Federation in the sphere of greenhouse gas emission reduction among the organizations emitting more than 150 thousand tons of CO<sup>2</sup> equivalent per year" category of the Third All-Russian Climate and Responsibility 2019 Contest.

2

## OCTOBER

October 02

A new gas pressure regulating station (GPRS-2) intended to reduce gas pressure, maintain it at set levels, and ensure reliable uninterrupted natural gas supply for the gas-consuming equipment of TPP-9.

Award ceremony for the federal round of the MediaFEI-2019 All-Russian Contest for Mass Media, Public Affairs Offices of FEI Companies and Regional Executive Offices in the framework of the Russian Energy Week International Forum. Alexander Butko, Managing Director of Mosenergo PJSC, received awards for topping two of the contest's categories from Alexander Novak, Minister of Energy of the Russian Federation, and Dmitry Peskov, Press Secretary for the President of the Russian Federation.



Key corporate events of 2019

## NOVEMBER

November 01

- > Release of statements of Mosenergo PJSC for Q1-Q3 2019 according to the RAS.
- > Expert Rating Agency once again assigned Mosenergo PJSC the ruAAA credit rating for non-financial corporations. Outlook—stable.

November 08

Release of statements of Mosenergo PJSC for Q1-Q3 2019 according to the IFRS.

November 15

According to an Order of the Ministry of Energy of the Russian Federation, Mosenergo PJSC obtained a certificate of readiness for operation in the 2019-2020 heating period.

## DECEMBER

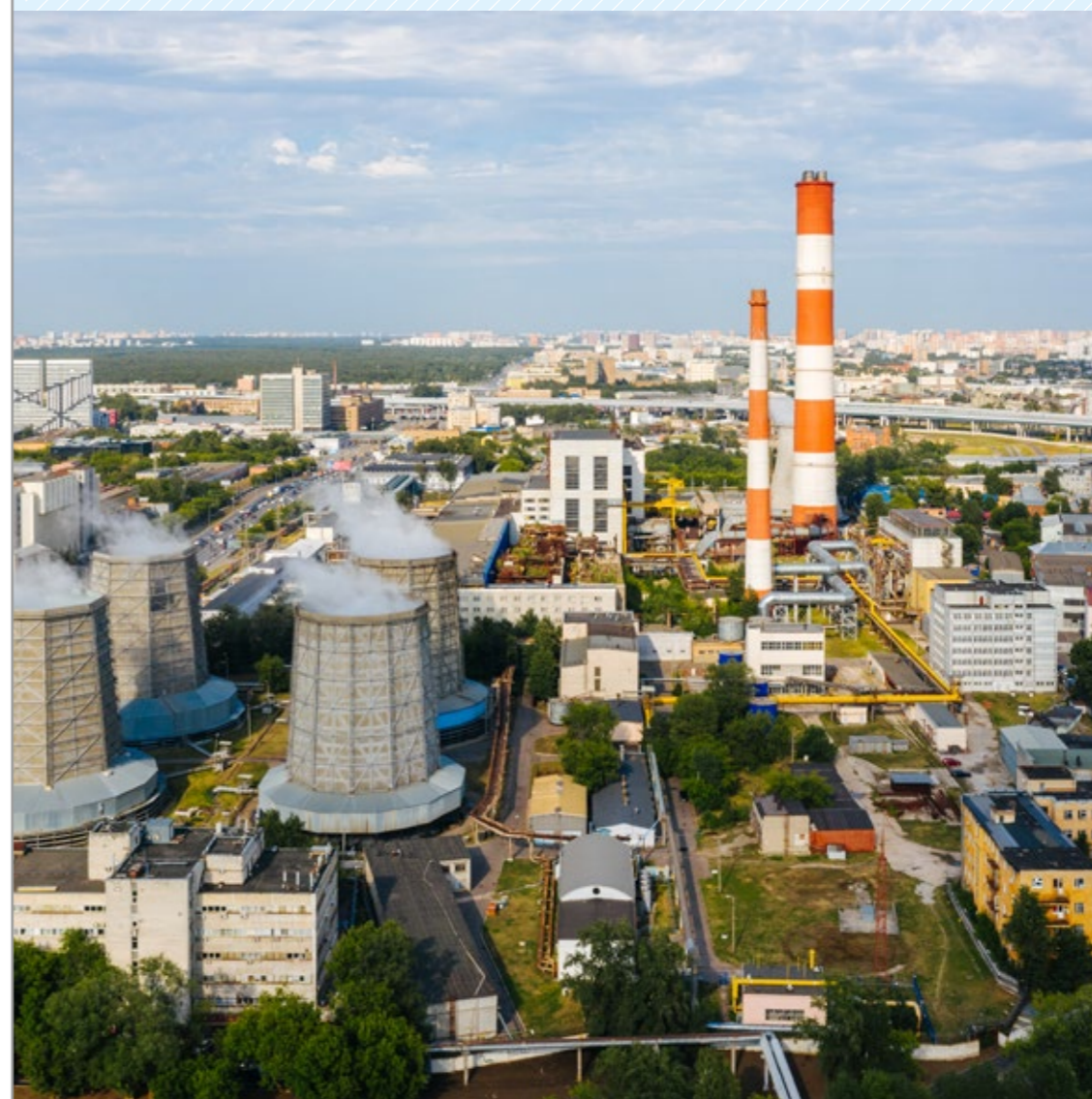


Compliance of the Environmental Management System (EMS) of Mosenergo PJSC to international standard ISO 14001:2015 was confirmed.

The team of Mosenergo PJSC took the second place in the Gazprom Energoholding Group's Third Games for Repair Personnel.

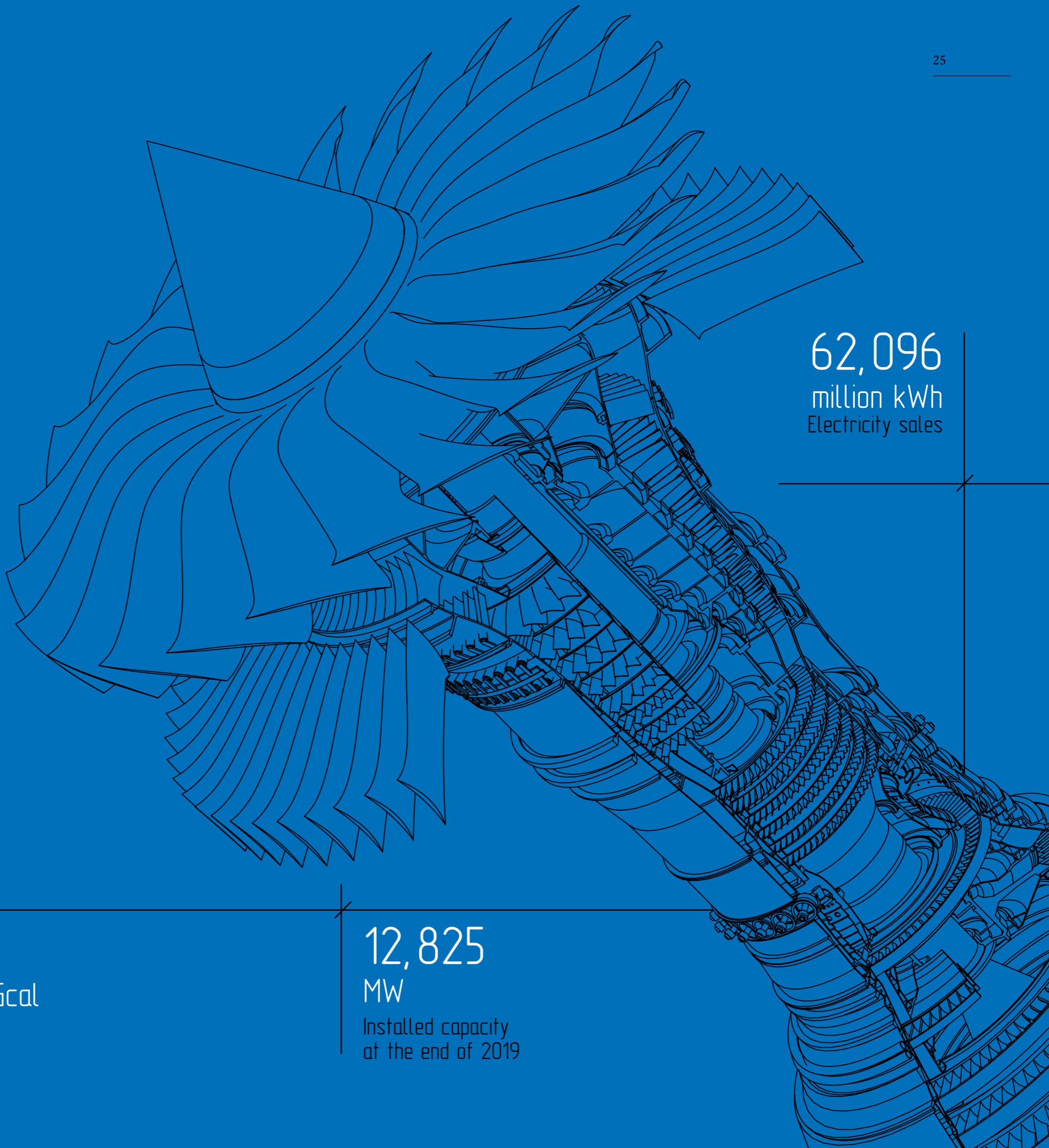
The Board of Directors of Mosenergo PJSC resolved to join the Gazprom Group's centralized cash flow and liquidity management system (cash pooling). Gazprom PJSC is the cash pool system's leader.

TPP-11



2

Key corporate events of 2019



62,096  
million kWh  
Electricity sales

# Operating activity

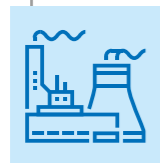
75,366  
thousand Gcal  
Heat output

12,825  
MW  
Installed capacity  
at the end of 2019

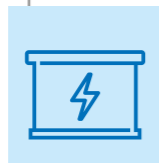
# 3 Company development

Operating activity

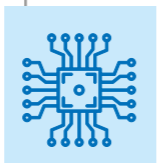
In October 2018, the Program of Development of Mosenergo PJSC until 2027 was drawn up, defining the four key areas of activity:



**1**  
modernization of generating assets as part of the KOMMod program



**2**  
improving operating efficiency



**3**  
technological development (import substitution industrialization, automation, digitalization, innovations)



**4**  
business expansion



## Modernization of generating assets as part of the KOMMod program

(approved by Resolution No. 43 of the Government of the Russian Federation (RF) “On the Modernization of Generating TPS Facilities” dated January 25, 2019) is one of the prerequisites for long-term development of Mosenergo PJSC and provision of reliable uninterrupted supply of electricity to consumers. Two of the company’s in-demand generating facilities characterized by long running time

and heavy wear with the aggregate capacity of 350 MW successfully passed a competitive selection process for 2022–2024: T–250 power unit No. 10 of TPP–22 and T–100 turbine No. 4 of TPP–23. It is expected that more effective generation will lead to higher income of modernized stations and increase energy efficiency and reliability of energy supply to consumers.



## Increasing operating efficiency

is one the key priorities for Mosenergo PJSC in terms of development in the foreseeable future. It includes the projects aimed at the following:

- > increasing the energy conversion efficiency;
- > reducing the brake-specific oil equivalent consumption (BSOEC);
- > reliability;
- > safety;
- > environmental friendliness.

The key projects include the following:

- > Completion of the program for decommissioning ineffective power generating assets: GRES–3 and TPP–17 (including the switch to the heating plant mode), as well as decommissioning of worn-out and inefficient 90 at equipment at TPP–16 and TPP–20.
- > Commissioning of the modernized first production unit of T–295, the most powerful Russian cogeneration turbine, at TPP–22 (unit No. 9). This project is aimed at replacing the turbine with a more powerful one, as well as ancillary equipment in the existing unit of the main building.
- > Increase in the chargeable capacity of CCPU, the time to maintenance, and statutory ser-

vice life. The management of Mosenergo PJSC have already completed the technical measures that resulted in longer time to maintenance and higher chargeable capacity of CCPU gas turbines at TPP–26, TPP–20, and TPP–16.

The Company has also scheduled step-by-step modernization of the remaining CCPU–450 gas turbines of TPP–21, two CCPU–450 of TPP–27, and CCPU–220 of TPP–12.

- > Reconstruction of TPP–22 heating power plants to transfer all the station’s units from coal combustion to natural gas and mazut. As a result of implementation of this project, the Company expects higher contribution margin, reduction of the station’s significant semi-fixed costs of coal use. Departure from coal use at TPP–22 will allow reducing emissions of point sources in the City of Moscow by 20%, considerably improving the South–Eastern Administrative Okrug’s environmental situation, as well as health and quality of life of more than 1 mn local people and employees of TPP–22.

- > Implementation of the program aimed at improving the primary technical and economic performance of TPP. The measures taken as part of the program should provide a de-

crease in specific fuel consumption owing to normalization of the primary technical and economic performance (TEP) and, if possible, of the initial design values, as well as to optimization of the included equipment configuration, and reduction of in-house needs of power stations.

- > Continuation of the thermal load transfer from the heating plants of MIPC PJSC to the sources of Mosenergo PJSC within the boundaries of Old Moscow. Effects of program implementation are achieved through

the decrease in fuel consumption for heat and electricity generation in a «TPP + heating plant» system when replacing condensation power generation with the cogeneration output (fuel effect), the reduction in semi-fixed operation costs, and sales of assets of decommissioned heating plants.

- > Optimization and automation of the water chemistry conditions at TPP–21, TPP–23, and TPP–25 to significantly reduce water consumption and disposal expenses.

## Technological development



### Use of new technologies and innovations

First and foremost, technological development is understood as the transition to the modern level of digitization, including computing hardware, means of communication, storage, processing, and presentation of information that constitute the term «Digital enterprise.» Digital technologies should become a competitive advantage of Mosenergo PJSC in all spheres of activity, including production, sales, and ancillary processes.

Furthermore, within the framework of development of new technologies and automation, the Company modernizes overaged and obsolete management and control systems by introducing modern SCADA systems. As a result, by 2027, the share of the core process equipment fit with SCADA systems will reach 100%. When

choosing technological and software automation tools, fully functional hardware and software packages designed in Russia will be given preference over other options.

### Import substitution industrialization

is a key area of application of modern technologies aimed at reducing the risks of cost increase and non-delivery of critically important spare parts and materials and of the impossibility of servicing foreign-made equipment. Mosenergo PJSC carries out this activity in accordance with the common approach of the Gazprom Energoholding LLC Group. In addition to introducing Russian engineering solutions in the field of SCADA, the Company strives to reduce dependence of maintenance and repair services of generating companies on foreign suppliers of the gas turbine equipment.

## Business expansion



The Company will continue to move towards business expansion and diversification up to 2027:

- > As part of optimization of the heating supply scheme, the Company plans to further implement measures to consolidate the heat-generating sources of the Gazprom Energoholding LLC Group in Old Moscow under the auspices of Mosenergo PJSC. The project involves transfer of several heating plants of MIPC PJSC to Mosenergo PJSC. As part of this project, in 2019, Mosenergo PJSC purchased 2 heating plants of MIPC PJSC—DTS Tushino–5 and Tereshkovo.
- > Connection of additional heating plants and new heating supply areas (provided that it is cost-efficient for Mosenergo PJSC through the increase in the thermal load of active TPP).

- > Development of Mosenergo’s subsidiaries and affiliates (S&A)—Mosenergoproekt LLC and Central Repair and Machinery Plant LLC. The projects involve the increase in the internal efficiency of S&A and revenue in the existing areas of activity, as well as development of new types of activity.

- > Establishment of infrastructure for the electric vehicle market development.

Implementation of the development program is to be controlled through the use of the comprehensive approach to project management and the management motivation system implemented and in use in Mosenergo PJSC.

As a result of implementation of the aforementioned initiatives, in 2027, the company should become the most efficient territorial generating company in Russia ensuring reliable energy supply to consumers while maintaining financial stability and high EBITDA margin.

# 3 Production

Operating activity

In 2019, Mosenergo PJSC did not experience any major disruptions and ensured stable operation of the power station equipment and reliable supply of heat and power to consumers in the City of Moscow and the Moscow Region.

In 2019, the annual average installed capacity of Mosenergo PJSC amounted to 12,822.6 MW and 43,130.4 Gcal/h, including 12,822.3 MW and 33,790.5 Gcal/h for the Company's TPS and 0.3 MW and 9,339.9 Gcal/h for DTS and BTS, respectively.

The annual average electrical capacity of Mosenergo PJSC increased by 24.7 MW, whereas the thermal capacity increased by 113.9 Gcal/h year-on-year. Please find description of the primary causes of these changes below:

- > Modernization of the CCPU gas turbine (GT) at TPP-20 allowed increasing the unit's electrical capacity from 418.0 MW to 445.0 MW starting from February 01, 2019.
- > Transfer of DTS Tushino and Tereshkovo with the capacity of 240 Gcal/h each from MIPC from July 19, 2019.
- > Commissioning of an automated block-modular heating plant at a gas turbine (GT) TPP's superheater (TPP-30) with the capacity of 5.5 Gcal/h from September 01, 2019.
- > Decommissioning of BTS-24 and BTS-26 with the capacity of 120 Gcal/h each from September 16, 2019.

As a result, the Company's installed capacity at the end of 2019 amounted to 12,824.9 MW and 43,211.0 Gcal/h, including 0.3 MW and 9,431.3 Gcal/h for DTS and BTS.

In 2019, Mosenergo PJSC generated 60.1 bn kWh, which is 3.1% more year-on-year.

Dynamics of power generation by the TPP of Mosenergo PJSC varied throughout the year:

- > in the heating period, it reduced by 0.7 bn kWh (1.8%);
- > in the summer, it grew by 2.5 bn kWh (15.1%).

The reason why power generation increased in the summer consisted in the operation of more equipment year-on-year as per the demand of the System Operator (SO) to ensure reliability of the power supply system.

The reduction in power generation in the heating period was linked to optimization of equipment configurations to reduce condensation generation by the steam power equipment by means of shutdown and load transfer to the CCPU group. The condensation generation increased in the heating period due to the reduction in the thermal load owing to high outdoor temperature in Q4 2019.

In these circumstances, TPP of Mosenergo PJSC optimized operating equipment configurations to improve the generation structure, i.e., to increase the CCPU group's share in the generated volume while improving the CCPU group's TEP by increasing cogeneration.

In 2019, power output of the steam power equipment (SPE) group amounted to 41.3 bn kWh, which is comparable to the level of 2018.

Power output of the CCPU group amounted to 18.8 bn kWh, which is 10.3% higher than in 2018. In 2019, the CCPU group's share in the electricity generation structure reached 31.2%, which is 2.0% higher year-on-year.

In 2019, cogeneration output of the CCPU group amounted to 9.3 bn kWh, which is 25.9% higher than in 2018. The share of the cogeneration output by the CCPU group amounted to 49.3%, which is 6.1% higher year-on-year.

The CCPU group's share in the cogeneration output structure amounted to 24.8%, which is 4.6% higher than in 2018.

In 2019, condensation electricity generation by TPP of Mosenergo PJSC increased by 0.9 bn kWh (4.1%).

The condensation electricity generation structure changed significantly: while the SPE group's generation grew by 1.0 bn kWh (8.3%), the generation of CCPU facilities decreased by 0.1 bn kWh (1.4%).

INSTALLED CAPACITY  
AT THE END OF 2019

12,824.9  
MW

Electricity generation, mn kWh

Station	2018	2019	Change.
SPP-1	229	183	-20.1%
GRES-3	109	82	-25.2%
TPP-8	2,060	1,930	-6.3%
TPP-9	1,052	988	-6.1%
TPP-11	1,611	1,644	+2.1%
TPP-12	2,813	2,843	+1.1%
TPP-16	3,832	3,643	-4.9%
TPP-17	209	189	-9.4%
TPP-20	5,099	5,692	+11.6%
TPP-21	7,950	7,954	0.0%
TPP-22	4,851	5,101	+5.2%
TPP-23	6,705	7,313	+9.1%
TPP-25	6,740	6,705	-0.5%
TPP-26	9,455	9,890	+4.6%
TPP-27	5,601	5,953	+6.3%
Total	58,316	60,110	+3.1%

The Company's total heat output amounted to 75.4 mn Gcal, which is 8.4% lower than in the same period in 2018.

The Company's TPP supplied 65.9 mn Gcal to consumers, which is 7.9% lower than in 2018.

The heat output of DTS and BTS amounted to 9.4 mn Gcal, which is 11.9% lower year-on-year.

The reason why the heat output was lower than in 2018 is higher outdoor temperature in 2019.

The CCPU group's heat output amounted to 7.6 mn Gcal, which is 20.2% higher year-on-year. The share of CCPU in the TPP heat output structure is 11.5% (+2.7%).

The SPE group's heat output amounted to 58.3 mn Gcal, which is 10.6% lower year-on-year.

The differences from the previous year and varied dynamics were caused by thermal load transfer from the SPE group to the CCPU group to optimize equipment configuration.

In 2019, Mosenergo PJSC continued the campaign of thermal load transfer from DTS and BTS to TPP: the total transferred thermal capacity amounted to 5,090.0 thousand Gcal (7.7% of the total TPP heat output).

VOLUME OF HEAT OUTPUT

75.4 MILLION  
Gcal

Outdoor temperature<sup>1</sup>

year	Outdoor temperature, °C		
	period	heating	
		summer	summer
2018	+6.6	-1.2	+17.9
2019	+7.8	2.1	+19.1

Heat supply by collectors, thousand Gcal

Station	2018	2019	Change.
SPP-1	1,449	1,177	-18.8%
GRES-3	309	261	-15.5%
TPP-8	2,833	2,536	-10.5%
TPP-9	1,229	1,091	-11.2%
TPP-11	2,426	2,205	-9.1%
TPP-12	3,491	3,368	-3.5%
TPP-16	3,525	3,457	-1.9%
TPP-17	539	495	-8.2%
TPP-20	4,988	4,422	-11.3%
TPP-21	11,167	10,698	-4.2%
TPP-22	9,189	8,317	-9.5%
TPP-23	9,208	8,506	-7.6%
TPP-25	8,506	7,547	-11.3%
TPP-26	9,031	8,558	-5.2%
TPP-27	3,696	3,297	-10.8%
Total TPP	71,586	65,934	-7.9%
DTPS, DTS, BTS	10,705	9,432	-11.9%
Total	82,291	75,366	-8.4%

In 2019, the utilization factor of the annual average installed electrical capacity of turbines of power stations of Mosenergo PJSC amounted to 53.5%, which is 1.5% higher year-on-year. The installed capacity utilization factor (ICUF) remained unchanged for the SPE group, 47.5%, and increased by 6.7% for the CCPU group.

The ICUF increased due to the increased electricity generation caused by fewer cold equipment standby hours, lower night unloading, and reconstruction of the CCPU gas turbine at TPP-20 to increase its installed capacity by 27.0 MW.

<sup>1</sup> Within the heating period



Name	ICUF for electricity, %			ICUF for heat, %		
	2018	2019	Change	2018	2019	Change
Total for TPP of Mosenergo PJSC, including	52.0	53.5	1.5	38.2	37.7	-0.5
Operating equipment (SPE)	47.5	47.5	0.0	38.3	36.3	-2.0
CSA facilities <sup>1</sup>	67.5	74.2	6.7	37.1	51.7	14.6

The utilization factor of the annual average installed thermal capacity of turbines of power stations of Mosenergo PJSC decreased by 0.5%, including by 2.0% for the operating equipment, whereas for the CSA facilities, it grew by 14.6%.

## Fuel consumption, toe

Name	2018	2019	Change
SPP-1	281,139	223,540	-20.5%
GRES-3	81,946	65,889	-19.6%
TPP-8	975,725	907,309	-7.0%
TPP-9	418,624	420,584	0.5%
TPP-11	755,306	734,989	-2.7%
TPP-12	1,160,376	1,136,906	-2.0%
TPP-16	1,246,073	1,160,613	-6.9%
TPP-17	147,428	135,106	-8.4%
TPP-20	1,897,827	1,910,445	0.7%
TPP-21	3,362,350	3,184,090	-5.3%
TPP-22	2,579,232	2,560,622	-0.7%
TPP-23	3,024,919	3,061,723	1.2%
TPP-25	2,848,016	2,718,116	-4.6%
TPP-26	3,463,545	3,523,252	1.7%
TPP-27	1,669,682	1,691,975	1.3%
Total for, TPP	23,912,188	23,435,159	-2.0%
DTPS, DTS, BTS	1,668,255	1,463,760	-12.3%
Mosenergo PJSC	25,580,443	24,898,919	-2.7%

## FUEL CONSUMPTION

# 24,898,919

TOFE

In 2019, the Company's oil equivalent consumption per unit of power and heat output amounted to 24,898,919 toe, including 1,463,760 toe for heating plants.

In the reporting year, the oil equivalent consumption by power stations of Mosenergo PJSC amounted to 23,435,159 toe, which is 2.0% lower year-on-year..

In 2019, fuel consumption decreased due to lower heat generation by power stations and heating plants of Mosenergo PJSC.

The Company's fuel rate amounted to 228.0 g/kWh and 163.3 kg/Gcal, including 0.0 g/kWh and 155.2 kg/Gcal for the transferred heating plants (DTS/BTS).

The results for heating plants were as follows: 0.0 g/kWh and 1.2 kg/Gcal.

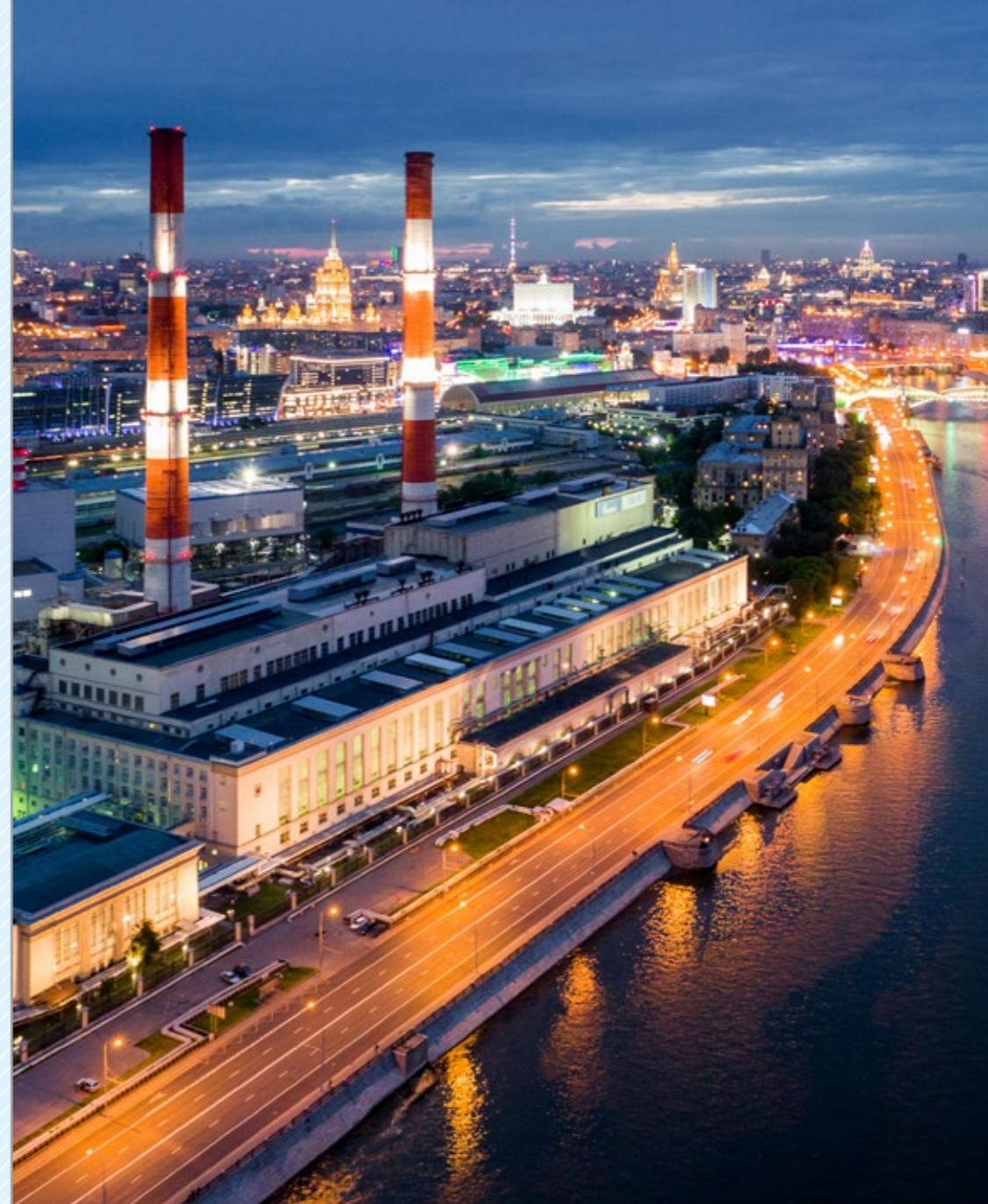
In 2019, the brake-specific fuel consumption per unit of power output by TPP of Mosenergo PJSC was higher by 1.0 g/kWh year-on-year; at the same time, fuel rate changes vary among different equipment groups as follows:

- > CCPU and GT facilities consumed 201.0 g/kWh, that is, 5.1 g/kWh less year-on-year;
- > SPE facilities consumed 241.0 g/kWh, that is, 4.9 g/kWh more year-on-year.

The main reason why the Company became less cost-efficient against 2018 was the increase in the share of uneconomical summer modes in the power generation structure by 3.3%. Power generation increased due to operation of more equipment in the summer as per the demand of the SO to ensure reliability of the power supply system.

The primary factors that positively affected cost-efficiency of equipment operation were as follows:

- > Larger share of power generation by CSA units with higher cost-efficiency of the CCPU group.
- > Higher cogeneration rate due to optimization of equipment configurations and heating system operation modes in the heating period.



TPP-12



<sup>1</sup> CSA facilities include GT units at TPP-30 in the City of Pavlovsky Posad.

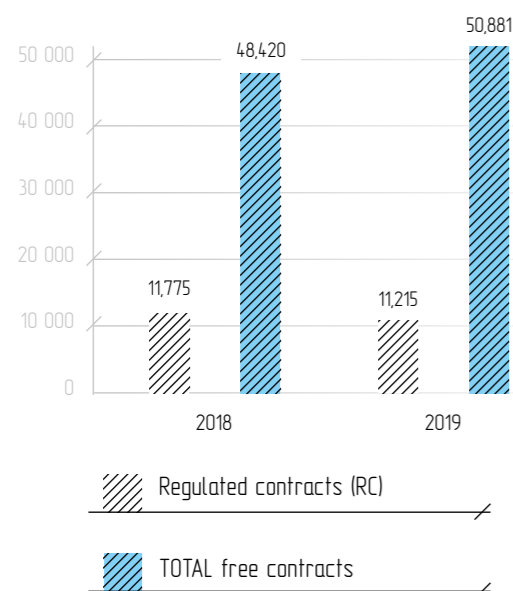
## 3 Sales

Operating activity

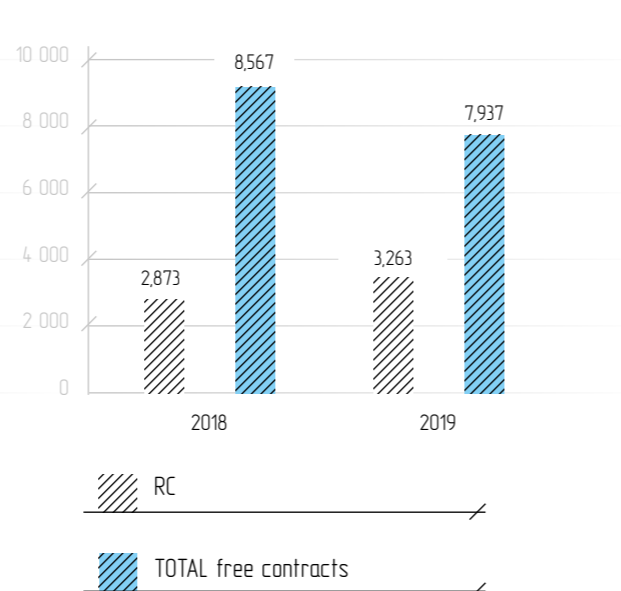
In 2019, electricity sales amounted to 62,096.0 thousand MWh, which is 1,900.6 thousand MW (3.2%) more year-on-year, due to increased generation by power stations (3.1%). In 2019, capacity sales amounted to 11,199.9 MW, which is 239.8 MW (2.1%) less year-on-year.

ELECTRICITY SALES IN 2019  
**62,096** THOU MWH

Electricity sales, thousand MWh



Capacity sales, MW



In 2019, capacity sales decreased, primarily due to increased underdelivery in the competitive capacity selection sector (CCS).

In 2019, the electricity and capacity sales revenue amounted to 111,504 RUB mn, which is 4,940 RUB mn (4.2%) less than in 2018.

Prices and tariffs. In 2019, Mosenergo PJSC sold its generated electricity on the wholesale electricity and capacity market (hereinafter referred to as the WECM) at free and regulated tariffs.

Electricity (capacity) was sold at regulated prices (tariffs) in the following cases:

- > under the regulated contracts intended to provide electricity to households and equivalent categories of consumers (RC sector);
- > electricity (capacity) supply for the power stations designated as “forced generators”.

PROCEEDS FROM THE SALE OF  
ELECTRICITY AND CAPACITY FOR 2019

**111,504**  
MILLION RUBLES

Name	2018	2019	Change
Average weighted selling price of electricity, RUB/MWh, including:	1,246.06	1,293.12	+3.8%
Average weighted RC tariff, RUB/MWh	880.07	900.72	+2.3%
Average weighted selling price under free contracts, RUB/MWh	1,335.07	1,379.62	+3.3%
Average weighted selling price for new capacity, RUB/MWh per month	1,001,502.02	874,792.93	-12.7%
Average weighted selling price for old capacity, RUB/MWh per month	138,364.89	143,270.84	+3.5%

The key factors affecting electricity and capacity prices are as follows:

- > Increase in fuel prices.
  - > Consumer price indices taken into account to index the CCS price. In 2019, the indexed CCS price amounted to 124,047.77 RUB/MW.
  - > Adjustment of the share of reimbursable expenses for a CSA facility, TPP-9; this value reflects the expected profit of electricity sales.
  - > Adjustment (since January 2019) of the share of reimbursable expenses for CSA facilities
- TPP-30, TPP-9, and TPP-26 after the expiration of the CSA supply period (clarification of the share calculation procedure in the regulatory framework in accordance with Resolution No. 1065 of the Government of the RF dated September 02, 2017); this value reflects the expected profit of electricity sales.
- > Expiration of CSA supply periods and transition of a range of CSA facilities, TPP-21 (425 MW), units 3 (450 MW) and 4 (450 MW) of TPP-27, and TPP-30 (since October 2019 (16 MW)), to the CCS policy.

### Thermal energy sales and revenue

Indicator	2018	2019	Change
Thermal energy sales revenue, RUB mn	79,971	75,752	-5.3%
Total sales, thousand Gcal	81,928	75,004	-8.56%
Average tariff, RUB/Gcal	976.11	1,009.97	+3.5%

The decrease in the Company's thermal energy sales by 8.5% and revenue by 5.3% was caused by warmer weather conditions in 2019.

### Tariffs

All the thermal energy supplied to consumers in the City of Moscow and the Moscow Region using water as a heat transfer medium is subject to regulated tariffs.

According to article 8 of Federal Law No. 190-ФЗ “On the Heating Supply” dated July 27, 2010, since January 01, 2018, prices of the ther-

mal energy (power) generated and/or supplied using steam as a heat transfer medium have been deregulated and determined by agreement of parties to a heating supply contract and/or a thermal energy (power) and/or heat transfer medium supply contract.

Name	2018	2019	Change
Average weighted thermal energy tariff, RUB/Gcal, including:	976.11	1,009.97	+3.5%
Average weighted tariff for generation + sales activity, RUB/Gcal	966.63	1,002.92	+3.8%

3

Operating activity

As thermal energy supply is a regulated type of activity, the average weighted thermal energy tariff of Mosenergo PJSC grows primarily due to the annual tariff consumer review by the Department of Economic Policy and Development of the City of Moscow and the Committee for Prices and Tariffs of the Moscow Region taking into account the socioeconomic development forecasting indices for 2019. Establishment of MIPC PJSC as the single heat

supply organization and gradual renewal of heat supply agreements with this organization, as well as the change in the structure of consumers purchasing thermal energy from collectors and, via networks of MIPC PJSC, from energy sources of the City of Moscow and the Moscow Region as differentiated by the heat transfer medium, steam or hot water, also affected the average weighted tariff.

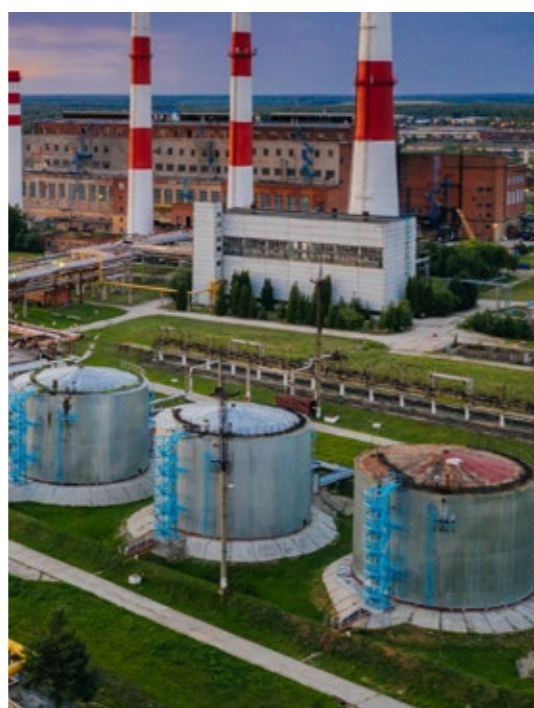
Thermal energy consumers

Consumer (category of consumers)	As of December 31, 2018		As of December 31, 2019	
	Share in the net supply, %	Supplied contractual load, Gcal/hour	Share in the net supply, %	Supplied contractual load, Gcal/hour
MIPC PJSC (wholesale reseller):	94.6%	42,017	95.3%	43,341
Including from the heating plants transferred to Mosenergo PJSC	13.0%	6,072	12.5%	6,509
TSK Mosenergo (TPP) (wholesale reseller)	2.0%	999	1.9%	1,018
Industrial enterprises (retail)	1.4%	1,002	1.2%	871
Budgetary institutions (retail)	0.1%	35	0.1%	33
Other juridical persons (retail)	1.1%	938	0.8%	813
Households, condominiums, building cooperatives, etc. (retail)	0.8%	108	0.7%	84
<b>Total</b>	<b>100%</b>	<b>45,099</b>	<b>100%</b>	<b>46,160</b>

The increase in the share of MIPC PJSC in the consumption structure was caused by reduction in the customer base of Mosenergo PJSC due to gradual renewal of agreements on behalf of MIPC PJSC as it was established as the single heat supply organization (SHSO) in the City of Moscow.

ATTACHED CONTRACTUAL LOAD AT THE END OF 2019

**46,160**  
Gcal/h



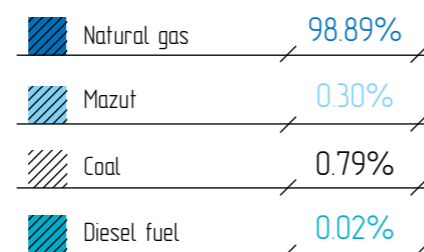
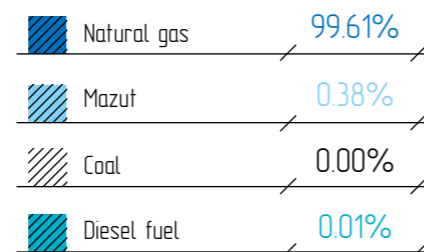
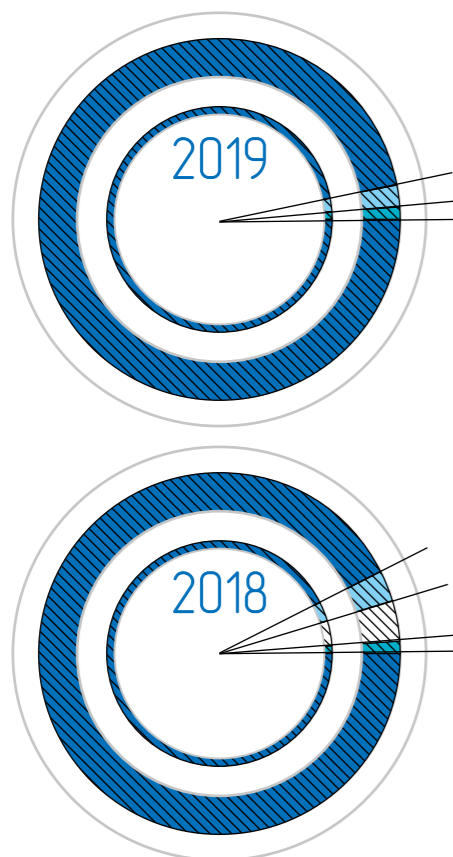
TPP-17

## 3 Fuel supply

Operating activity

In 2019, natural gas remained the primary type of fuel in the fuel mix. Natural gas accounted for 99.61% of the Company's fuel mix structure. Coal was only marginally used, whereas

mazut (0.38%) was used by power stations of Mosenergo PJSC as a backup fuel within the stock turnover program. In 2019, the share of diesel fuel amounted to 0.01%.



In 2019, the fuel mix structure changed as compared to 2018 as follows:

- > the natural gas share increased by 0.72%;
- > the coal share decreased by 0.79%;
- > the mazut share increased by 0.08%;
- > the diesel fuel share decreased by 0.01%.

The natural gas share increase was caused by termination of use of coal due to the increase in coal price and decrease in cost efficiency against natural gas, as well as by reduction in oil equivalent consumption. The mazut consumption share increase was caused by

planned burning according to the stock turnover schedule in the autumn and winter periods of 2018/2019 and 2019/2020.

In 2019, the following helped to achieve stable and reliable fuel supply of all power stations of Mosenergo:

- > gas supply in full in accordance with current agreements;
- > development of a sufficient stock of backup fuels in accordance with orders of the Ministry of Energy of the Russian Federation and resolutions of the Government of Moscow.

Fuel consumption by power stations of Mosenergo PJSC

	Unit of measurement	2014	2015	2016	2017	2018	2019	Change 2019/2018
Natural gas	million CBM	20,407	19,516	21,693	21,063	21,693	21,240	-2.09%
Coal	thousand tons of natural fuel	543	755	700	441	238	1	-99.71%
Mazut	thousand tons of natural fuel	4	7	2	11	55	69	24.94%

## Investment and maintenance activities

### Investments

Within the framework of the Investment Program, Mosenergo PJSC continues to fulfill the Company's strategic goals aimed at improving effectiveness and maintaining high level of safety, cost efficiency, and reliability of heat and electricity generation.

In 2019, the funds allocated within the investment program amounted to 19,799.13 RUB mn (VAT included) and 19,714.13 RUB mn (VAT included) were actually invested; the plan was completed by 99.57%.

The key Company's investment areas are as follows:

- > enhancing safety of facilities by means of renewing equipment as per the applicable rules and standards;
- > enhancing operational efficiency by means of replacing older equipment with high-efficiency equipment characterized by lower specific fuel consumption per unit of electrically and thermal energy;
- > enhancing equipment operation reliability by means of modernizing power generation systems nearing the end of service life and increasing automation of facilities;
- > mitigating negative environmental impact of power stations by means of technology retrofitting and decommissioning of outdated equipment;
- > extending the scope of environmental actions at power stations.

A sufficient amount of funds was allocated to the development of information and communication technology, safety and control systems

Results of the most important investment projects by category.

### Strategic projects:

The largest Strategic projects include:

- > "Full Equipment Reconstruction at Power Unit No. 9" at TPP-22, which involves replacement of the overaged type T-250/300-240 steam turbine of station unit No. 9 with a modern new generation cogeneration turbine T-295/335-235 manufactured by Ural Turbine Works. The new series of Urals-made machines will replace the T-250 turbines at the end of the service life. This project has special significance for the Company—T-250 turbines manufactured by Ural Turbine Works are the primary heat supply sources for the City of Moscow with their

aggregate capacity reaching 40% of the Company's total installed generating capacity.

Significant strategic projects include generating equipment modernization projects at thermal power stations:

- > Reconstruction of TPP-22 power unit No. 10 will improve reliability of electricity and heat supply of consumers in the cities of Moscow and Dzerzhinsky.
- > Reconstruction of the T-100 turbo generator of station No. 4 at TPP-23 will improve reliability of electricity and heat supply of consumers in the City of Moscow.

### Efficiency projects:

- The projects intended to improve power generation efficiency:
  - > TPP-9, TPP-11, TPP-12, TPP-25, TPP-26, technical retrofitting of the custody transfer metering system for thermal energy and heat transfer media.
  - > TPP-21, optimization of the water chemistry conditions of the circulation system mode using scale and corrosion inhibitors.
  - > TPP-9, TPP-11, TPP-12, TPP-25, TPP-26, installation of the natural gas custody transfer meter with ultrasonic flowmeters.
  - > TPP-16, TPP-20, technical retrofitting of an integrated air treatment unit and installation of a natural evaporation plant.
- The projects intended to normalize the heating equipment:
  - > SPS-1, replacement of the convection sections of the 4B peak water-heating boiler's heating surface.

3

Operating activity

3. The projects intended to improve fuel efficiency of the equipment (specific fuel consumption reduction):

#### Mandatory projects:

- The projects intended for technical retrofitting of the natural gas consumption and distribution infrastructure:
  - TPP-26, technical retrofitting of the automatic safety controls, natural gas supply systems of the ПТБМ-100 peak water-heating boiler at station No. 1 of DTS Perovo.
- The projects intended to ensure fire safety of branches of Mosenergo PJSC:
  - TPP-12, TPP-25, fireproof coating of the structural system.
- The projects intended to reduce negative environmental impact:
  - TPP-25, wastewater meter installation.
- The projects intended to bring the equipment into compliance with regulatory requirements of supervisory authorities (not related to natural gas consumption, fire safety, and the environment):
  - TPP-21, introduction of an auxiliary selection automation system for the equipment.
  - TPP-26, replacement of 4 Na cation filters Nos. 8, 9, 11, and 12.

#### Reliability projects:

- The projects intended to enhance the station's electrical capacity output infrastructure operation reliability:
  - TPP-8, TPP-20, TPP-21, TPP-23, TPP-26, transformer replacement.
  - TPP-26, replacement of the ТГ-7 turbo generator's air-blast switch with a sulfur hexafluoride circuit breaker, as well as power system protection replacement.
- The projects intended to enhance reliability of operation of a heating plant:
  - TPP-22, replacement of the ПТБМ-180 peak water-heating boiler's heating surfaces at station No. 5.
  - TPP-22, reconstruction of cooling tower No. 6.
- The projects intended to enhance reliability of the process control system, mitigation of risks of technological failures of the SCADA system's outdated equipment, and fuel saving by means of a more precise management of the equipment operating mode:
  - TPP-21, modernization of turbo generator control and management systems at station No. 10.
  - TPP-27, technical retrofitting of the control and management system of peak water-heating boilers 1, 2, 3, and 5 and introduction of the SCADA system.

#### Other projects:

- Heating system service projects:
  - Main heating system No. 8 (reconstruction of a segment of the main heating system from the metalwork of TPP-26 to 827-к.828, Miklukho-Maklaia Street; replacement of кам.830А, 827, 829 isolation valves at Miklukho-Maklaia Street).
  - TPP-27, Ostashkovo main heating system from TPP-27 to TPP North of Mosenergo PJSC.
- The projects intended to provide corporate protection systems:
  - TPP-27, GRES-3, development of an integrated technical security equipment system.
  - TPP-16, TPP-23, TPP-25, TPP-26, development of DTS and BTS integrated technical security equipment systems.
- The modernization projects in the spheres of information technology, communications and data transmission intended to improve information storage and transmission quality:
  - Technical retrofitting of the structured cabling system with network extension to include new combined cycle power units in branches of TPP-12, TPP-16, and TPP-20.

## Repairs

In 2019, all thermal, mechanical, and electrical equipment maintenance programs were completed in full and on time in line with the approved maintenance schedule and within budget:

#### Number of equipment repairs, instances

Equipment	Over-haul	Mid-level	Running
Power generation units	3	5	10
Boilers	14	14	51
Turbines	11	8	60
GT	0	0	8
Peak water-heating boilers	1	0	106
Heating plants (CCPU)	0	1	13
GT (CCPU)	0	1	14
Turbo generators (CCPU)	0	1	9
Water-heating boilers (DTS/BTS)	13	-	108
Generators	16	11	64
Transformers	3	-	143
110-500 kW switches	6	0	-

#### Amount of main uncommon repairs of the thermal and mechanical equipment, instances.

Works	2018	2019
Industrial turbine rotor repairs	36	28
Replacement of turbine rotor blade/disk sets	11/1	11/3
Rotor replacement	2	2
Replacement of elements of the turbine cylinder wheelspace	8	4
Replacement of piping of heaters and capacitors	13	1
Replacement of lower support bearings of regenerative air heaters	5	-

#### Repairs of buildings and constructions, instances

Repaires facility	Total for Mosenergo PJSC	Type of works	2018	2019
Cooling towers	59	Repairs	14	38
		Inspection	7	12
Chimneys	198	Repairs	26	19
		Inspection involving industrial safety expert review (ISER)	18	39
Liquid fuel tanks	84	Repairs	-	5
		Inspection involving ISER	10	17
Building and constructions	1267	Examination, inspection, ISER	293	329

### 3 Amount of main uncommon repairs of the electrotechnical equipment, instances

Operating activity

Works	2018	2019
Generator rotor repairs involving removal and defectoscopy of retaining rings	11	9
Replacement of generator welding wheels	4	7
Stator rewedging	1	1
Replacement of an upper stator winding bar	3	2
Replacement of high-voltage bushings	10	4

### Service Information for CCGT Units

Branch	2018	2019
TPP-9	MiI	
TPP-12	MiI	Hot gas path inspection
TPP-16	MiI	MiI
TPP-20	MaI	
TPP-21 (ГТ-11Б)	MaI	MiI
TPP-21 (ГТ-11В)	MaI	MiI
TPP-26		ER
TPP-27 (ГТ-31)	MiI	MiI
TPP-27 (ГТ-32)	MiI	MiI
TPP-27 (ГТ-41)	MiI	MiI
TPP-27 (ГТ-42)		MiI

## Analysis of financial results<sup>1</sup>

### Revenue

In 2019, sales revenue of Mosenergo PJSC decreased by 5% in comparison with 2018 and amounted to 189.8 RUB bn. Electricity sales revenue increased by 5.3 RUB bn (+7%) due to the increase in the average weighted price by 4% and in the amount of sales by 3% to 80.3 RUB bn. In 2019, capacity sales revenue amounted to 31.2 RUB bn, which is 10.2 RUB bn (25%) less year-on-year due to the decrease in the CSA revenue caused by expiration of two capacity supply agreements. Thermal energy sales revenue amounted to 75.8 RUB bn, which is 4.2 RUB bn (5%) less year-on-year due to the decrease in thermal energy sales by 8% caused by an abnormally warm weather during the 2019 heating period.

### REVENUE FROM ELECTRICITY SALES

# 80.3 RUB BN

### Prime cost

In 2019, the prime cost of products increased by 1.6 RUB bn (1%) in comparison with 2018 and amounted to 172.3 RUB bn (including 91 RUB bn for the prime cost of electricity and capacity, 78.4 RUB bn for thermal energy, and 2.8 RUB bn for other products).

In 2019, the causes of higher expenses year-on-year were as follows:

- > higher maintenance service and repairs expenses (0.5 RUB bn);
- > higher cost of production services (0.4 RUB bn);

- > higher payroll expenses (0.3 RUB bn) due to the annual salary review;
- > higher depreciation expenses (0.7 RUB bn) due to fixed assets revaluation as per December 31, 2018;
- > lower property taxes (0.6 RUB bn) due to the taxation law changes in force from January 01, 2019;
- > higher other expenses (0.3 RUB bn).

### Other income and expenses

The other income decreased by 2.1 RUB bn due to the following main factors:

- > allowance recovery amount reduction by 1 RUB bn;
- > reduction in the unrecovered fixed asset cost revaluation amount by 1 RUB bn;
- > foreign exchange and sum difference income reduction by 0.4 RUB bn;
- > higher other income (0.3 RUB bn).

Other expenses decreased by 2.2 RUB bn year-on-year due to the following factors:

- > reduction in foreign exchange and sum difference expenses by 2.5 RUB bn;
- > decrease in the value of assets / commodities and materials by 0.6 RUB bn;
- > estimated property tax liability reduction by 0.6 RUB bn;
- > interest payable reduction by 0.3 RUB bn;
- > investment depreciation reserve increase by 1.3 RUB bn;
- > higher all other expenses (0.5 RUB bn).

TPP-8



<sup>1</sup> According to the Russian Accounting Standards (RAS).

3

Operating activity

## Net profit

The Company's net profit amounted to 16.5 RUB bn, which is 31% less than in 2018. Net profit reduction was primarily caused by the Company's lower sales revenue.

NET PROFIT

16.5 RUB  
BN

## Liquidity and loan portfolio management

In December 2019, the Company extraordinarily raised a loan in the amount of 22.7 RUB bn from Gazprombank to complete acquisition of the share of GEH Industrial Assets LLC. As of December 31, 2019, the Company's credit and loan debt amounted to 26 RUB bn.

In 2019, the average weighted loan interest rate amounted to 6.2500% for Russian ruble loans and 1.7460% for foreign currency loans. The Company has no credit and loan arrears.

## Business structure analysis

As of December 31, 2019, the noncurrent assets increased by 21 RUB bn against December 31, 2018 (from 204 RUB bn to 225 RUB bn), due to the increase in long-term financial placements through the acquisition of a share (43%) in GEH Industrial Assets LLC.

Current assets have the following structure: accounts receivable—38%, short-term financial placements—31%, reserves—16%, monetary

assets—12%, other current assets—3%. As of December 31, 2019, Mosenergo PJSC increased short-term financial placements through having been included into the cash pool of Gazprom PJSC in December 2019.

As of December 31, 2019, long-term liabilities increased by 21 RUB bn against December 31, 2018, due to the increase in credit and loan debt.

FIXED ASSETS

225 RUB  
BN

## Analytical financial standing ratios

The current liquidity ratio amounted to 7.64, which is higher than in 2018 by 0.64 due to the increase in the current assets.

Accounts receivable turnover improved in comparison with 2018 to 59 days (-8 days) due to a higher revenue decrease (-9.3 RUB bn) against the accounts receivable decrease (-6.4 RUB bn).

The sales margin decreased from 14.24% in 2018 to 9.24% in 2019 due to a higher sales profit decrease (-10.8 RUB bn) against the revenue decrease (-9.3 RUB bn).

CURRENT RATIO

7.64



TPP-9



# 3 Risk management

## Risk management system

Operating activity

In order to comply with the principles stipulated by the Corporate Governance Code and recommended for use by the Central Bank of the Russian Federation and the methodological documents on risk management and internal control of the Gazprom Group communicated to the Company by management company Gazprom Energoholding LLC, the Company implemented the Risk Management and Internal Control (RMIC) Policy of Mosenergo PJSC approved by the resolution of the Company's Board of Directors dated July 30, 2019 (extract from minutes No. 70 of the Board of Directors dated August 05, 2019) and terminated the Internal Control System Policy of Mosenergo PJSC approved by the Company's Board of Directors (minutes No. 23 dated September 30, 2016).

Mosenergo PJSC considers the risk management and internal control system (RMICS) one of the most important corporate governance elements and carries out the risk management and internal control policy that covers all management levels. The objectives set by the Company's RMICS stipulated by the RMIC Policy are as follows:

- > to ensure sufficient confidence in achievement of the Company's goals;
- > to ensure due control over the Company's financial and operational activities.

According to the RMIC Policy, the Company's RMICS participants are as follows: the Company's Board of Directors, the Audit Committee of the Board of Directors, the sole executive body, the Managing Director, the Collegial Body, the responsibility center for risk management and internal control (RMIC RC), the Company's and the sole executive body's structural divisions and employees, business process owners, risk owners (co-owners) responsible for implementation of risk management measures, and internal control procedure owners (co-owners).

The Operating Committee acts as the Collegial Body as regards review and approval of the matters related to the Company's RMICS organization and performance improvement.

The Company's head of risk management acts as the RMIC RC. To ensure independence and objectivity, the activities of the head of risk management are structurally differentiated from the activities related to functions of the internal audit and control and audit divisions.

Internal evaluation of the RMICS efficiency is performed by the Company's structural division responsible for organization and due conduct of periodic internal audits.

Distribution of the primary functions among the key participants in the RMICS:

1. The Company's Board of Directors approves the Company's internal documents defining the Company's policy on risk management and internal control, including the RMICS organization, operation, and development principles and approaches, sets maximum permissible and threshold risk levels for the Company, reviews the RMICS organization, operation, and development issues, including RMICS evaluation and self-evaluation results, and provides recommendations on RMICS improvement when necessary.
2. The Audit Committee of the Board of Directors monitors reliability and efficiency of the RMICS operation, carries out a preliminary review and provides recommendations on the matters within the scope of functions of the Company's Board of Directors in the sphere of RMIC, reviews summary reports on risks and internal control procedures, results of internal control procedures and risk management efficiency evaluation.
3. The sole executive body ensures RMICS operation, reviews information on the Company's critical risks and risk management measures, provides recommendations on improvement and monitoring of the risk management measures and internal control procedures when necessary, approves threshold levels and limits of the Company's financial risks.
4. The Managing Director ensures implementation of resolutions of the Company's Board of Directors in the sphere of RMICS organization, support of efficient RMICS operation in the Company's and its within the Director's scope of functions, determines RMICS development areas, approves the Company's local regulatory documents in the sphere of risk management and internal control, including the ones describing assignment of Risk Owners (Co-owners), Business Process Owners, approves RMICS reports and performance benchmarks.
5. The Collegial Body reviews and approves RMICS documents, annual RMICS operation reports and quarterly risk management system monitoring result reports, maximum permissible risk levels, threshold risk levels, limits for specific risks for the Company.
6. RMIC RC develops the single RMICS policy, coordinates activities in the sphere of risk management and internal control, designs proposals on the maximum permissible risk levels, threshold risk levels, limits of specific risks, provides methodological support of the risk management and internal control process, develops RMICS documents, verifies organization of the internal control system in the Company's structural divisions, prepares consolidated RMICS reports, informs management bodies of the RMICS organization and operation.
7. Risk owners make decisions on risk management issues in their assigned functional areas of activity, control the RMICS reliability and performance within their scope of functions, monitor risk management activities, and implement risk management cycle stages within the areas of activity they are responsible for.
8. Business process owners ensure RMICS operation within their assigned business processes and integration of risk management processes and internal control procedures in their assigned business process and develop the internal control procedures required to reduce the identified risks.
9. Risk management activities are performed by the specialists responsible for performance of the said activities.
10. Internal control procedure owners (co-owners) ensure introduction, performance, and continuous efficiency monitoring of internal control procedures..





## 3 Key risk events in the reporting period

Operating activity

The map of the most significant risks of Mosenergo PJSC in 2019 was reviewed at the meeting of the Company's Board of Directors on June 11, 2019, and includes two critical key events: the foreign exchange risk and the risk of equipment accidents.

Critical risk management followed the Most Significant Risk Management Roadmap reviewed at the meeting of the Company's Board of Directors on June 11, 2019.

Please find the list of the key risk events identified by the Company as the most significant ones within the reporting period as well as the response thereto in the table.



### Industry risks

#### 1.1 Risk of heat/electricity demand decrease (or of loss of a market share to competitors):

reduction in the actual net heat output against the target value due to unfavorable outside temperature change in the heating period.

##### Response to risk events:

- > equipment configuration optimization
- > redistribution of thermal loads among sources
- > higher efficiency of own sources due to load transfer from heating plants to generation sources.

#### 1.2 Day-ahead market (DAM) price reduction risk:

lower electricity sales margin in the WECM market due to the adverse change in the price environment.

##### Response to risk events:

- > delivery schedule optimization depending on the WECM prices forming in different times of day
- > Pmin reduction efforts
- > TEP improvement activities



## 2. Technical production risks

Risks of unexpected change in the mode of operation of the generating equipment, process equipment failures and electricity and heat supply interruptions associated therewith:

#### 2.1. Equipment accident risk

#### 2.2 Risk of heat supply accidents

#### 2.3 Risk of process disruptions

#### 2.4 Risk of off-schedule equipment repairs

#### 2.5 Risk of excessive length/cost of scheduled repairs

#### 2.6 Risk of non-compliance with criteria when the generating equipment is used for rated and general primary frequency control (RPFC/GPFC)

#### 2.7 Risk of available capacity decrease and operation of inefficient equipment configuration.

##### Response to risk events:

- > fulfillment of the repairs program and control of the quality thereof;
- > fulfillment of the equipment operation reliability improvement program and the retrofitting and upgrading program
- > fulfillment of the program of pipeline replacement, continuous monitoring and diagnosis of the heating system's pipelines, as well as of the primary equipment of cogeneration units, boilers, and turbines
- > conclusion of agreements with suppliers of materials and resources (MR) and maintenance of specialized tools and spare parts in branches for emergency repairs
- > cooperation with MIPC PJSC as regards joint efforts to prevent modes resulting in equipment deterioration
- > maintenance of standard fuel reserves, operability of enterprises that receive, store, and transport reserve and emergency fuel, sustainment of needs in reagents, operating materials, conclusion of multiannual framework MR supply agreements
- > timely performance of scheduled repairs and quality control of repairs, preservation of due operation of the equipment by the shift personnel, timely performance of required expert evaluations, technical expert examinations, and diagnostic equipment checkups
- > surveillance and incoming control of equipment, spare parts, and materials at all stages of upgrading, repairs, and commissioning of production facilities, assurance of timely supply of toll materials for contract repairs, continuous control over repairs, establishment of schedules for each turbine, boiler, turbo generator, transformer, or unit overhaul
- > sustainment and enhancement of skills among the personnel: seminars, continuing education courses, pre-examination training and knowledge tests, emergency response drills, simulation of occupational situations, communication of causes and prerequisites of accidents to employees of branches to prevent such events in the future, extraordinary briefings and knowledge tests for the employees held accountable for accidents, participation in corporate and all-Russian competitions for operating personnel
- > assurance of equipment readiness and the required parameters to meet the requirements to participate in RPFC/GPFC
- > when submitting price bids for operating generating equipment configuration selection, the DAM, and the real-time market, the Company takes into account equipment operation in the optimal configuration and at the optimal load, supports standard equipment operation parameters to ensure nominal loading with minimum specific fuel consumption
- > equipment modernization, fuel supply management, property insurance

The Company considers the following the risks associated with production activities in the spheres of occupational safety, labor and environmental protection:

**2.8 Risk of identification of non-compliance with environmental standards and mandatory requirements of industrial and fire safety and labor protection as a result of audits by regulatory authorities**

**2.9 Risk of fires at the Company's facilities**

**2.10 Risk of occupational injuries**

**Response to risk events:**

- > industrial monitoring of compliance with industrial safety requirements at dangerous facilities
- > organization of supernumerary emergency response teams, conclusion of a service agreement with a professional emergency response team
- > establishment of in-house fire halls equipped with the necessary equipment, gear, and personnel at large electric stations
- > involvement of specialized expert organizations to the monitoring and expert evaluation of condition of engineering equipment, buildings, and structures
- > training and proficiency enhancement of the personnel at specialized training centers and directly at TPS
- > training and appraisal of knowledge of the employees as regards industrial safety, security of energy supply, and safety of hydraulic structures
- > development, testing, and regular review of emergence prevention and response plans, accident containment and recovery roadmaps for dangerous facilities
- > commercial insurance of property and vehicles, public liability insurance for owners of dangerous facilities for the damages resulting from accidents at the dangerous facility
- > accident and health insurance, as well as medical insurance for the personnel
- > special evaluation of labor conditions, minimization of harmful and dangerous production factors
- > provision of the necessary personal and collective protective equipment, incident- and injury-free personnel behavior development
- > introduction of an industrial safety management system, a labor protection management system, an environmental protection management system, regular external and internal efficiency audits of these systems
- > introduction of an automated environmental monitoring system.



### 3. Financial risks

**3.1 Foreign exchange risk:**

The risk of adverse change in the fair value of the liabilities denominated in a foreign currency due to the change in exchange rates and the risk of change in the expenses denominated in a foreign currency due to the change in exchange rates.

**Response to risk events:**

- > foreign exchange risk assessment and monitoring
- > debt structure management, as well as cash flow planning to minimize the need in loan raising
- > correction of foreign exchange risk management measures, including consideration of the need in restructuring foreign currency loans, in the event of a sudden increase in the foreign exchange risk exposure.

**3.2 Loan risk / consumer payment worthiness deterioration:**

risk of the Company's losses due to the failure to perform, untimely or incomplete performance of financial obligations by the counterparty (heat consumers, electricity and capacity consumers) towards the Company.

**Response to risk events:**

- > monitoring of the level of overdue accounts receivable
- > implementation of the measures intended to reduce the level of overdue accounts receivable
- > analysis of payment worthiness and financial stability of counterparties
- > use of the loan risk reduction mechanisms (use of bank guarantees) in the course of procurement



### 4. Risks associated with activities of Mosenergo PJSC

**4.1 Risk of non-compliance of the human resources to the authorized personnel size:**

lack of necessary specialists, including in terms of qualification requirements, on the labor market or non-conformity of the Company's wages with the market-wide wages may result in insufficient personnel, longer and more expensive personnel training, longer search for employees, and higher personnel motivation expenses incurred by the Company.

**Response to risk events:**

- > fulfillment of the training and proficiency enhancement program for the operating personnel
- > preparation of the employee pool for the Production unit
- > fulfillment of the programs intended to improve personnel satisfaction
- > monitoring of market-wide wages.

**4.2 Risk of court rulings creating obligations of the Company:**

- > according to the relevant judicial practice regarding cases of trustees in bankruptcy challenging the debtors' payments for the supplied resources and/or rendered services / completed works made within 1 month before the court accepted a bankruptcy petition or after such acceptance, courts declare such payment transactions invalid, which means the received monetary assets may return to the bankruptcy estate and the Company may be included in the list of creditors;
- > undue performance of the agreement's conditions by the Company.

**Response to risk events:**

- > monitoring of consideration of the legislative proposal to amend the Federal Law "On Insolvency (Bankruptcy)"
- > submission of statements on the causes of debt collection from the Company / unjust enrichments / losses to the contract manager and proposals to minimize adverse outcomes in the future

**4.3 Risk of identification of non-compliance with legal requirements as regards civil defense (CD) and protection against emergencies as a result of audits by regulatory authorities**

**Response to risk events:**

- > overhaul of the protective structure to mitigate drawbacks
- > comprehensive assessment of the CD protective structure to mitigate drawbacks
- > repairs of CD protective structures to mitigate drawbacks
- > procurement of engineering equipment for CD protective structures to mitigate drawbacks.

## 3 Self-evaluation of the risk management and internal control system efficiency

Operating activity

In 2019, the Company's Board of Directors approved the Risk Management and Internal Control Policy to merge two systems, the risk management system and the internal control system (RMICS).

In 2019, the Company carried out the activities intended to establish a special structural division responsible, among other things, for monitoring the internal control system's organization and operation in the Company's structural divisions to fulfill the RMIC RC's functions and objectives.

The information on the most significant Company's risks in the reporting period was reviewed at the meeting of the Company's Board of Directors on June 11, 2019.

In the reporting period, the Company approved the Risk Management System Development Roadmap 2019 (Order No. Пп-091/19 dated March 25, 2019), developed and implemented 14 local regulatory documents on the RMICS to develop the risk management system.

In the reporting period, representatives of the Company and its Subsidiaries completed a continuing education program in Professional Risk Management in the Oil and Gas Business: Efficient Management Methods at the Gazprom Corporate University branch.

The RMIC RC performed RMICS self-evaluation and generated the RMICS Operation Report in the Company 2019 that includes the Company's RMICS development areas for 2020.

## Assurance of compliance of activities to legal requirements

in the sphere of control over corruption, unauthorized use of insider information, and market manipulation

Mosenergo PJSC exercises internal control over legal compliance within the framework of the internal control system. Primary local regulatory documents of Mosenergo PJSC developed according to the legal requirements and the best compliance practices:

- > The policy for procurement of goods, works, and services of Mosenergo PJSC defining the common rules and the procedure of procurement of goods, works, and services that allows ensuring absence of discrimination of and unwarranted competition restrictions for procurement participants, procurement transparency, targeted and cost-efficient use of monetary assets to procure goods, works, and services. Mosenergo PJSC approved a procurement procedures policy to mitigate risks of the procurement procedures carried out to satisfy the Company's needs being challenged by competition regulators;
- > The insider information access policy of Mosenergo PJSC defining mechanisms of prevention, identification, and restraint of abuse of the organized trading by means of unlawful use of insider information or market manipulation. Mosenergo PJSC approved the list of kinds of insider information;
- > The business ethics code establishes the most important business behavior rules for managers and employees used by Mosenergo PJSC and its subsidiaries that rule out cases of conflict of interest and corruption, as well as of collaboration with directly or indirectly subordinate relatives.

Mosenergo PJSC exercises procedures to ensure compliance with the corruption legislation:

- > The Company developed and adopted local regulations intended to ensure operation in good faith: the Contract Work Policy; the resolution "On the Compliance with the Procedure for Conclusion of the Transactions that Mosenergo PJSC is interested in"; the Order "On the Approval of Procurement Violation Significance Criteria"; the order "On the Establishment of the maximum price of a contract concluded with a sole supplier (executive, contractor)", and other documents;
- > The Company organized cooperation with law enforcement agencies and submit to them case materials in due course if there are grounds to believe a Company's employee or any other person committed actions of corruption nature with evidence of a criminal offence;
- > The Company's local regulatory documents define the divisions and officers responsible for prevention of corruption violations. Plans of action of corporate protection divisions include anti-corruption enforcement measures;
- > The Company approved the seal accounting procedure policy to improve the seal use procedure;

- > The Company defined the procedure and takes efforts to obtain information about the chain of ownership, including beneficiaries (including ultimate beneficiaries), and/or the composition of counterparty executive bodies

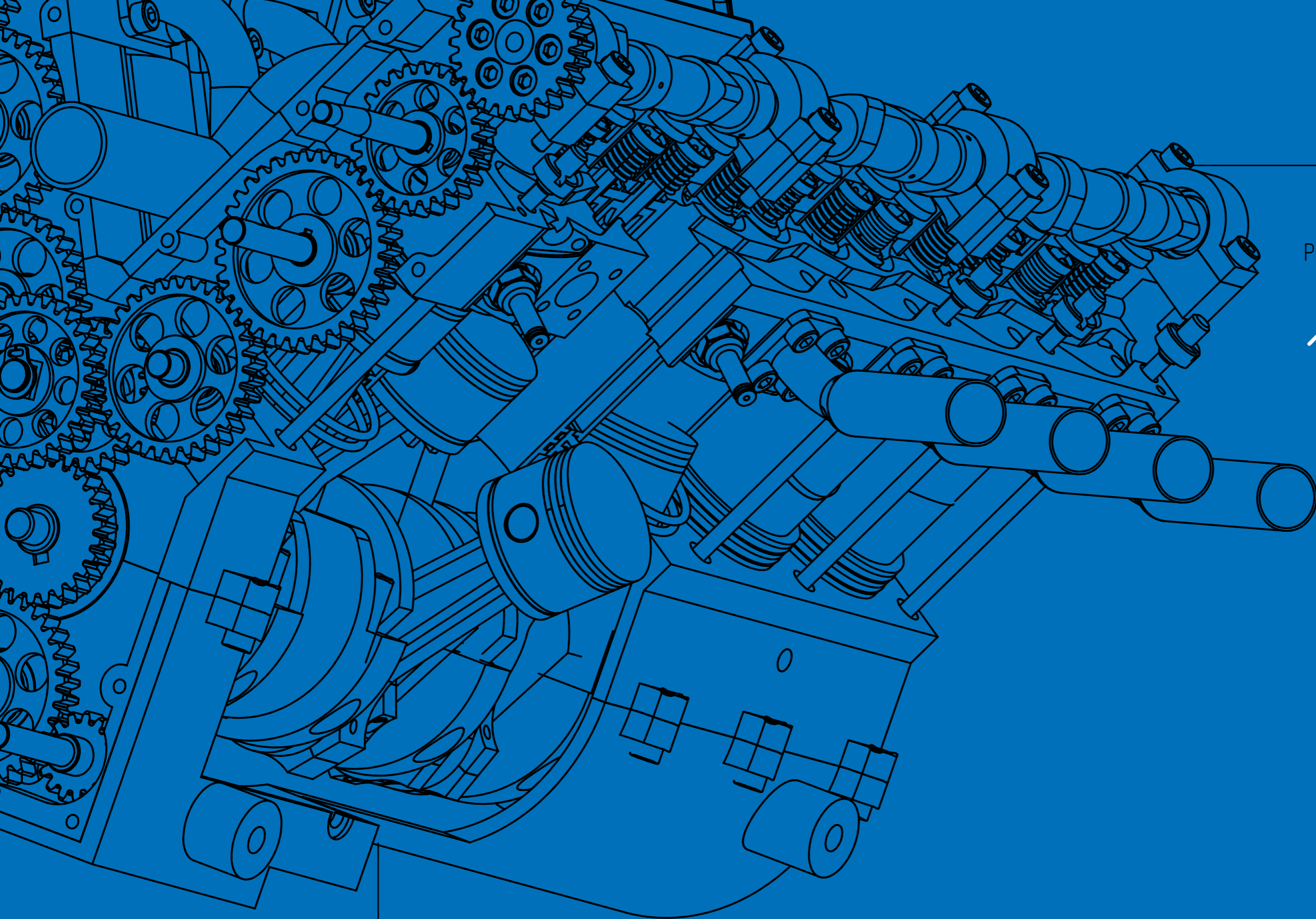
The Company operates an anti-fraud, anti-corruption, and anti-larceny hotline, continuously improves and develops the anti-corruption enforcement system

TPP-25



3

Operating activity



Pollutant emissions  
Substances  
Decreased by

14.7%

4+

374.5  
million rubles  
Environmental costs

Ecology

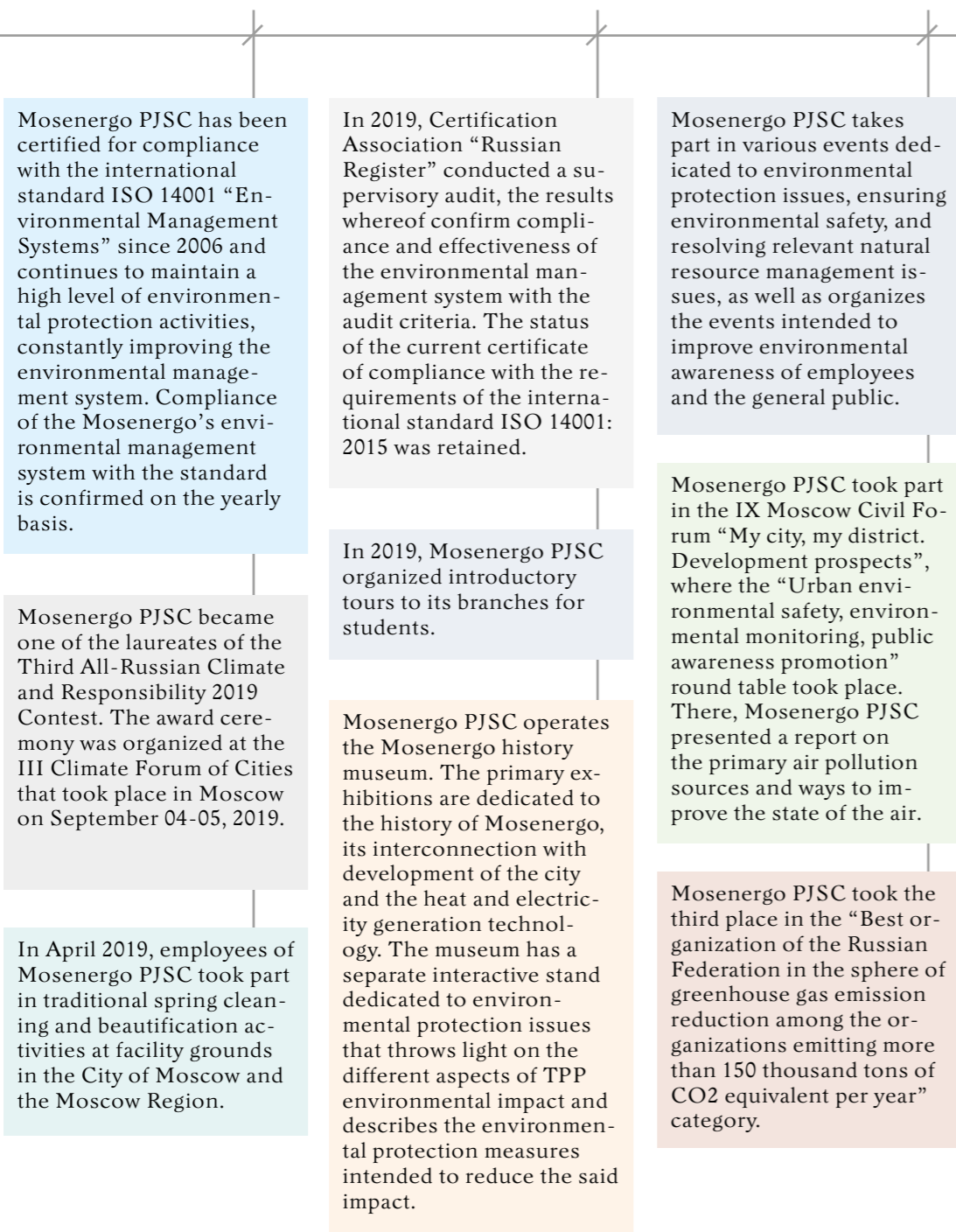
# 4 Environmental policy

Ecology

## Mosenergo PJSC pays close attention to environmental protection issues.

In its activities, the company is guided by the environmental policy, which reflects the Company's basic principles and intentions in the area of environmental protection.

The environmental policy is communicated to the Company's personnel, new employees, as well as to the personnel of contracting organizations. It serves as a guideline for making management decisions and performing day-to-day operations.



# Environmental statement

## Emissions

Pollutant emission dynamics, Mosenergo PJSC, thousand tons

Name/year	2015	2016	2017	2018	2019
Total, including:	49.2	48.6	42.1	42.08	35.9
Nitrogen oxides (NOx)	40.0	41.5	36.7	35.6	30.8
Sulfur oxides (SOx)	6.7	4.8	3.2	4.2	3.6
Solids	1.2	0.9	0.8	0.5	0.1

In 2019, pollutant emissions by all facilities of Mosenergo PJSC decreased by 14.7% (6.2 thousand tons) in comparison with 2018 and amounted to 35.9 thousand tons. Dynamics of emissions of the main pollutants:

- > nitrogen oxide emissions decreased by 13.4% (4.8 thousand tons) to 30.8 thousand tons;
- > sulfur oxide emissions decreased by 14.6% (0.6 thousand tons) to 3.6 thousand tons;
- > solid emissions decreased by 75.7% (0.4 thousand tons) to 0.1 thousand tons;

including:

- > mazut ash emissions increased 1.5 times (0.004 thousand tons) to 0.012 thousand tons;
- > coal ash emissions decreased by 99.3% (0.429 thousand tons) to 0.003 thousand tons;

The total pollutant emissions decreased due to lower fuel consumption, including natural gas and coal. Emissions of sulfur dioxide, ash, and nitrogen oxides decreased due to the decrease in combustion coal, which is a less environmentally friendly fuel than natural gas. Mazut ash emissions increased due to higher mazut consumption.

Power boilers of power stations are equipped with an automated environmental monitoring system to track concentration of pollutants in exhaust gases in real time and, if necessary, immediately take mode-setting measures to reduce emissions. As a result, boiler emissions did not exceed emission standards for any of the pollutants.

POLLUTANT EMISSIONS DECREASED BY

# 14.7%

# 492

MEASURING

RUNNING TPP BOILER EQUIPMENT

Within the framework of industrial environmental control, the Central Laboratory for Environmental Protection (CLEP) at the Department for Ecology of Mosenergo PJSC took 492 measurements at operating power station boilers, including 344 measurements at power boilers, 48 measurements at waste heat recovery boilers, and 100 measurements at water-heating boilers to determine concentrations of nitric oxide, nitrogen dioxide, and carbon oxide in exhaust flue gases and to control the exhaust gas temperature.

Throughout the year, the Company monitored the state of the air in residential areas in the TPS affected zones. In 2019, the Company took and analyzed 11,040 air samples for nitric oxide, carbon oxide, nitrogen dioxide, sulfur dioxide, and dust in the TPS affected zones.

In 2019, the CLEP obtained from the Russian Federal Service for Hydrometeorology and Environmental Monitoring a license to carry out activities in the sphere of hydrometeorology and the spheres related thereto (except when such activities are carried out during the geotechnical investigations performed to generate design documentation, for construction and reconstruction of capital structures).

The contracting organization carried out in-process control over compliance with the maximum permissible emission standards at heating plants.

## Greenhouse gas emission dynamics, Mosenergo PJSC, mn tons

Name/year	2015	2016	2017	2018	2019
Greenhouse gases	39.1	42.0	40.2	40.9	39.6

In 2019, greenhouse gas (CO<sub>2</sub> equivalent) emissions decreased by 3% in comparison with 2018 due to the decrease in fuel consumption, including the decrease in coal consumption.

At the same time, fuel saving as a result of the energy-saving measures (transfer of DTS and BTS thermal loads to TPP, maintenance engineering activities) helped to reduce emissions by 0.8 mn tons of CO<sub>2</sub>.

## Water consumption

## Water extraction by Mosenergo PJSC, mn cubic meters per year

	2015	2016	2017	2018	2019
Water extraction, including:	502.7	509.1	433.1	393.4	402.33
from surface water bodies	447.6	455.0	383.2	343.5	352.0
from the industrial water supply system	45.7	45.8	42.0	42.5	43.1
from the urban water supply system	7.6	8.2	7.8	7.3	7.1
from underground sources	1.8	0.126	0.123	0.13	0.13

Water consumption increased due to the increase in hours of equipment operation in the condensation power output mode;  
Consumption of water from the industrial water supply system of Moscow State Unitary Enterprise "Mosvodokanal" decreased due to the

decrease in hours of operation in the condensation power output at TPP-25.  
Consumption of water from the urban water supply system decreased due to the decrease in the repair personnel size, replacement and repairs of urban water pipelines.

## Water discharge to water bodies by Mosenergo PJSC, mn cubic meters per year

	2015	2016	2017	2018	2019
Total	322.1	329.9	295.1	255.7	280.7
Partially clean water	283.2	297.2	264.8	227.7	241.9

The discharge to water bodies increased due to higher feed water consumption at TPP-9 characterized by the once-through equipment cooling system. In 2018, TPP-9 did not work during the summer.

The difference between the volumes of water extraction and discharge to surface water bod-

ies was caused by makeup consumption by the heating system (MIPC) and power boilers, evaporation, drop priming, and blowdown of indirect cooling tower systems, as well as by the fact that some TPS discharge water to water canal networks and Mosvodostok.



TPP-26



# 4 Waste generation data

Waste generation dynamics, thousand tons

Ecology

	2015	2016	2017	2018	2019
Waste generation	173.4	145.7	122.6	78.7	28.18
Including ash and slag waste (ASW)	156.9	126.5	87.5	50.0	0.14

In 2019, the amount of ash and slag waste decreased due to lower coal consumption. The amount of waste stored at the Company's waste disposal sites decreased in comparison with 2018 due to lower coal combustion. The amount of waste transferred to third parties decreased due to less ASW sales under agreements.

In 2019, branches organized separate waste paper collection. Each facility has a special site and containers that are registered and emptied separately from other industrial and construction waste as confirmed by separate certificates of work performed.

In the reporting period, the Company did not exceed the limits of the waste transferred to landfills.

## Environmental projects

### Environmental protection measures

Expenditures on environmental protection measures, Mosenergo PJSC, thousand rubles.

	2015	2016	2017	2018	2019
Non-capital measures (prime cost)	71,350	42,574	32,015	55,356	72,603
Waste disposal (prime cost)	31,194	35,441	41,046	62,129	59,759
Investment activities, including front-end engineering and design	178,500	104,608	29,161	90,709	242,186
Total	281,044	182,623	102,222	208,194	374,548

Non-capital measures include the activities intended to ensure compliance with environmental protection legislation requirements as regards preparation and receipt of permits and in-process control over the environmental impact of branches of Mosenergo PJSC.

Non-capital measures include replacement of burners, installation of water meters and noise reduction units..

COSTS MOSENERGO PJSC  
ON ENVIRONMENTAL MEASURES  
**374,548**  
THOUSAND RUBLES

TPP-27



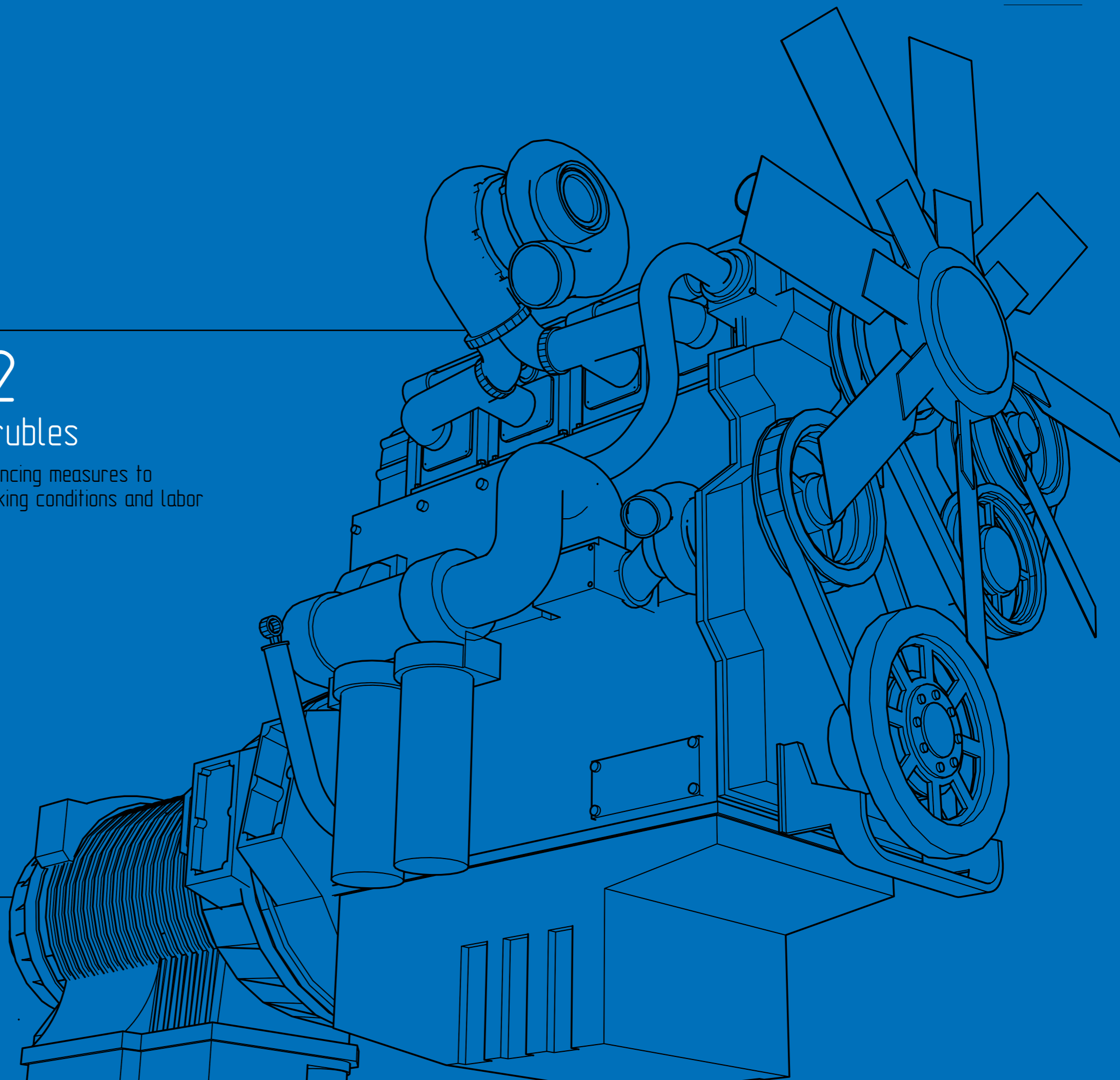
# Social responsibility

>732  
million rubles

Costs of financing measures to improve working conditions and labor protection

8,043  
persons

Headcount MOSENERGO PJSC





## 5 Corporate culture

Social  
responsibility

The human resources management policy of Mosenergo PJSC is aimed at creating an efficient human resources management mechanism, including by means of developing and reinforcing the corporate culture aimed at clear, open, and timely communication of the Company's activities to employees with the possibility of feedback.

Employees are informed about significant events through the primary communication channels, such as the corporate newspaper, Vesti Mosenergo, the intranet portal, official groups in social networks, bulk mailing, and corporate information stands.

Feedback may be provided through the 24/7 telephone hotline and the reserved e-mail address [vopros@mosenergo.ru](mailto:vopros@mosenergo.ru), since 2019, feedback may also be provided to the Company's WhatsApp account. Directors of all branches of Mosenergo PJSC regularly organize information briefings.

To ensure higher involvement of young specialists, their quick and efficient adaptation, identification and the most efficient utilization of creative and productive capacity, in 2016, the Young Specialist Council was established in the Company; they operate in the following areas of activity:

- > mass cultural events;
- > technical ideas and improvement suggestions;
- > social events;
- > sporting events;
- > information analysis.

In 2019, the Young Specialist Council held 39 different events; around 985 people took part in these events. These events included the energy worker initiation of young specialists, the "Skirmish of Wits: Mosenergo" intellectual game for the Company's employees and sponsored students of the Moscow Power Engineering Institute (MPEI), participation in the Youth Day of the Russian Energy Forum and in the energy session at the Biryusa Proactive Youth Territory.

In 2019, branches of Mosenergo PJSC continued to organize the quarterly Best Employee contest. The best employee is the one who achieved the most significant and remarkable results that affected the Company's performance. The list of the contest's laureates and articles about the most outstanding laureates are published in the corporate newspaper.

In 2019, Mosenergo PJSC held a Spartakiad for its branches in 10 kinds of sports: cross-country skiing, light athletics, volleyball, minifootball, swimming, streetball, association football, chess, table tennis, and bullseye shooting. More than 900 Company's employees took part in the Spartakiad.

The Company's Veteran Council operates to strengthen corporate culture traditions, organize patriotic education for young specialists, and ensure the generational bridge.

In 2019, the Veteran Council held 7 events, including flower laying at the Electrified Obstacle Inventors Monument in the village of Nefedovo on May 09 to celebrate the Day of Victory in the Great Patriotic War (GPW).

In 2019, the Company continued to congratulate combatants and home front workers of the Great Patriotic War. The Company's employees, Veteran Council, and Young Specialist Council took an active part in this event and personally congratulated 20 veterans and 115 home front workers.

In 2019, Mosenergo PJSC conducted a personnel involvement survey to learn opinions of the employees about working at Mosenergo, how satisfied they are with working at the Company, what they would like to change, and what development opportunities they see. The survey covered 5,484 people—68.5% of employees of Mosenergo PJSC. The Company takes measures intended to increase satisfaction of the employees with the key aspects of working at the Company (to increase information awareness of the employees, improve working conditions, etc.).

# 5,484

## EMPLOYEES

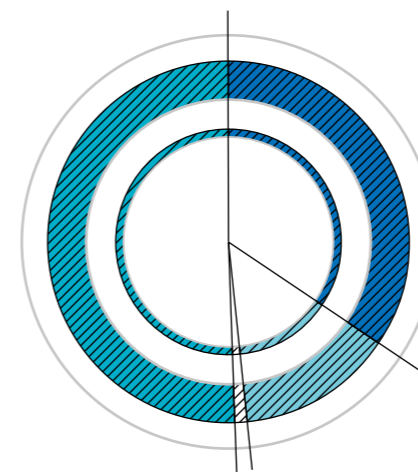
PARTICIPATED IN A STAFF  
ENGAGEMENT SURVEY

## Personnel size and structure

As of December 31, 2019, the headcount of Mosenergo PJSC totaled 8,043 people

# 8,043

PEOPLE



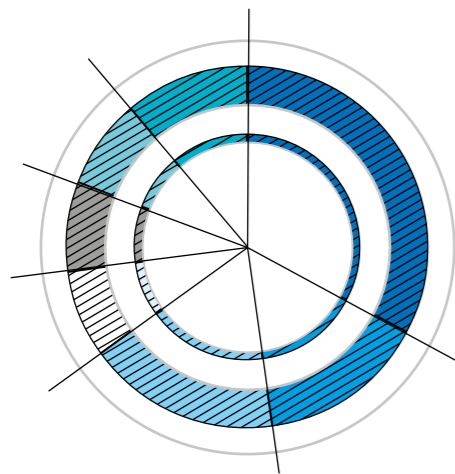
Personnel structure of Mosenergo PJSC  
of December 31, 2019

Manager	34.92%
Specialist	14.11%
White-collar worker	0.27%
Workers	50.69%

5

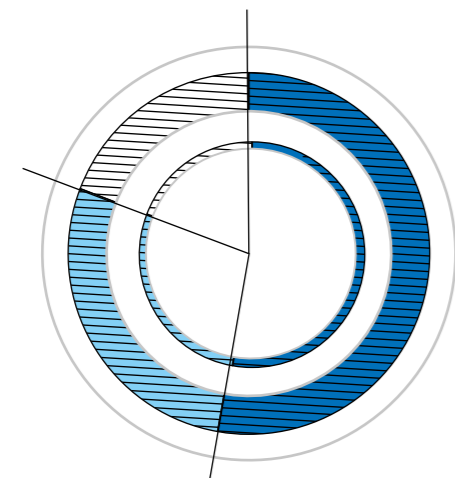
Social  
responsibility

Years of employment at Mosenergo PJSC as of December 31, 2019



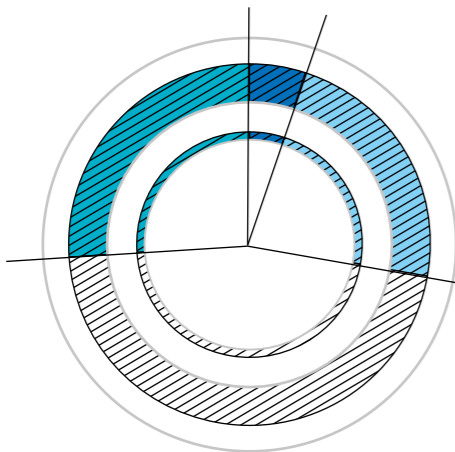
Up to 5 years	33%
6-10 years	15%
11-15 years	17%
16-20 years	8%
21-25 years	8%
26-30 years	8%
More than 31 years	11%

Level of education of employees of Mosenergo PJSC as of December 31, 2019



Higher Vocational education	53%
Primary or secondary vocational	28%
Secondary or complete general education	19%

Age structure of employees of Mosenergo PJSC as of December 31, 2019



< 25 years	5%
25-35 years	23%
35-55 years	46%
> 55 years	26%

### Personnel turnover dynamics

In 2019, the personnel turnover amounted to 7.48%. During this period, the Company:

- > hired 1,140 people,
- > terminated 1,042 people, including:
  - 590 resigned employees,
  - 39 employees terminated as a result of negotiations,
  - 0 employees terminated as a result of headcount optimization,
  - 413 employees terminated for other reasons.

## Personnel training and development

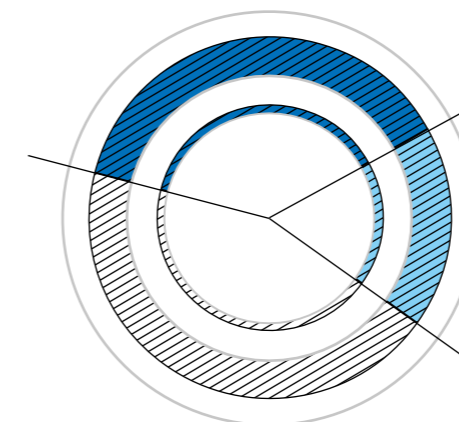
Mosenergo PJSC pays key attention to personnel development as needed to achieve the Company's objectives and satisfy the mandatory requirements of legislation of the Russian Federation.

The corporate personnel development system features two primary areas of activity. First of all, it ensures compliance of personnel qualifications with the Company's objectives. Secondly, it helps to prepare human resources to complete the Company's strategic plans. This involves development of the skills and competencies that will be in demand in the future.

In 2019, 6,165 employees completed training and off-job proficiency enhancement courses in compliance with the established training frequency rates, current and long-term development plans, including 2,360 workers and 3,805 managers and specialists.

**6,165**  
EMPLOYEES

WERE TRAINED AND ADVANCED TRAINING



Personnel training at Mosenergo PJSC in 2019

Workers	38%
Specialists	18%
Managers	44%

The Company's workers, specialists, and managers receive training at the corporate Training Center; there, targeted personnel training programs in the Company's key areas of activity have been developed and being taught.

The operating personnel of Mosenergo PJSC undergo simulation training at the Training Center's simulation training center. In 2019, 995 operating employees underwent simulation training.

Within the Safe Behavior Project for Employees of Mosenergo PJSC, 662 employees completed the Safety Energy course and 795 employees completed the Job-Order/Permit-to-Work System course at the Corporate Safety School.

The Company operates a remote training system that allows completing a part of mandatory training remotely, as well as personal and professional competencies development courses. In 2019, employees of Mosenergo PJSC completed more than 10,000 e-learning courses.

The Company employs approved professional standards. Experts of Mosenergo PJSC were included into the task force of Gazprom Energoholding LLC collaborating with the All-Russian Trade Association of Power Suppliers (RaPE Union) and took part in the development of professional standards for chemical analysts and water conditioning specialists at thermal power stations. The draft professional standards were developed in 2019, approved by the Council for Professional Qualifications in the Energy Sector, and transferred to the Ministry of Labor and Social Protection of the Russian Federation for ratification.

The number of employed professional standards is 28; 6 of them are mandatory.

The actual number of the employees covered by mandatory professional standards is 240, whereas the authorized number of such employees is 265.90.

The actual number of the employees covered by optional professional standards is 3,407, whereas the authorized number of such employees is 3,526.

In 2019, 11 employees completed vocational or further education or professional training to ensure compliance with the requirements to the education and training specified by mandatory professional standards.

In 2019, the Company developed and updated education programs in compliance with the requirements of professional standards:

- > 5 programs for mandatory standards;
- > 2 programs for optional standards.

To improve professional qualification of the TPS operating personnel, the Company held intra- and interstation competitions for cross-connection TPS operating personnel. In June 2019, the team of TPP-16 took the third place in the Gazprom Energoholding Group's competitions.

In December 2019, the Gazprom Energoholding Group held Repair Personnel Competitions; the team of Mosenergo PJSC took the second place.

To develop collaboration with universities and colleges, Mosenergo PJSC cooperates with:

- > the National Research University (NRU) "MPEI" (Federal State Budgetary Education Institution of Higher Education (FSBEI of HE)),
- > the branch of the NRU "MPEI" (FSBEI of HE) in the City of Konakovo,
- > the Shatura Power Energy College (State Budgetary Vocational Education Institution (SBVEI) of the Moscow Region (MR)),
- > Lenin Ivanovo State Power Engineering University (FSBEI of HE),
- > the Ivanovo Power Energy College (Regional State Budgetary Vocational Education Institution),
- > the branch of the Dubna University (State Budgetary Education Institution of HE of the MR)—the Lytkarino Technology and Humanities College,
- > and the Railway and Urban Transport College (SBVEI) in the following areas :
  - целевая targeted personnel training;
  - internship opportunities for students;
  - first higher education programs for the Company's employees;
  - career transition training for the employees without an industry-specific higher education degree.

In 2019, 11 students completed applied bachelor's studies in Thermal Energy and Engineering at the NRU "MPEI." 10 and 11 students proceed with their studies in Thermal Energy and Engineering and in Power and Electrical Engineering, respectively. 50 students at the Shatura Power Energy College and 26 students at the Lytkarino Technology and Humanities College entered into a sponsorship agreement with Mosenergo PJSC.

In 2019, 453 students completed internships in the Company, including 268 formally employed students.

Five Company's employees proceed with their first higher education studies at the NRU "MPEI."

In 2019, 39 Company's employees completed training and career transition training at the MPEI.

In 2019, 30 young specialists took part in the Engineering Case-Solving Championship held by the Company.

In June 2019, the second cohort graduated the Engineer-in-Chief School. Nine company's technical managers took part in the program.

In August 2019, the Management Academy education program came to an end; it was attended by a total of 62 students, including the Managing Director, his deputies, heads of directorate general departments, and TPP directors of Mosenergo PJSC.

## Motivation and social programs

The incentive system for employees of Mosenergo PJSC based on key performance indicators provides conditions for attracting and retaining qualified personnel by offering competitive financial remuneration.

The Company conducted a regular annual review of wages that covered 1,525 employees (18% of the headcount). In 2019, the average salary in the Company increased by 3.5% year-on-year.

Social benefits for the personnel is one of the sustainable development tools promoting Mosenergo PJSC as a reliable and responsible employer and partner. Social payments are made on the basis of the collective bargaining agreement and the Company's local regulatory documents.

In 2019, the amount of social benefits for the Company's employees totaled 241.56 RUB mn.

### Remuneration of the costs of holiday packages for children of the employees of Mosenergo PJSC

In 2019, 239 employees of Mosenergo PJSC were remunerated for purchasing holiday packages to children's camps for the purposes of recreation, treatment, sports, or education.

### Voluntary health insurance for employees of Mosenergo PJSC

In 2019, 7,786 employees of Mosenergo PJSC were provided with voluntary health insurance.

### Activities with veterans of the GPW and home front workers

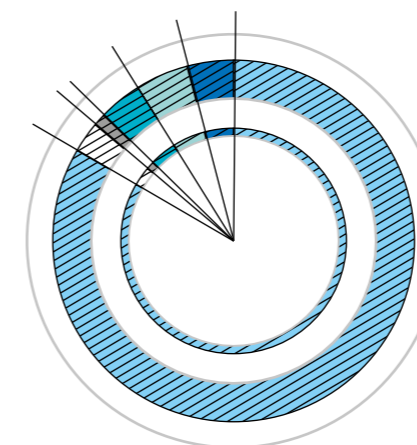
In 2019, Mosenergo PJSC provided financial assistance to 51 veterans and 246 home front workers of the Great Patriotic War in the amount of 11,167 thousand rubles

### Trade union

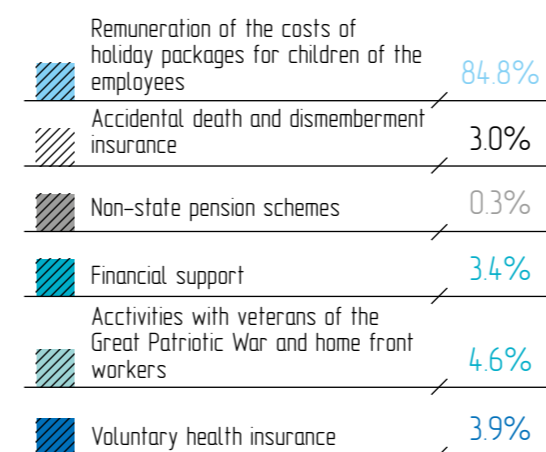
In 2019, the Company held a range of fitness and health and mass cultural events together with the trade union, such as the station's anniversary (TPP-26), the Mosenergo Spartakiad, the Mosenergo Health Day, events for young specialists, events organized by the Veteran Council, and the Victory Day (May 09). The expenditures amounted to more than 30 RUB mn.

### Non-financial motivation of employees

The Company pays considerable attention to non-financial motivation of the personnel intended to improve personal performance and achieve strong operating results. Commendation for state, ministerial, and industry awards is an efficient tool of moral motivation of the Company's employees



Social welfare structure of employees of Mosenergo PJSC



TPP-22



## Labor protection

> 732 MILLION RUB

In 2019, the Company spent a total of more than 732 RUB mn to finance the measures to improve labor conditions and protection and prevent occupational diseases, which is more than 0.2% of the generation expenditures.

FINANCING OF MEASURES TO IMPROVE CONDITIONS AND PROTECTION LABOR

Labor protection expenditures in 2019, thousand rubles

Type of expenditures	Amount, thousand rubles
Voluntary health insurance, milk provision	201,719
Special workplace assessment, in-process control, labor protection training	3,799
Operation of health centers, medical checkups, seasonal vaccination	77,455
Provision with protective equipment (personal protective equipment (hereinafter referred to as the PPE), collective protective equipment, etc.), uniform washing and repairs	161,727
Indoor and outdoor cleaning	288,161
<b>TOTAL</b>	<b>732,861</b>

### Availability of labor protection and industrial safety services and specialists in Executive Offices and at the Company's power stations (branches)

The labor protection and production system audit department employs 28 people. Each power station (branch) is overseen by one of the 15 chief officers for labor protection. Furthermore, 6 independent inspectors are contracted (independent contractor agreements)

to identify labor protection violations by contracting organizations at branch premises, including the premises allocated for construction of capital structures, as well as to identify employees exhibiting signs of alcohol intoxication.

### Status of mandatory preliminary, regular, and extraordinary medical checkups (examinations)

The Company performs mandatory preliminary, regular, and extraordinary medical checkups (examinations) in compliance with the requirements of Article 213 of the Labor Code (LC) of the RF, Order No. 302H of the Ministry of Health and Social Development of the RF "On the Approval of Lists of Harmful and/or Dangerous Production Factors and Works Requiring Preliminary and Regular Medical Checkups (Examinations) and the Procedure for Mandatory Preliminary and Regular Medical Checkups (Examinations) of Employees Engaged in Physically Demanding Works or Works with Harmful and/or Dangerous Labor Conditions" dated April 12, 2011.

Employees undergo mandatory preliminary checkups when beginning work for the Company. Regular checkups are conducted on the basis of lists of names of the personnel subject to regular checkups; these lists are submitted to the local offices of the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor). The Company has a medical checkups agreement with SOGAZ-Medservice LLC.

In 2019, around 1,000 Mosenergo's employees underwent free vaccination in the framework of the seasonal influenza virus prevention and immunization program.

## Special Assessment of Labor Conditions

In 2019, Mosenergo PJSC performed special assessment of labor conditions of 846 workplaces in compliance with Federal Law No.

426-Φ3 “On the Special Assessment of Labor Conditions” dated December 28, 2013.

Provision of employees with personal protective equipment, uniforms, footwear, washing agents and/or detergents, healthy and dietary foods, milk, or other equivalent foodstuffs.

- > The Company provides the employees with personal protective equipment, uniforms, and footwear according to the standard guidelines for distribution of uniforms, safety footwear, and other personal protective equipment (PPE) (Order No. 340H of the Ministry of Health and Social Development of the RF dated April 25, 2011) and the Exhibit to the Collective Bargaining Agreement of Mosenergo PJSC. All the distributed PPE has certificates of compliance and are purchased from the leading Russian manufacturers. The Company organizes controlled washing of the employees’ uniforms.
- > The Company provides the employees with washing agents and detergents according to Order No. 1122H of the Ministry of Health and Social Development of the Russian Federation (Minzdravsotsrazvitiia of Russia) “On the Approval of the Standard Guidelines for Free Distribution of Washing Agents and Detergents Among Employees” dated December 17, 2010, the Provision of Employees with Washing Agents and/or Detergents labor safety standard, and the Exhibit to the Collective Bargaining Agreement of Mosenergo PJSC.
- > The Company provides the employees with milk according to Article 222 of the LC of the RF and Order No. 45H of the Ministry of Health and Social Development of the Russian Federation (Minzdravsotsrazvitiia of Russia) “On the Approval of Standards and Conditions for Free Distribution of Milk or Other Equivalent Foodstuffs Among Employees with Harmful Labor Conditions, the Procedure of Remuneration in the Amount Equivalent to the Cost of Milk or Other Equivalent Foodstuffs, and the List of Harmful Production Factors Which, When Present, May Require Preventive Consumption of Milk or Other Equivalent Foodstuffs” dated February 16, 2009,
- > In 2019, milk was supplied to the Company’s branches and distributed among the employees in a controlled manner under service agreements with Produkty Derevni LLC (Shaturskii Agroindustrial Complex) and Compas Group LLC.

Welfare, medical, and preventive services for employees. Availability and equipment of welfare facilities, mess halls, medical aid rooms, and rest rooms

In compliance with Article 223 of the LC of the RF, each Company’s branch has equipped welfare facilities (locker rooms, changing rooms, shower rooms, washrooms, restrooms, uniform storage and distribution rooms), mess halls,

medical aid rooms, and rest rooms. All the facilities are cleaned and aired. Occupant space requirements are met. Divisions have equipped medical aid posts with first aid kits, potable water dispensers.

Workplace briefings (introductory, initial, repeated, extraordinary)

The Company holds all kinds of workplace briefings (introductory, initial, repeated, extraordinary) in accordance with the requirements of legislation of the RF. The Company developed, approved, and upgrade briefing programs in the timely manner, keep duly executed briefing logs.



### Accident analysis

	2018	2019
Total number of people injured on-site, including:	1	1
minor injuries (people)	0	1
major injuries (people)	1	0
lethal injuries (people)	0	0
Number of people injured in group accidents	0	0
frequency factor (Ff) <sup>1</sup>	0.07	0.07

<sup>1</sup> The frequency factor (Ff) is the number of injured people per million worked hours throughout the company according to the timekeeping data.

In 2019, no employees of Mosenergo PJSC sustained occupational injuries.

However, on February 12, 2020, a TPP-16 employee filed a claim that he erroneously applied for a sick leave due to an off-the-job injury, whereas in fact he sustained an occupational injury. The investigation conducted by the Company's commissioned established that the employee, an inspection engineer trainee, hit a structural element of a building with his left brow when moving across the working area and sustained a minor injury.

According to the commission's report, the injury was caused by insufficient lighting due to a burned-out light bulb, no control over the trainee's actions exercised by the trainer, and

negligence of the officer responsible for good working order of the lighting in the said area. As a result of the investigation, the following measures were initiated. The circumstances of the accident were discussed at the meeting of the Production unit and during safety hours at each of the Company's branches. The operating and repair personnel were briefed on the need to notify the responsible specialists about all the lighting defects identified during routine rounds and visual inspections of the equipment and workplaces in the timely manner. The Company tightened control over the working order of the lighting in the course of internal checkups and audits.

### Investigations of workplace accidents (procedure and timeframe)

Mosenergo PJSC conducts investigations of workplace accidents in compliance with the requirements of Articles 227-231 of the Labor Code of the Russian Federation and Resolution No. 73 of the Ministry of Labor and Social Protection of the RF "On the Approval

of Forms of the Documents Required to Investigate and Register Workplace Accidents and the Policy for Peculiarities of Investigation of Workplace Accidents in Specific Industries and Organizations" dated October 24, 2002.

### Labor protection control measures

The Company regularly held Labor Protection Days and Safety Hours: 180 Labor Protection Days and 720 Safety Hours across all the branches. Heads of specialists of the Directorate General were involved in the operation of commissions at TPP.

In 2019, the Company conducted 52 labor protection audits of branch divisions.

Mosenergo PJSC implemented measures to control fulfillment of labor protection requirements by contracting organizations when working at the Company's facilities, identified and corrected around 8,000 such violations as a result of these measures. The Company ensures strict inspections of capital construction sites.

In 2019, the Company identified and mitigated more than 18,000 risks owing to the effective system of identification, evaluation, and mitigation of labor protection and fire safety risks.

The Company developed and implemented the Behavioral Safety Auditing (BSA) standard as part of the project intended to develop safe behavior among the employees to achieve the strategic goal of zero injuries. More than 800 employees of Mosenergo and contracting organizations completed BSA training, including heads of heating plants, employees of the Directorate General, and representatives of the management of TER LLC. In 2019, the trained personnel members performed more than 15 thousand behavioral audits, identified and corrected more than 20,000 dangerous conditions and actions of employees of the Company's branches and contracting organizations as a result of these audits.

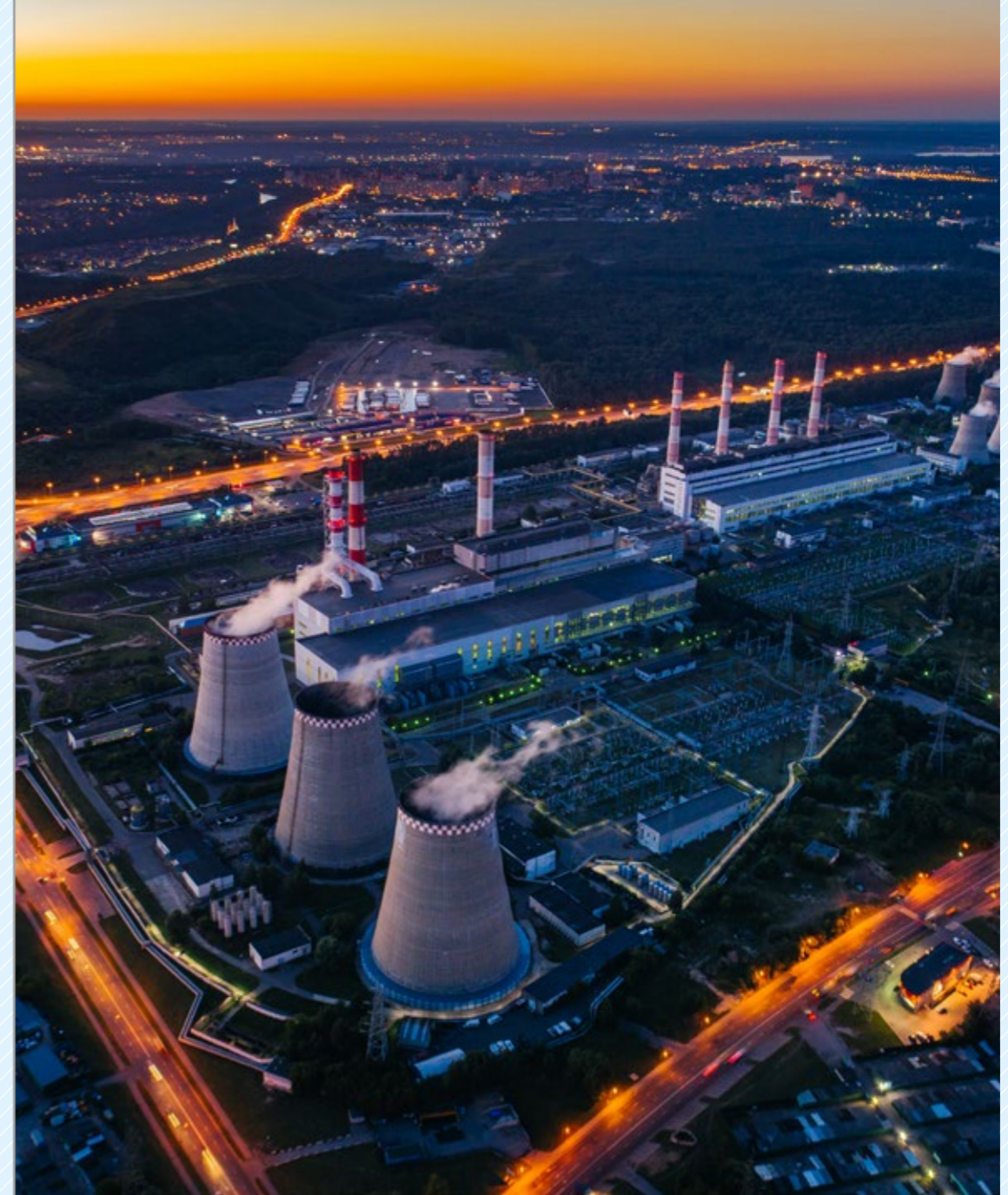
The Company printed and distributed informative posters about the Golden Rules of Safe Behavior and the Behavioral Safety Auditing among all the branches and associated heating plants.

The Company has a full-time Committee on Occupational Health and Safety, as well as Commissions on Occupational Health and Safety at the branches.

In April-December 2019, a branch of Mosenergo PJSC, TPP-25, completed a pilot Prevention of Workplace Cardiovascular Diseases project intended to reduce the risk of workplace mortality due to exacerbation of cardiovascular diseases and encourage healthy lifestyle among the personnel. The Company will consider the possibility of extending this project to the other branches after having analyzed its results.

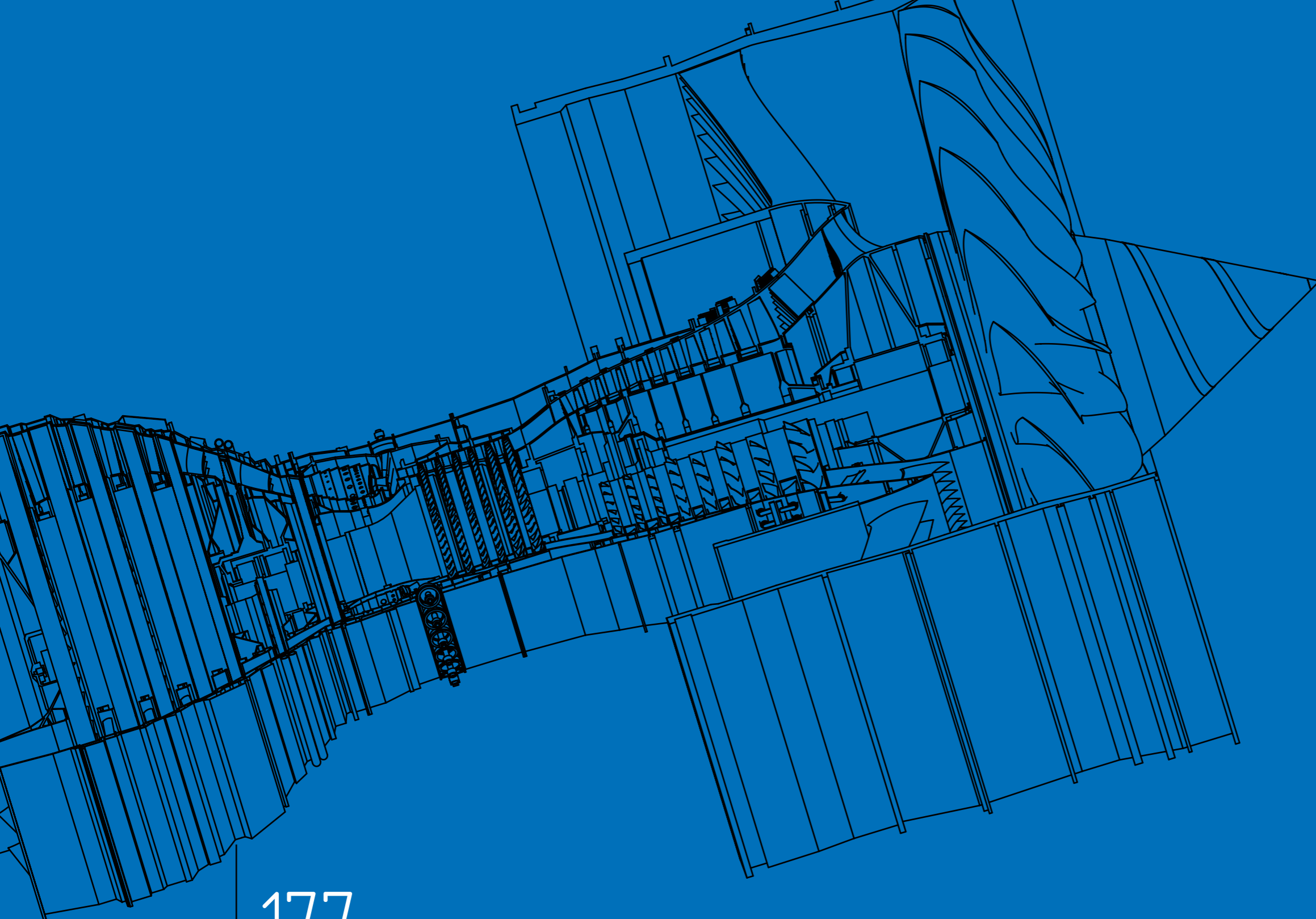
# 18 THOUSAND OF RISKS

IN THE FIELD OF LABOR PROTECTION  
AND FIRE SAFETY IDENTIFIED AND ELIMINATED



TPP-27





177  
shareholders

Connected to the service  
«Personal account of the shareholder»

6  
Corporate  
governance

## Memorandum of intent of Gazprom PJSC towards controlled companies: Mosenergo PJSC, MIPC PJSC, OGK-2 PJSC, and TGK-1 PJSC

Power engineering is a strategic area of activity of the Gazprom Group. Over the last 10 years, Gazprom PJSC created the largest Russian vertically integrated power engineering holding that unites assets of electricity and heat generation, thermal power transfer and sales, as well as assets in adjacent segments.

Power engineering assets are consolidated in a 100% subsidiary company, Gazprom Energoholding LLC, which holds control stocks of Mosenergo PJSC, TGK-1 PJSC, and MIPC PJSC—the single heat supply organization in Moscow. The control stock of OGK-2 PJSC is held by Tsentrenergoholding PJSC, a subsidiary of Gazprom Energoholding LLC.

### Underlying principles

The Company's corporate governance is based on the legislative guidelines of the Russian Federation, the Company's Articles of Association, the Corporate Governance Code recommended by the Central Bank of the Russian Federation, as well as on the internationally established principles of corporate governance.

The Company's underlying principles of corporate governance are described in the Corporate Governance Code of Mosenergo PJSC approved by the Board of Directors on November 27, 2006.

The Company's corporate governance is based on the following:

- > accountability of the Board of Directors to the shareholders, as well as accountability of the Company's executive bodies to the Company's management bodies and a sense of trust in the relationships between all the corporate governance participants;
- > reliable and efficient accounting of title to shares, as well as the possibility of unrestricted and fast disposal of the stock owned by shareholders and the possibility of efficient protection of infringed rights of shareholders;
- > transparent activities, disclosure of accurate information on significant facts and data about the Company's activities, provision of the required access to information, as well as maintenance of a reasonable balance between the Company's transparency and the pursuit of its commercial interests;
- > the Company's social responsibility, including adherence to quality standards and envi-

ronmental safety regulations and creation of the most progressive working conditions;

Mosenergo PJSC, TGK-1 PJSC, OGK-2 PJSC, and MIPC PJSC are an inherent part of the Gazprom Group's business. Disposal of these assets is not considered.

The priority objective of the power engineering area of activity of Gazprom PJSC is steady development of the companies, assurance of stable growth of their financial performance indicators, and preservation of reliability of power supply of consumers.

Gazprom PJSC exercises corporate governance according to the common corporate standards, understands the importance of improving corporate governance of subordinate companies, and seeks to ensure publicity and transparency of activities of such companies.

ronmental safety regulations and creation of the most progressive working conditions;

- > adherence to the ethical norms preventing appropriation of corporate opportunities by the Company's employees to the detriment of both the Company and the third parties, including by the illegal use of confidential and insider information.

The strategy of Mosenergo PJSC to improve corporate governance mechanisms includes systematic updating of the Company's internal regulatory documents, development of activities of committees of the Company's Board of Directors, improvement of the quality of the materials prepared for meetings of the Board of Directors, including by means of preliminary discussion of the issues to be considered at meetings of the Board of Directors by committees and through interaction between the Company's divisions with shareholder representatives.

The Company's most important corporate governance objectives remain as follows:

- > maintaining the balance of interests of all the shareholders as well as other persons interested in the Company's sustainable development;
- > maintaining the necessary level of transparency and publicity of the Company;
- > organizing operation of committees of the Board of Directors with involvement of shareholder representatives, Company specialists, and independent experts;
- > ensuring participation of the Mosenergo PJSC in the management of its subsidiaries,



participation of the Company's representatives in assemblies, meetings of executive bodies, and other corporate events of the Company's affiliates and subsidiaries, non-profit, and other organizations where the Company holds a share.

One of the priority objectives for Mosenergo PJSC intended to improve the general level of corporate governance is to introduce new electronic services for the shareholders.

In 2019, the Company made an important step in this direction by ensuring the possibility of free connection to the Personal Shareholder Account for the shareholders.

This service allows registered shareholders to obtain the following information on-line:

- > about the Company's and its securities;
- > about the corporate actions of the Company, including information about the general meetings of shareholders;
- > about the Company's dividend payment policy, procedure, and history;
- > about accounts in the Company's shareholder list, including personal details, and account-based information on securities.

The Personal Shareholder Account also allows taking part in General Meetings of Shareholders remotely, as well as voting by filling in an electronic ballot. A shareholder may connect to the service by using a confirmed account at the Public Services Portal without having to visit the registrar's office.

The information on the possibility to take part in a General Meeting remotely is communicated to the shareholders through a meeting notification specifying the website and listing the actions that a shareholder ought to do to take part in the meeting remotely.

By the end of 2019, 177 Company's shareholders had already accessed their Personal Shareholder Accounts. Several dozens of participants voted remotely on the issues of the annual and extraordinary general meetings of shareholders that took place in the reporting year.

The Company's management bodies are the General Meeting of Shareholders and the Board of Directors. The managing organization, Gazprom Energoholding LLC, has been acting as the sole executive body of the Company since May 21, 2015, under the agreement with the Company. It addresses all the aspects of management of the Company's current activities other than those placed within the scope of functions of the General Meeting of Shareholders and the Board of Directors of the Company. The Articles of Association of Mosenergo PJSC do not stipulate a Collegial Executive Body. The Board of Internal Auditors of Mosenergo PJSC oversees the Company's financial and operating activities.

# 177 SHAREHOLDERS

CONNECTED TO THE SERVICE  
«PERSONAL ACCOUNT OF THE  
SHAREHOLDER»



TPP-16



## General Meeting of Shareholders

The General Meeting of Shareholders is the supreme governing body of Mosenergo PJSC that allows shareholders to exercise their right to participate in the Company's management, as well as to obtain information about the Company's activities, achievements, and plans.

The scope of functions of the General Meeting of Shareholders includes the most important issues of the Company's operations, such as amendment and expansion of the Articles of Association and the internal documents regulating activities of the Company's bodies, changes in the authorized capital, reorganization of the Company, election of members of the Board of Directors and of the Board of Internal Auditors, approval of the auditor of the Company, profit distribution, dividend payment (declaration), etc. Furthermore, at the General Meeting of Shareholders, the shareholders make decisions of authorization of transactions or subsequent approval of large transactions and the transactions that the Company is interested in when permitted by the legislation of the Russian Federation.

The procedure for preparation to and the actual general meeting of shareholders complies with the legislation of the Russian Federation and is defined by the Company's Articles of Association and the Policy of General Meetings of Shareholders of Mosenergo PJSC and follows the optimal corporate governance practice. The established procedure ensures equal treatment of all the Company's shareholders.

The General Meeting of Shareholders of Mosenergo PJSC dedicated to the results of the Company's operations in 2018 took place on June 13, 2019. At the meeting, the shareholders approved the annual report 2018 and financial statements of Mosenergo PJSC, as well as the distribution of the Company's profits in 2018. The shareholders decided to pay dividends on the Company's common shares for 2018 in the amount of 0.21004 RUB per common registered share of the Company in cash within the timeframe set by the applicable laws.

## Board of Directors

The Board of Directors of Mosenergo PJSC is the Company's management body that carries out general management of the Company's activities other than those placed within the scope of functions of the General Meeting of Shareholders in compliance with the Federal Law "On Joint-Stock Companies" and the Articles of Association. The Board of Directors takes efforts to fulfill the Company's goals and

The shareholders of Mosenergo PJSC also elected the new Board of Directors and Board of Internal Auditors of the Company, approved the auditor of the Company, and adopted a resolution on remuneration and reimbursement of the members of the Board of Directors.

The meeting approved a new revision of the Articles of Association of Mosenergo PJSC, new revisions of the Policy on the General Meeting of Shareholders of Mosenergo PJSC, the Policy on the Board of Directors of Mosenergo PJSC, the Policy on the Board of Internal Auditors of Mosenergo PJSC and adopted resolutions regarding approval of the transactions that the Company is interested in and participation of Mosenergo PJSC in self-regulatory organizations.

As a result of the resolution of the Board of Directors, an extraordinary General Meeting of Shareholders was held on August 16, 2019. The Meeting's participants adopted resolutions to terminate appointment of members of the Company's Board of Directors and elect a new Board of Directors. Furthermore, the shareholders considered the matters of approving a new revision of the Articles of Association of Mosenergo PJSC, approving new revisions and cancelling a range of internal documents, as well as termination of appointment of members of the Company's Board of Internal Auditors. However, the shareholders did not approve the new version of the Articles of Association of Mosenergo PJSC, because this resolution did not receive the necessary number of votes. No other resolutions concerning approval of internal documents of Mosenergo PJSC, as well as termination of appointment of members of the Board of Internal Auditors of Mosenergo PJSC, were adopted due to insufficient number of yeas.

The number of votes of the persons who took part in general meetings of shareholders of Mosenergo PJSC on various matters in 2019 amounted to around 90% of the total number of the Company's outstanding voting shares. This indicates high activity of the shareholders and their interest in participation in the Company's key corporate events.

objectives stipulated by the Articles of Association.

The Board of Directors operates according to the Policy on the Board of Directors of Mosenergo PJSC approved at the General Meeting of Shareholders.

In accordance with its scope of functions, the Board of Directors defines the Company's strategy, policy, and underlying principles of activities, including in the spheres of investment and borrowing, risk and property management, and other spheres of activity, and oversees the fulfillment thereof.

Furthermore, the Board of Directors oversees the Company's corporate governance practice and plays a key role in the Company's significant corporate events.

The Board of Directors consists of 13 members elected at the General Meeting of Shareholders according to the Federal Law "On Joint-Stock Companies" and the Articles of Association.

Members of the Board of Directors of Mosenergo PJSC as per December 31, 2018:

<b>Andrey Yurievich Berezin</b>	<b>Vladimir Igorevich Pogrebenko</b>
<b>Alexander Aleksandrovich Butko</b>	<b>Kirill Gennadyevich Seleznev (Chairman)</b>
<b>Gasan Gizbullagovich Gasangadzhiev</b>	<b>Andrey Igorevich Seregin</b>
<b>Valery Aleksandrovich Golubev</b>	<b>Denis Vladimirovich Fedorov</b>
<b>Alexander Sergeevich Ivannikov</b>	<b>Andrey Viktorovich Khorev</b>
<b>Konstantin Vasilyevich Komissarov</b>	<b>Pavel Olegovich Shatsky</b>
<b>Elena Vladimirovna Mikhaylova</b>	

During the annual General Meeting of Shareholders that took place on June 13, 2019, the shareholders elected a new Board of Directors of the Company. Members of the newly elected Board of Directors of Mosenergo PJSC:

<b>Alexander Aleksandrovich Butko</b>	<b>Kirill Gennadyevich Seleznev</b>
<b>Gasan Gizbullagovich Gasangadzhiev</b>	<b>Andrey Nikolaevich Tabelsky</b>
<b>Andrey Igorevich Dmitriev</b>	<b>Denis Vladimirovich Fedorov</b>
<b>Alexander Sergeevich Ivannikov</b>	<b>Andrey Viktorovich Khorev</b>
<b>Konstantin Vasilyevich Komissarov</b>	<b>Pavel Olegovich Shatsky</b>
<b>Elena Vladimirovna Mikhaylova (Chairman)</b>	<b>Aleksei Vladimirovich Chernikov</b>
<b>Kirill Sergeevich Purtov</b>	

As a result of the vote at the annual General Meeting of Shareholders, appointment of the following members of the Board of Directors was terminated: A.Y. Berezin, V.A. Golubev, V.I. Pogrebenko, and A.I. Seregin. They were replaced by A.I. Dmitriev, K.S. Purtov, A.N. Tabelsky, and A.V. Chernikov.

During the extraordinary General Meeting of Shareholders that took place on August 16, 2019, the shareholders elected a new Board of Directors until the end of the reporting period:

<b>Alexander Aleksandrovich Butko</b>	<b>Alexander Andreevich Solovev</b>
<b>Andrey Igorevich Dmitriev</b>	<b>Gennady Nikolaevich Sukhov</b>
<b>Alexander Sergeevich Ivannikov</b>	<b>Andrey Nikolaevich Tabelsky</b>
<b>Konstantin Vasilyevich Komissarov</b>	<b>Denis Vladimirovich Fedorov</b>
<b>Vitaly Anatolyevich Markelov (Chairman)</b>	<b>Andrey Viktorovich Khorev</b>
<b>Elena Vladimirovna Mikhaylova</b>	<b>Aleksei Vladimirovich Chernikov</b>
<b>Kirill Sergeevich Purtov</b>	

As a result of the vote at the extraordinary General Meeting of Shareholders, appointment of the following members of the Board of Directors was terminated: G.G. Gasangadzhiev, K.G. Seleznev, and P.O. Shatsky. They were replaced by V.A. Markelov, A.A. Solovev, and G.N. Sukhov.

In 2019, the Board of Directors of Mosenergo PJSC convened 18 times. The most important matters considered by the Board of Directors included the following:

- > approval of the business plan 2019 of Mosenergo PJSC and approval of the corrected business plan 2019;
- > determination of the procurement policy, including approval of the annual comprehensive procurement program 2019 of Mosenergo PJSC (phase 2) and approval of the annual comprehensive procurement program 2020 of Mosenergo PJSC (priority procurement);
- > approval of the Insurance Coverage Program 2020 and approval of the Company's Insurer;
- > matters of calling and preparing annual and extraordinary general meetings of shareholders of the Company;
- > approval of amendments to the Collective Bargaining Agreement of Mosenergo PJSC for 2019-2021;
- > formation of committees of the Company's Board of Directors;
- > determination of status of members of the Company's Board of Directors;
- > determination of the amount of remuneration of the auditor's services;
- > approval of the Risk Management and Internal Control Policy of Mosenergo PJSC and consideration of the information on the most significant risks for Mosenergo PJSC;
- > participation of the Company in other organizations;
- > approval of the reports issued by Gazprom Energoholding LLC on the services rendered under the agreement of transfer of powers of the sole executive body of Mosenergo PJSC;
- > authorization of the transactions that Company is interested in;
- > approval of the transactions concerning the Company's property;
- > approval of the new revision of the List of Non-Core Assets of Mosenergo PJSC;
- > approval of the Corporate Ethics Code of Mosenergo PJSC.

In 2019, the most important matters within the scope of functions of the Company's Board of Directors were preliminarily reviewed by committees of the Board of Directors. The Company's Board of Directors features four committees

- > Audit Committee;
- > Strategy and Investment Committee;
- > HR and Remunerations Committee;
- > Reliability Committee.

Over the last year, the committees of the Board of Directors developed and presented to the Company's Board of Directors recommendations on the following matters:

- > review of the financial statements of Mosenergo PJSC for 2018 and of the report provided by the auditor of the Company;
- > review of candidates to the position of the auditor of Mosenergo PJSC in 2019;
- > recommendations on the vote for candidates to the Company's Board of Directors for shareholders;
- > annual review of activities of the Company secretary;
- > preparation of recommendations on the scope of functions of the Company's Board of Directors: recommendations on the amount of dividends payable on shares and the dividend payment procedure for the annual General Meeting of Shareholders;
- > preparation of recommendations on the scope of functions of the Company's Board of Directors: inclusion of the question of the Company's participation in financial-industrial groups, associations, and other associations of commercial organizations to the agenda of the General Meeting of Shareholders;
- > recommendations on the approval of the corrected Business Plan 2019 of the Company and other significant matters for the Company's Board of Directors

In the reporting year, the members of the Board of Directors did not perform transactions of acquisition/disposal of the Company shares.

In the reporting year, the members of the Company's Board of Directors did not procure any loans.

In the reporting year, no claims were lodged against the members of the Board of Directors in connection with performance of functions of members of the Board of Directors

## Members of the Board of Directors<sup>1</sup>

Biographical information on the members of the Board of Directors of Mosenergo PJSC may also be found at the website of Mosenergo PJSC [www.mosenergo.ru](http://www.mosenergo.ru)

### Alexander Aleksandrovich Butko

**Member of the Board of Directors**

Year of birth: **1964**

Education: **higher**

Primary places of employment in the last 5 years:

**2014–2016:** Gazprom Gazenergoset LLC, Chief Executive Officer.

**2016–2019:** Gazprom PJSC, First Deputy Head of the Department.

**Since 2019:** Gazprom Gas–Engine Fuel LLC, Chief Executive Officer.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Andrey Igorevich Dmitriev

**Member of the Board of Director**

Year of birth: **1974**

Education: **higher**

Primary places of employment in the last 5 years:

**2014–2016:** Gazprom Gazenergoset LLC, Chief Executive Officer.

**2016–2019:** Gazprom PJSC, First Deputy Head of the Department.

**Since 2019:** Gazprom Gas–Engine Fuel LLC, Chief Executive Officer.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Alexander Sergeevich Ivannikov

**Member of the Board of Director**

Year of birth: **1966**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Gazprom PJSC, First Deputy Head of the Department for Finance and Economics, Head of Department 816.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Konstantin Vasilyevich Komissarov

**Independent Member of the Board of Director**

Year of birth: **1976**

Education: **higher**

Primary places of employment in the last 5 years:

**2014–2016:** commercial bank LOCKO-Bank (JSC), Head of the Information Analysis Unit at the Department of Financial Markets, Advisor to the Chairman of the Board of Directors—Head of the Information Analysis Unit at the Department of Financial Markets.

**Since 2016:** Investment Company REGION Joint-Stock Company, Deputy Chief Executive Officer for Market Investment.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Vitaly Anatolyevich Markelov

**Chairman of the Board of Directors**

Year of birth: **1963**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Gazprom PJSC, Deputy Chairman of the Management Committee, member of the Management Committee.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Elena Vladimirovna Mikhaylova

**Member of the Board of Director**

Year of birth: **1977**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Gazprom PJSC, member of the Management Committee, Head of the Asset Management and Corporate Relations Department.

**2014–2019:** Gazprom Mezhrefiongaz LLC, Deputy Chief Executive Officer for Corporate and Property Relations (part-time).

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Kirill Sergeevich Purtov

**Member of the Board of Director**

Year of birth: **1979**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Moscow City Property Department, Head of the Economy Department, Deputy Head of the Department, First Deputy Head of the Department.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Alexander Andreevich Solovov

**Member of the Board of Director**

Year of birth: **1984**

Education: **higher**

Primary places of employment in the last 5 years:

**2015–2017:** International Medical Cluster Fund, First Deputy Chief Executive Officer.

**2017–2017:** State Unitary Enterprise of the City of Moscow “Mosremont”, Deputy Chief Executive Officer.

**2017–2019:** Moscow Renovation Department, Deputy Head.

**Since 2019:** Moscow Department of Housing, Utilities, and Amenities, Head.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Gennady Nikolaevich Sukhov

**Member of the Board of Director**

Year of birth: **1961**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Gazprom PJSC, Deputy Head of the Marketing, Gas and Liquid Hydrocarbons Processing Department, member of the Management Committee, Department Head.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Andrey Nikolaevich Tabelsky

**Member of the Board of Director**

Year of birth: **1985**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Moscow City Property Department, Advisor, Department Head, Deputy Head of the Department's Unit.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

### Denis Vladimirovich Fedorov

**Member of the Board of Director**

Year of birth: **1978**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2014:** Gazprom PJSC, Head of the Department of Development of the Power Engineering Sector and Marketing in the Power Engineering Sphere.

**Since 2014:** Gazprom Energoholding LLC, Chief Executive Officer.

**Since 2014:** Tsentrenergoholding PJSC, Chief Executive Officer.

Share in the issuer's authorized capital:

**0.046456%.**

Share of the issuer's common stock:

**0.046456%.**

### Andrey Viktorovich Khorev

**Independent Member of the Board of Director until December 19, 2019\***

Year of birth: **1972**

Education: **higher**

Primary places of employment in the last 5 years:

**Since 2018:** TPS Group LLC, Advisor to the Chief Executive Officer.

**Since 2019:** GPB Bank (JSC), Advisor to the Chairman of the Management Committee.

**Since 2019:** RusKhimAlliance LLC, Deputy Chief Executive Officer.

Share in the issuer's authorized capital: zero.

Share of the issuer's common stock: zero.

\* In view of the additional criterion of association with a significant counterparty (Gazprom PJSC) that appeared on December 19, 2019, A.V. Khorev, a member of the Board of Directors of an organization controlled by Gazprom PJSC, TGK-1 PJSC, lost his status as an independent director in compliance with the independence criteria specified in the Listing Rules of Moscow Exchange PJSC.

<sup>1</sup> As per December 31, 2018

**Aleksei Vladimirovich Chernikov****Independent Member of the Board of Director**

Year of birth: 1990

Education: higher

Primary places of employment in the last 5 years:

2014–2017: Slavianskoe Zastole LLC, Chief Financial Officer.

2017–2017: ANCHOR FINTECH LLC, Senior Analyst.

2017–2018: EZSA JSC, First Deputy Chief Executive Officer.

Since 2019: State Budgetary Enterprise (SBE) “Moscow Investment Agency”, Deputy Investment Director.

Share in the issuer’s authorized capital: zero.

Share of the issuer’s common stock: zero.

On September 30, 2016, the Board of Directors of Mosenergo PJSC assigned the position of Company Secretary of Mosenergo PJSC to:

**Aleksei Mikhailovich Gusev****Company Secretary of Mosenergo PJSC**

Year of birth: 1980

Education: higher

Primary places of employment in the last 5 years:

Since 2014: Gazprom Energoholding LLC, Deputy Department Head, Head of the Corporate Relations and Control Department—Company Secretary, Deputy Head of the Corporate Relations Department, Head of the Corporate Operations Department,

Deputy Director for Corporate and Property Matters—Department Head.

Share in the issuer’s authorized capital: zero

Share of the issuer’s common stock: zero

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**Committees of the Board of Directors****Audit Committee**

Members of the Audit Committee approved by the Resolution of the Board of Directors of Mosenergo PJSC on July 10, 2019:

**Chairman of the Committee:****Konstantin Vasilyevich Komissarov –****Independent Member of the Board of Director**

of Mosenergo PJSC, Deputy Chief Executive Officer for Market Investment Investment Company (IC) REGION JSC.

**Members of the Committee:**

**Alexander Sergeevich Ivannikov**—member of the Board of Directors of Mosenergo PJSC, Head of Department 816 of Gazprom PJSC;

**Andrey Viktorovich Khorev**—independent member of the Board of Directors of Mosenergo PJSC, Advisor to the Chief Executive Officer of TPS Group LLC;

**Aleksei Vladimirovich Chernikov**—independent member of the Board of Directors of Mosenergo PJSC.

Members of the Audit Committee approved by the Resolution of the Board of Directors of Mosenergo PJSC on October 03, 2019:

**Chairman of the Committee:****Konstantin Vasilyevich Komissarov –****Independent Member of the Board of Director**

of Mosenergo PJSC, Deputy Chief Executive Officer for Market Investment IC REGION JSC.

**Members of the Committee:**

**Andrey Igorevich Dmitriev**—member of the Board of Directors of Mosenergo PJSC;

**Alexander Sergeevich Ivannikov**—member of the Board of Directors of Mosenergo PJSC, Head of Department 816 of Gazprom PJSC;

**Andrey Viktorovich Khorev**—member of the Board of Directors of Mosenergo PJSC, Advisor to the Chief Executive Officer of TPS Group LLC, Advisor to the Chairman of the Management Committee of GPB Bank (JSC);

**Aleksei Vladimirovich Chernikov**—independent member of the Board of Directors of Mosenergo PJSC, Deputy Investment Director of SBE “Moscow Investment Agency.”

Members of the Committee until June 17, 2019: Chairman of the Committee—K.V. Komissarov, members of the Committee: A.S. Ivannikov, V.I. Pogrebenko, A.V. Khorev.

**Strategy and Investment Committee**

Members of the committee approved by the Resolution of the Board of Directors of Mosenergo PJSC on October 03, 2019:

**Chairman of the Committee:****Denis Vladimirovich Fedorov –****Member of the Board of Director**

of Mosenergo PJSC, Department Head at Gazprom PJSC, Chief Executive Officer of Gazprom Energoholding LLC.

**Members of the Committee:**

**Alexander Aleksandrovich Butko**—member of the Board of Directors of Mosenergo PJSC, Managing Director of Mosenergo PJSC;

**Valentin Borisovich Gryaznov**—Advisor to the Department Head at Gazprom PJSC;

**Andrey Igorevich Dmitriev**—member of the Board of Directors of Mosenergo PJSC;

**Elena Pavlovna Egorova**—Deputy Managing Director—Director for Efficiency and Control of Mosenergo PJSC;

**Evgeny Nikolaevich Zemlianoi**—Deputy Chief Executive Officer for Economy and Finance of Gazprom Energoholding LLC;

**Konstantin Vasilyevich Komissarov**— independent member of the Board of Directors Mosenergo PJSC, Deputy Chief Executive Officer for Market Investment IC REGION JSC;

**Irina Yurievna Korobkina**— Deputy Department Head at Gazprom PJSC;

**Pavel Olegovich Shatsky**— First Deputy Chief Executive Officer of Gazprom Energoholding LLC.

Members of the Committee until June 17, 2019: Chairman of the Committee—V.A. Golubev, members of the Committee: A.Y. Berezin, A.A. Butko, V.B. Gryaznov, Y.E. Dolin, E.P. Egorova, A.A. Efimova, E.N. Zemlyanoy, K.V. Komissarov, I.Y. Korobkina, V.I. Pogrebenko, V.G. Pyatnitsev, D.V. Fedorov, P.O. Shatsky.

## HR and Remunerations Committee

Members of the committee approved by the Resolution of the Board of Directors on July 10, 2019:

### Chairman of the Committee:

#### **Pavel Olegovich Shatsky** –

**Member of the Board of Director** of Mosenergo PJSC, First Deputy Chief Executive Officer of Gazprom Energoholding LLC.

### Members of the Committee:

**Alexander Sergeevich Ivannikov**— member of the Board of Directors of Mosenergo PJSC, Head of Department 816 of Gazprom PJSC;

**Konstantin Vasilyevich Komissarov**— independent member of the Board of Directors Mosenergo PJSC, Deputy Chief Executive Officer for Market Investment IC REGION JSC;

**Andrey Viktorovich Khorev**— independent member of the Board of Directors Of Mosenergo PJSC, Advisor to the Chief Executive Officer of TPS Group LLC;

**Aleksei Vladimirovich Chernikov**— independent member of the Board of Directors of Mosenergo PJSC.

Members of the committee approved by the Resolution of the Board of Directors on October 03, 2019:

### Chairman of the Committee:

#### **Alexander Aleksandrovich Butko** –

**Member of the Board of Director** of Mosenergo PJSC, Managing Director of Mosenergo PJSC.

### Members of the Committee:

**Alexander Sergeevich Ivannikov**— member of the Board of Directors of Mosenergo PJSC, Head of Department 816 of Gazprom PJSC;

**Konstantin Vasilyevich Komissarov**— independent member of the Board of Directors Mosenergo PJSC, Deputy Chief Executive Officer for Market Investment IC REGION JSC;

**Andrey Viktorovich Khorev**— member of the Board of Directors of Mosenergo PJSC, Advisor to the Chief Executive Officer of TPS Group LLC, Advisor to the Chairman of the Management Committee of GPB Bank (JSC);

**Aleksei Vladimirovich Chernikov**— member of the Board of Directors of Mosenergo PJSC, Deputy Investment Director of SBE “Moscow Investment Agency”.

Members of the Committee until June 17, 2019: Chairman of the Committee—P.O. Shatsky, members of the Committee: A.S. Ivannikov, K.V. Komissarov, V.I. Pogrebenko, A.V. Khorev.

## Reliability Committee

Members of the committee approved by the Resolution of the Board of Directors on October 03, 2019:

### Chairman of the Committee:

#### **Mikhail Vladimirovich Fedorov** –

**Chief Operating Officer of Gazprom Energoholding LLC.**

### Members of the Committee:

**Andrey Viktorovich Kalashnikov**— Deputy Chief Operating Officer—Head of the Engineering Department of Gazprom Energoholding LLC;

**Alexander Aleksandrovich Kondratenko**— Deputy Head of the Moscow Department of Housing, Utilities, and Amenities;

**Sergey Nikolaevich Lenyov**— Deputy Managing Director—Engineer-in-Chief of Mosenergo PJSC;

**Roman Viktorovich Litvinov**— Deputy Department Head at Gazprom PJSC;

**Konstantin Vladimirovich Moskvina**— Deputy Engineer-in-Chief—Head of the Equipment Management Department of Mosenergo PJSC;

**Sergey Aleksandrovich Petelin**— Deputy Chief Operating Officer—Head of the Production Department of Gazprom Energoholding LLC;

**Mikhail Vladimirovich Sorokin**— Department Head at Gazprom PJSC.

Members of the Committee until June 17, 2019: Chairman of the Committee—M.V. Fedorov, members of the Committee: S.N. Lenyov, R.V. Litvinov, K.V. Moskvina, S.F. Mukhametov, S.A. Petelin, V.G. Pleshivtsev, M.V. Sorokin.

## GRES-3



## Attendance of meetings of the Board of Directors and its committees in 2019

Full name	Board of Directors	Audit Committee	Strategy and Investment Committee	HR and Remunerations Committee
A.Y. Berezin	6/6	100%	100%	
A.A. Butko	18/18	100%	100%	
G.G. Gasangadzhiev	6/11	55%		
V.A. Golubev	6/6	100%	100%	
A.I. Dmitriev	12/12	100%	100%	
A.S. Ivannikov	17/18	89%	100%	100%
K.V. Komissarov	18/18	100%	100%	100%
V.A. Markelov	7/7	100%		
E.V. Mikhaylova	18/18	100%		
V.I. Pogrebenko	6/6	100%	100%	100%
K.S. Purtov	9/12	67%		
K.G. Seleznev	11/11	100%		
A.I. Seregin	6/6	100%		
A.A. Solovev	3/7	29%		
G.N. Sukhov	7/7	100%		
A.N. Tabelsky	9/12	67%		
D.V. Fedorov	18/18	100%	100%	
A.V. Khorev	18/18	100%	100%	100%
P.O. Shatsky	11/11	100%	100%	100%
A.V. Chernikov	10/12	83%		100%

## Executive bodies

According to the Resolution of the extraordinary General Meeting of Shareholders of Mosenergo PJSC dated May 20, 2015, the powers of the Company's sole executive body were transferred to the managing organization—Gazprom Energoholding Limited Liability Company (INN (Individual Taxpayer Identification Number) 7703323030, OGRN (Primary State Registration Number) 1037739465004).

Rights and responsibilities of the managing organization regarding management of the Company's current operations are defined by the legislation of the Russian Federation, the Company's Articles of Association, and the

agreement concluded with the Company. The managing organization deals with the matters of management of the Company's current operations other than those placed within the scope of functions of the General Meeting of Shareholders and the Board of Directors of the Company.

The share of Gazprom Energoholding LLC in the authorized capital of Mosenergo PJSC is 53.50%.

The share of the common stock of Mosenergo PJSC held by Gazprom Energoholding LLC is 53.50%.

## Board of Internal Auditors

The Board of Internal Auditors consisting of 5 members is elected at the General Meeting of Shareholders to oversee the Company's financial and operating activities.

The Company's Board of Internal Auditors operates in accordance with the legislation of the Russian Federation, the Company's Articles of Association, and the Policy on the Company's Board of Internal Auditors.

Members of the Board of Internal Auditors as elected at the annual General Meeting of Shareholders of Mosenergo PJSC on June 13, 2019:

- > Pavel Vladimirovich Kulturin—Deputy Head of the Moscow Department of Housing, Utilities, and Amenities;

- > Anatoly Anatolyevich Kotlyar—Management Committee Administration Department Office Head at Gazprom PJSC;
- > Yury Andreevich Linovitsky—Head of the Internal Audit Department of Gazprom Energoholding LLC within the framework of the project "Internal Audit of Gazprom Personal LLC";
- > Margarita Ivanovna Mironova—First Deputy Head of the Management Committee Administration—Management Committee Administration Department Head at Gazprom PJSC;
- > Marat Khasanovich Salekhov—Deputy Department Head—Management Committee Administration Department Office Head at Gazprom PJSC

## Remuneration

In accordance with the Company's Articles of Association and the resolution of the General Meeting of Shareholders, members of the Company's Board of Directors may be entitled to remuneration and/or reimbursement for the expenses incurred while performing functions of members of the Company's Board of Directors.

The amount, types, and procedure for payment of remuneration and reimbursement to the members of the Board of Directors of Mosenergo PJSC are defined in the Policy on Determination of the Amount of Remuneration and Reimbursement of the Members of the Board of Directors of Mosenergo PJSC approved at the General Meeting of Shareholders on June 13, 2019. The members of the Board of Directors that cannot receive payments from commercial organizations according to the legislation of the Russian Federation are not remunerated.

According to the aforementioned Policy, the remuneration for members of the Board of Directors consists of the base and additional payments.

The base pay consists of the remuneration for attendance of meetings of the Board of Directors paid to the members of the Company's Board of Directors. The amount of remuneration paid is equivalent to four minimum monthly remuneration rates of a first-grade employee set by the industry-wide tariff agreement of the power engineering sector of the Russian Federation as of the date of the meeting of the Company's Board of Directors taking into account the indexation set by the said agreement.

The additional remuneration is paid to the members of the Company's Board of Directors upon conclusion of the financial year if the Company generates net profit. The decision to pay or not to pay the additional remuneration to the members of the Board of Directors is adopted at the General Meeting of Shareholders. The decision of the Company's General Meeting of Shareholders on the payment of the additional remuneration to the members of the Board of Directors shall determine the total amount of such remuneration. The total amount of the additional remuneration based on the Company's performance may not exceed five percent of the Company's net profit earned in the financial year when the current members of the Company's Board of Directors were elected.

The additional remuneration based on the Company's performance is not paid to the members of the Board of Directors who attended less than half of all the meetings of the Board of Directors (from the date of election until termination of appointment).

The amount of remuneration to the members of the Board of Directors in 2019 totaled 73,651,232 RUB, including remuneration for participation in the executive body's operations (37,892,856 RUB), wages (23,515,666 RUB), and bonuses (12,242,710 RUB).

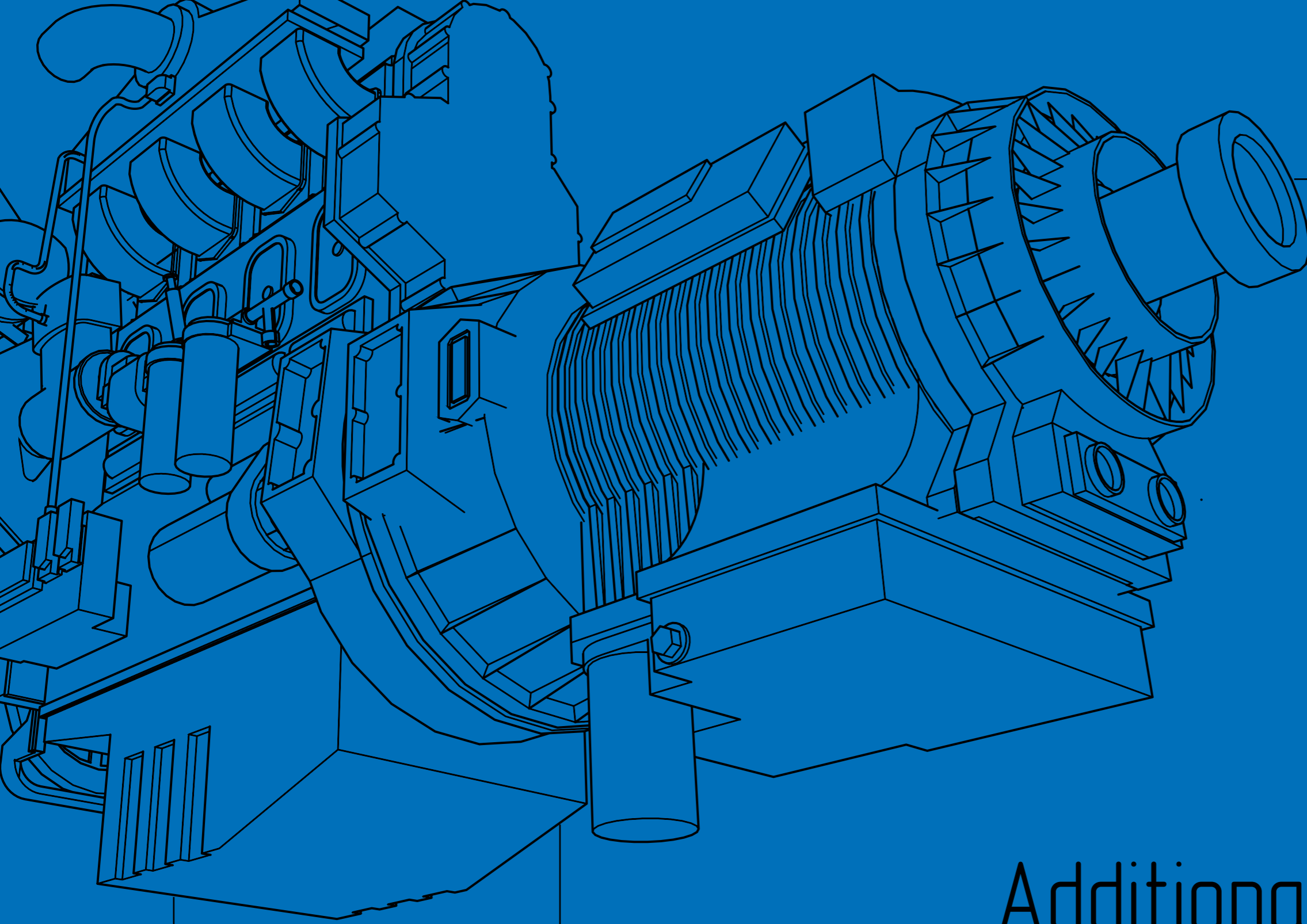
The remuneration and reimbursement of the members of the Board of Internal Auditors is paid according to the Policy on Payment of Remuneration and Reimbursement of the Members of the Board of Internal Auditors of Mosenergo PJSC approved at the General Meeting of Shareholders on June 10, 2015.

Members of the Company's Board of Internal Auditors receive a one-time payment for participation in the inspection (audit) of the Company's financial and operating activities in the amount equal to twenty-five minimum monthly remuneration rates of a first-grade employee set by the industry-wide tariff agreement of the power engineering sector of the Russian Federation for the period of inspection (audit) taking into account the indexation set by the said agreement.

Members of the Company's Board of Internal Auditors are reimbursed for the expenses incurred to attend meetings of the Board of Internal Auditors and take part in the inspection according to the Company's regulations on the reimbursement of business travel expenses in force at the time of such meetings or inspections.

The amount of remuneration for participation in operations of the body overseeing the Company's financial and operating activities in 2019 totaled 909,790.88 RUB.

The remuneration of the managing organization is defined by the instrument of delegation of the sole executive body authority of the Company to the managing organization and amounted to 135,528,233.25 RUB in 2019; the VAT amounted to 27,105,646.65 RUB; i.e., the amount of remuneration including VAT amounted to 162,633,879.60 RUB.



# 7

## Additional Information and Appendices

# 7 Information Policy

ADDITIONAL  
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Mosenergo has an open information policy. The Company's operations are regulated by corporate governance principles, generally accepted in respected business, as well as by principles of social responsibility and a reliable partnership with government authorities. Mosenergo's Information Policy aims to enable the prompt and comprehensive presentation of accurate information about the Company's activities, as well as to provide open access to such information to all stakeholders, such as shareholders, investors, government officials, the mass media etc.

In addition, Mosenergo participated in major industry exhibitions and conferences.

Mosenergo PJSC's PR projects regularly become winners of prestigious contests and prizes. Among the latest achievements of the company are victories in two categories of the All-Russian contest of media, press services of energy companies and regional administrations of MediaTEK-2019, and three silver awards of the X Corporate Contest of Public Relations and Media Services of subsidiaries and organizations of PJSC Gazprom.

Mosenergo's official website ([www.mosenergo.ru](http://www.mosenergo.ru)). In addition, Mosenergo participated in major industry exhibitions and conferences. Mosenergo's official website ([mosenergo.ru](http://mosenergo.ru)) is the Company's key information resource. Since April 1, 2016, Mosenergo has moved to a new version of the official website in accordance with the uniform corporate identity of the PJSC

Gazprom Group. This website provides full information about the Company's activities and allows Mosenergo to respond in a timely manner to inquiries submitted by shareholders, investors, government officials and the media. The site displays quarterly and annual reports for shareholders, quarterly issuer's reports, financial statements compliant with RAS and IFRS standards and information that may have a significant impact on the value of securities. Mosenergo is also present on social media networks: since July 2011, Mosenergo has maintained a corporate page

**on Facebook:**  
[www.facebook.com/MosenergoNews/](http://www.facebook.com/MosenergoNews/),  
**Instagram:**  
[www.instagram.com/mosenergo.official](http://www.instagram.com/mosenergo.official),  
**VK:**  
[vk.com/mosenergo\\_official](http://vk.com/mosenergo_official).

# Mosenergo History

Mosenergo's history is closely interrelated to the development of Russia's economics, society and culture.



Joint Stock Company of Electric Lighting was founded in 1886 by Carl Siemens, a Saint-Petersburg merchant of the First Guild who was the Head of the Siemens & Halske Representative Office. The Company was founded in Saint-Petersburg; however, at its very first Board of Directors' meeting, a proposal was made to prepare grounds for the Company's operations in Moscow.



On July 31, 1887, the executive board of the "1886 Society" approved the Agreement to install electric lighting in the Postnikova Passage on Tverskaya Street in Moscow.

At the end of 1888, the Company successfully completed the construction of the first centralised power plant, with electric power supplied by the Georgievskaya power plant.

On November 28, 1897 the Company hosted a festive celebration for the opening of the Moscow Municipal Power Station (MMPS-1) Raushskaya (now SPP-1), and on February 15, 1907 the Company launched the second station – MMPS-2 Tramvaynaya



The next important stage of development for Moscow's electrical power grid was the decision to construct a large power plant fired with local fuel in the vicinity of Moscow. This decision was implemented by Robert Klasson, managing director of the Moscow Office of "1886 Company". The construction of the plant, which envisioned the use a new type of fuel, was a major project involving the development of new technologies and the creation of the entire peat extraction industry.

In 1912, the Company started building the world's first peat-fired district power plant in the Bogorodsk District. In April 1913, a new company, Moscow Joint Stock Company "Elektroperedacha", was founded to utilize the capacity generated by the new station. The plant itself began operations in 1914 and, in 1915, started to work in parallel with the Raushskaya station.



TPP-1

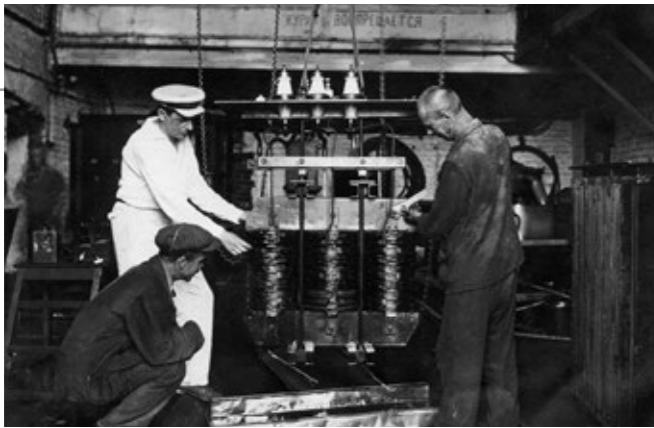






“Society of electric lighting”

In December 1920, the GOELRO plan was ratified by the eighth All-Russia Soviet Congress. According to the plan, the volume of capacity of the Moscow power system was intended to increase almost four-fold within 10 to 15 years. The installed capacity was to increase from 93 thousand to 340 thousand kW.



Pursuant to the GOELRO plan, several stations were built in the Moscow Region, namely Kashirskaya TPP (now TPP-4), Shaturskaya TPP (now TPP-5), Krasnopresnenskaya TPP (now a subsidiary of TPP-12), TPP-6 and TPP-8. One of the key events in this period was the completion of Russia's first 110 kV voltage power line between Kashira power lines and transformers around Moscow with a voltage of 115 kV.



Joint stock companies “Electric Lighting 1886 Company” and “Elektroperedacha” successfully operated until October 1917. After the October Revolution, the stations were nationalized and ceased operations under their previous ownership in December 1917.

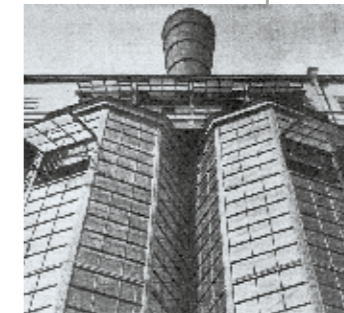
The management of state power stations was delegated to the Power Department of the Supreme Council of Public Property. At the same time, in December 1917, Ivan Radchenko and Alexander Vinter proposed further developments of the Moscow power industry. These proposals became the basis for the first State Plan for the Electrification of the whole country, GOELRO.



In the 1930s, the workers of the Moscow power supply system, known until 1932 as MOGES (Unified Management of Power Plants of the Moscow Region), started operations to provide centralized district heating to the Soviet capital. In March 1931 the first heating mains from MMPS-1 was launched and a specialized enterprise for the maintenance and development of the Moscow district heating network was founded.



The start of World War II put the development of the power system on hold. Part of the equipment was destroyed, some was redeployed and the total capacity of Mosenergo dropped twofold. Nevertheless, Moscow power engineers managed to maintain a continuous supply of power to the city's defense facilities; they constructed high-voltage obstacles to defend against enemy troops and assembled power-generating trains for the liberated regions of the country. The restoration of the power industry started immediately after the successful counter-offensive campaign of the Soviet Army in the winter of 1941-1942. As early as 1945, Mosenergo had already managed to achieve a pre-war level of installed capacity.



In 1946, Mosenergo began to utilize a new type of fuel: SPP-1 started burning natural gas. In the same year, the Moscow power system was connected to the Ivanovo, Yaroslavl and Gorky power systems.

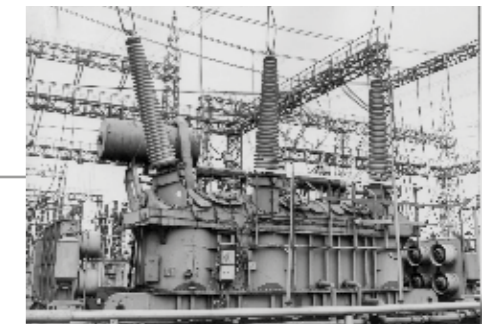
In 1950, TPP-17 was conducted in the suburban town of Stupino near Moscow, in 1952 — TPP-20 in the south-west of Moscow, and in 1955 — TPP-16 in the north-west of the capital. In 1956, the first section of the Unified Power System in the European part of Russia was created with the introduction of high-voltage power lines from Kuibyshev to Moscow.



Within the Unified Power System framework in 1960, the country brought into operation the first units of TPP-22, and for the first time in the USSR a 1,000 mm-diameter heat pipeline was installed at TPP-11. On October 22, 1963 Mosenergo launched TPP-21, shortly followed by TPP-23, TPP-25 and TPP-26.

In the 1970s, Mosenergo successfully implemented 250 MW thermal power generating units with supercritical steam parameters. This kind of unit was first constructed at TPP-22 and became the base for other heat and power plants: TPP-21, 23, 25 and 26.

On December 30, 1987, Mosenergo brought the first hydroelectric generating set of the Zagorsk Pumped-storage HydroPlant into operation – a unique power unit regulating peak loads in the grid system. In 1990, the Moscow Grid absorbed Ryazan TPP-24 and in 1992 it acquired TPP-28 in Moscow.



The development of the district heating system remained a pending issue for Mosenergo, especially during the mass construction of residential apartments in the city when district heating pipelines with the length of 20-30 kilometers and pipeline diameters of 1,200-1,400 mm started to be laid from the new, powerful TPPs. At the same time, intensive grid development was in progress with the extensive construction of 750 kV power transmission lines. The total length of the high voltage power transmission lines increased dramatically. Two high-voltage 220 kV rings were completed around Moscow, soon followed by 500 kV rings.



In 1993, the production association, Mosenergo, was transformed into an open joint stock company.



On April 1, 2005, in the course of reforming the Russian electric power industry, Mosenergo was divided into 14 independent companies by type of activity: generation, transmission of electricity, sales, energy repair, etc. The Mosenergo brand was retained by the generating Company, which united all generating assets, with the exception of SDPP-4, SDPP-5, SDPP- 24 and Zagorskaya PSP. In 2005, Mosenergo developed and started the implementation of the Program for Development and Retrofitting, including the planning, construction and commissioning of new generating facilities on the sites of operational power plants in energy-deficient regions and heat and electricity demand nodes with developed infrastructure.

On June 30, 2011, a new 420 MWe combined-cycle power unit was put into operation at TPP-26. This unit has the highest efficiency rate among Russian power plants – up to 59%. The general contractors in its construction were Alstom Consortium (France) and EMAlliance JSC.



After MOEK was included into the Gazprom Group in 2013, over 40 heat generating facilities of this company were transferred to Mosenergo in 2014–2015. The total installed thermal capacity of the connected boiler houses is 8.9 thousand Gcal / h – which is more than 20% of the total installed thermal capacity of Mosenergo.

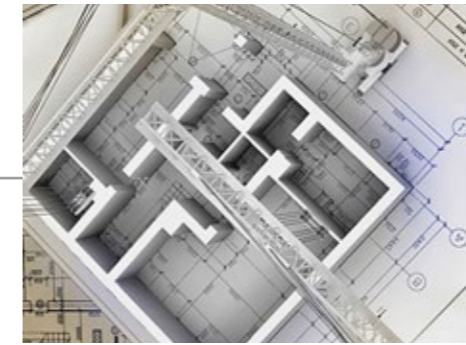


A new steam and gas power unit (CCGT-220) was commissioned at TPP-12 of Mosenergo on May 1, 2015. The core equipment of the new power unit was made in Russia. The nominal power of the unit: 220 MW, the certified power at cogeneration: 211.6 MW, heat power: no less than 140 Gcal/h. After the CCGT-220 was commissioned, the installed power of TPP-12 rose by more than 50%.

In April 2014, a GTU-65 unit with an AE64.3A Ansaldo Energia gas turbine (Italy) was commissioned at TPP-9; and in December 2014, a CCGT-420 steam-gas unit was commissioned at TPP-16 (the manufacturer and the supplier of the basic equipment: Siemens (Germany)).



On May 20, 2015, the extraordinary general shareholder's meeting of Mosenergo decided to transfer powers of the company's sole executive body to the managing organization: Gazprom Energoholding LLC. This decision was made to improve the management efficiency, avoid duplication of functions, and cut administrative expenses and other costs.



In January 2017, Mosenergo acquired 100% share in the authorized capital of Mosenergoproekt LLC, Russia's leading energy project institute, which had been belonging to the Company since 2010.

On December 22, 2015, two modern steam and gas power unit were commissioned at TPP-20 of Mosenergo in Moscow and the Serov GRES of OGK-2 PJSC in the Sverdlovsk Region. President of the Russian Federation Vladimir Putin took part in the event through videoconference.



On February 10, 2017, the first heating turbine T-295 (manufactured by the Ural turbine factory) was presented to Mosenergo. The turbine is to be installed at the TPP-22, replacing T-250 that had been operating as a part of the energy unit No.9 and taken out of operation in 2016. The modernized energy unit No.9 of the TPP-22 is to be commissioned in 2021.

On December 22, 2017, the new Museum of Mosenergo and Moscow Power Industry was opened.



At the end of 2018, an expanded inspection of the turbine's hot gas path was conducted at the CCGT-420 of TPP-20 of Mosenergo. The power unit became a pilot project for flexible service intervals, and with its introduction the Company will be able to reduce equipment maintenance costs and increase revenues from the supply of electricity and power.



# 7 Financial Statements according to IFRS

ADDITIONAL  
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## PJSC MOSENERGO CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF 31 DECEMBER 2019 (in millions of Russian Rubles)

	Notes	31 December 2019	31 December 2018
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	5	11 658	16 220
Short-term financial assets	6	-	10 400
Trade and other receivables	7	61 289	40 514
Inventories	8	15 617	13 815
Profit tax receivable	17	397	239
Other current assets	9	2 745	2 682
		91 706	83 870
Assets held for sale	10	37	43
<b>Total current assets</b>		<b>91 743</b>	<b>83 913</b>
<b>Non-current assets</b>			
Property, plant and equipment	11	270 759	209 691
Investment property	12	1 803	1 548
Goodwill	13	-	187
Other intangible assets	13	580	509
Investments in associates	14	22 700	-
Long-term financial assets	6	3 908	1 490
Trade and other receivables	7	10 080	15 806
Advances for assets under construction		2 407	4 064
Other non-current assets	9	8 701	10 951
<b>Total non-current assets</b>		<b>320 938</b>	<b>244 246</b>
<b>Total assets</b>		<b>412 681</b>	<b>328 159</b>
<b>Equity and liabilities</b>			
<b>Current liabilities</b>			
Short-term borrowings	15	1 125	1 295
Trade and other payables	16	10 735	10 223
Profit tax payable	17	649	82
Other taxes payable	17	1 959	2 535
Provisions	18	2 526	3 576
<b>Total current liabilities</b>		<b>16 994</b>	<b>17 711</b>
Long-term borrowings	15	24 838	3 886
Deferred tax liabilities	19	37 529	28 951
Employee benefits	20	413	298
Trade and other payables	16	6 457	286
<b>Total non-current liabilities</b>		<b>69 237</b>	<b>33 421</b>
<b>Total liabilities</b>		<b>86 231</b>	<b>51 132</b>
<b>Equity</b>			
Share capital	21	166 124	166 124
Treasury shares	21	-	(871)
Share premium	21	48 661	49 213
Revaluation reserve	21	153 210	104 276
Accumulated loss and other reserves		(41 545)	(41 715)
<b>Total equity</b>		<b>326 450</b>	<b>277 027</b>
<b>Total equity and liabilities</b>		<b>412 681</b>	<b>328 159</b>

Managing director  A.A. Butko Chief Accountant  E.Y. Novenkova

## PJSC MOSENERGO CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2019 (in millions of Russian Rubles)

		Year ended 31 December	
	Notes.	2019	2018
Revenue	22	189 777	198 870
Operating expenses	23	(179 290)	(172 437)
Impairment loss on financial assets	24	3 874	(525)
<b>Operating profit</b>		<b>6 613</b>	<b>25 908</b>
Share of loss of associates	14	(224)	(314)
<b>Profit before finance income (expense) and profit tax</b>		<b>6 389</b>	<b>25 594</b>
Finance income	25	5 275	5 143
Finance expense	25	1 053	(3 475)
<b>Profit before profit tax</b>		<b>10 611</b>	<b>27 262</b>
Profit tax expense	19	1 012	(5 857)
<b>Profit for the period</b>		<b>9 599</b>	<b>21 405</b>
<b>Other comprehensive income (loss):</b>			
Remeasurement of post-employment benefit obligations	20	(62)	13
Gain arising from change in fair value of financial assets measured at fair value through other comprehensive income		224	-
Revaluation of property, plant and equipment	11	49 012	-
Impairment loss on property, plant and equipment		-	(2 141)
<b>Total items that will not be reclassified subsequently to profit or loss</b>		<b>49 174</b>	<b>(2 128)</b>
<b>Other comprehensive income (loss) for the period, net of tax</b>		<b>49 174</b>	<b>(2 128)</b>
<b>Comprehensive income for the period</b>		<b>58 773</b>	<b>19 277</b>
<b>Profit attributable to:</b>			
Owners of PJSC Mosenergo		9 599	21 405
<b>Comprehensive income attributable to:</b>			
Owners of PJSC Mosenergo		58 773	19 277
Basic and diluted earnings per share for profit attributable to the owners of PJSC Mosenergo (in Russian Rubles)	26	0,242	0,540

Managing director  A.A. Butko Chief Accountant  E.Y. Novenkova

# 7 PJSC MOSENERGO CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2019 (in millions of Russian Rubles)

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	Notes	Year ended 31 December	
		2019	2018
<b>Cash flow from operating activities</b>			
Profit before finance income (expense) and profit tax		6 389	25 594
Adjustments to profit before profit tax:			
Depreciation and amortisation	23	15 359	15 177
Share of loss of associates	14	224	314
Impairment loss on financial assets	24	3 874	525
Impairment loss and change in fair value of non-financial assets	24	8 779	1 898
Change in provisions	24	358	274
(Gain) loss on disposal of property, plant and equipment	23	348	(225)
<b>Total effect of adjustments</b>		<b>28 942</b>	<b>17 963</b>
<b>Cash flows from operations before working capital changes</b>		<b>35 331</b>	<b>43 557</b>
Changes in working capital:			
Change in trade and other receivables		123	(3 064)
Change in inventories		(595)	(1 728)
Change in other current assets		2 389	2 119
Change in trade and other payables		(539)	1 607
Change in other taxes payables (other than profit tax)		(714)	(536)
Change in employee benefit liabilities		38	(62)
<b>Total effect of working capital changes</b>		<b>702</b>	<b>(1 664)</b>
Income tax paid		(5 388)	(5 673)
Interest paid		(698)	(625)
<b>Net cash from operating activities</b>		<b>29 947</b>	<b>35 595</b>
<b>Cash flows from investing activities</b>			
Capital expenditures		(15 890)	(16 675)
Loans issued		(27 010)	(2 275)
Repayment of loans issued		1 994	11 062
Sale of subsidiaries and associates, net of cash disposed	27	997	1 214
Investment in associates	14	(22 700)	-
Proceeds from sale of property, plant and equipment		253	71
Interest received		4 441	2 897
Dividends received		52	-
Placement of short-term deposits		-	(10 400)
Repayment of short-term deposits		10 400	-
<b>Net cash used in investing activities</b>		<b>(47 463)</b>	<b>(14 106)</b>
<b>Cash flow from financing activities</b>			
Proceeds from borrowings		22 700	-
Repayment of borrowings		(1 150)	(19 384)
Repayment of lease liabilities		(276)	-
Dividends paid		8 289	(6 549)
<b>Net cash (used in) from financing activities</b>		<b>12 985</b>	<b>(25 933)</b>
Effect of foreign exchange rate changes on cash and cash equivalents		(31)	37
<b>Decrease in cash and cash equivalents</b>		<b>(4 562)</b>	<b>(4 407)</b>
Cash and cash equivalents at the beginning of the period	5	16 220	20 627
Cash and cash equivalents at the end of the period	5	11 658	16 220


Managing director  A.A. Butko

Chief Accountant  E.Y. Novenkova

# PJSC MOSENERGO CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2019 (in millions of Russian Rubles)

	Notes	Equity attributable to owners of the PJSC Mosenergo					Total
		Share capital	Treasury shares	Share premium	Revaluation reserve	Accumulated loss and other reserves	
Year ended 31 December 2018							
Balance as of 1 January 2018		166 124	(871)	49 213	107 206	(55 320)	266 352
Effect of changes in accounting policies		-	-	-	-	(2 036)	(2 036)
Balance as of 1 January 2018 (restated)		166 124	(871)	49 213	107 206	(57 356)	264 316
Profit for the period							
Other comprehensive income (loss):							
Remeasurement of post-employment benefit obligations	20	-	-	-	-	21 40513	21 40513
Impairment loss on property, plant and equipment							
Transfers from revaluation surplus on property, plant and equipment to accumulated loss and other reserves		-	-	-	(2 141)	(789)	(2 141)
<b>Comprehensive income (loss) for the period</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>(2 930)</b>	<b>22 207</b>	<b>19 277</b>
Transaction with owners of PJSC Mosenergo							
Dividends declared	21	-	-	-	-	(6 566)	(6 566)
Balance as of 31 December 2018		166 124	(871)	49 213	104 276	(41 715)	277 027
Year ended 31 December 2019							
Balance as of 1 January 2019		166 124	(871)	49 213	104 276	(41 715)	277 027
Profit for the period							
Other comprehensive income (loss): Remeasurement of post-employment benefit obligations	20	-	-	-	-	9 599(62)	9 599(62)
Loss arising from change in fair value of financial assets measured at fair value through other comprehensive income		-	-	-	-	224	224
Revaluation of property, plant and equipment							
Transfers from revaluation surplus on property, plant and equipment to accumulated loss and other reserves	11	-	-	-	49 012(78)	(78)	49 012-
<b>Comprehensive income for the period</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>48 934</b>	<b>9 839</b>	<b>58 773</b>
Transaction with owners of PJSC Mosenergo							
Treasury shares	21	-	871	(552)	-	-	319
Effect of acquisition under common control	28	-	-	-	-	(1 362)	(1 362)
Dividends declared	21	-	-	-	-	(8 307)	(8 307)
Balance as of 31 December 2019		166 124	-	48 661	153 210	(41 545)	326 450

Managing director  A.A. Butko

Chief Accountant  E.Y. Novenkova

## 7 Glossary

ADR	American depository receipt
NPP	Nuclear power plant
SPHPP	Pumped-storage hydro power plant
GDR	Global depository receipt
SDPP	State-owned district power plant
GTU	Gas turbine unit
SPP	State Power Plant
VMI	Voluntary medical insurance
FFZ	Free power transfer zone
CF	Capacity factor
CN	mode Condensing mode
IT	Integrated testing
EC	Efficiency coefficient
KPI	Key performance indicator
DHP	District Heating Plant
MIPC	Moscow Integrated Power Company
IFRS	International financial reporting standards
PPP	Private pension provision
PPF	Private pension fund
AI	Accident insurance
WGC	Power generating company of the wholesale market
WEM	Wholesale Electricity Market
PWHB	Peak water-heating boiler
CT	Commissioning trials
SUW	Start-up works
SPE	Steam-power equipment
ST	Steam Turbine
RAS	Russian accounting standards
DAM	Day ahead market (a sector of the electricity market)
RHP	Regional Heating Plant
REC	Regional Energy Commission
BoD	Board of Directors
SO UES	System operator of the unified energy system
t/e	Thermal energy
EA, IS & EP	Department of engineering audit, industrial safety and environmental protection
TPP	Thermal power plant
FTS	Federal Tariff Service
FFMS	Federal Financial Markets Service
RF CB	Russian Federation Central Bank
e/e	Electric power
TPP	thermal power plant
RAS	Russian Accounting Standards
IFRS	International Financial Reporting Standards
DHP	district heating plant
BHP	block heating plant
CCGT	combined cycle gas turbine
SPP	state power plant
CSA	capacity supply agreement
RHPP	regional heating power plant water-heating boilers
RMS	risk management system
SCIGE	selecting composition of included generating equipment
WB	water boiler
CPI	consumer price index
gfe	grams of fuel equivalent
KOMMod	Competitive selection of projects for the implementation of measures to modernize generating facilities of thermal power plants
ER	Emergency repairs

## Units of Measurement

Gcal (Giga calorie)	unit of measurement of heat
Gcal/h (Giga calories per hour)	unit of measurement of thermal power
kV (kilo Volt)	unit of measurement of voltage
kWh (kilo Watt hour)	unit of measurement of electric power
MW (Mega Watt)	unit of measurement of electric capacity
tnf	tons of natural fuel
tfe	tons fuel equivalent

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