

# MOSENERGO

## 9M 2018 IFRS Results

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## External Events:

1. Growing weighted average electricity price by 3.5% in the reporting period year-on-year.
2. Lower air temperature in 1Q 2018 resulting in heat output growth by 2.5% in 9M 2018. Weather factor also led to certain decrease in demand for heat for hot water supply in 3Q 2018.
3. Elaboration of legislation, regulating outtake of thermal power plants for modernization.

## Internal Events:

1. Lower fuel rate on electricity (234.9 g/kWh) on the account of load optimization and partial removal of technical restrictions for capacity.
2. Permission was obtained from Ministry of Energy to decommission inefficient capacity at GRES-3 and CHP-17.
3. Actions were taken in order to switch heat loads from boiler houses to CHPs.
4. CSA expiry on 01.07.2018 for two CSA units: at CHP-27 for 450 MW and at CHP-21 for 425 MW.

## Operational Highlights<sup>1</sup>

	9M 2017	9M 2018	Change
Electricity Output, mn kWh	40,970	40,694	-0.7%
Electricity Sales, mn kWh	42,594	42,091	-1.2%
Heat Output, th.Gcal	51,914	53,218	+2.5%
Fuel Rate on Electricity, g/kWh	235.2	234.9	-0.1%
Fuel Rate on Heat, kg/Gcal	164.1	163.7	-0.2%

## Financial Highlights, mn RUR

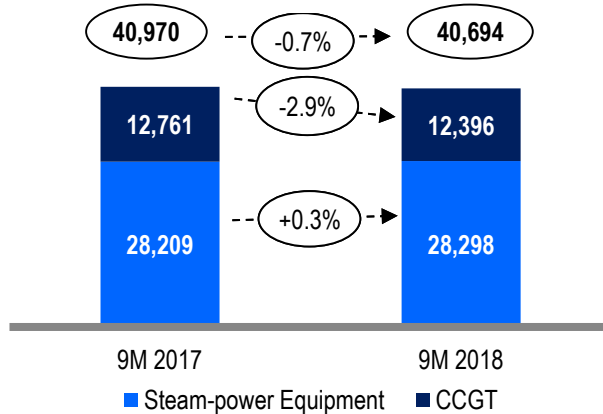
	9M 2017	9M 2018	Change
Revenue (Electricity and Heat)	99,280	102,637	+3.4%
Variable Costs	(84,141)	(86,296)	+2.6%
<b>Marginal Profit</b>	<b>15,139</b>	<b>16,341</b>	<b>+7.9%</b>
Revenue (Capacity)	34,135	31,623	-7.4%
Revenue (Other)	1,930	1,728	-10.5%
Fixed Costs <sup>2</sup>	(19,088)	(20,241)	+6.0%
<b>EBITDA<sup>3</sup></b>	<b>32,116</b>	<b>29,451</b>	<b>-8.3%</b>
Depreciation of PP&E	(11,238)	(11,142)	-0.9%
Operating Profit	19,478	17,019	-12.6%
<b>Profit for the Period</b>	<b>16,820</b>	<b>14,045</b>	<b>-16.5%</b>

<sup>1</sup> Management report data

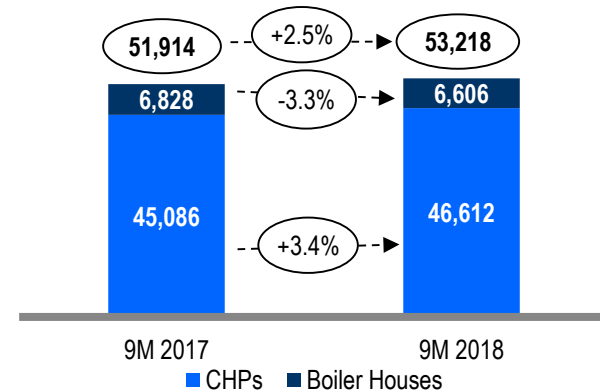
<sup>2</sup> Excluding Depreciation of PP&E

<sup>3</sup> Adjusted to net charge for impairment and other provisions

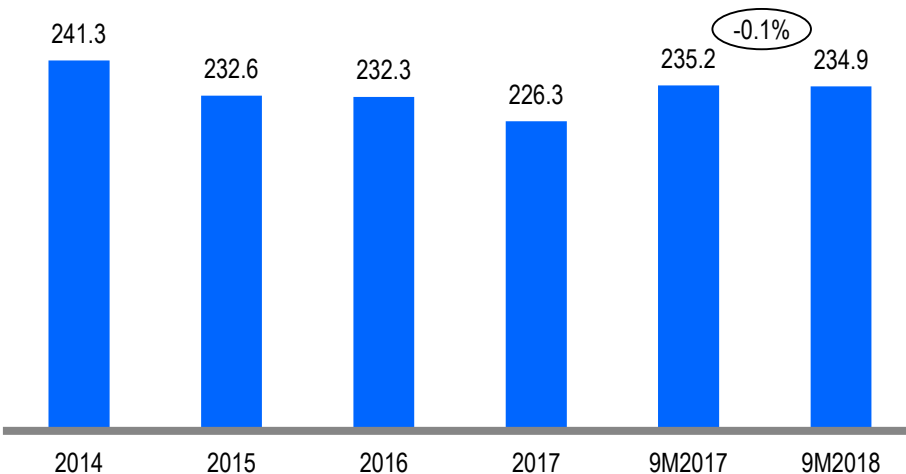
### Electricity Output, mn kWh



### Heat Output, thous. Gcal

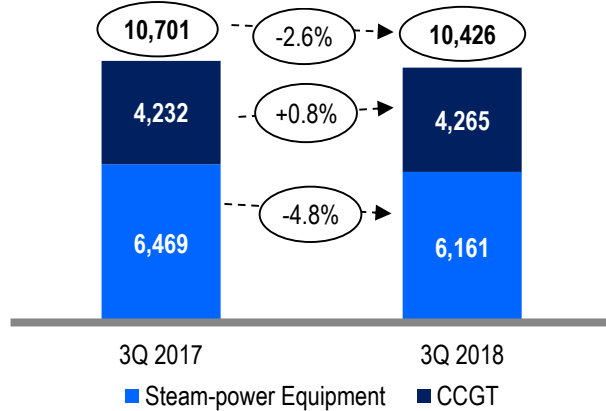


### Fuel Rate on Electricity, g/kWh

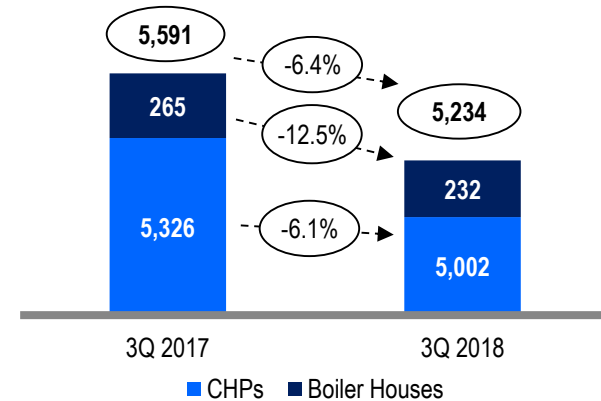


- Marginal decrease in electricity production. In spite of efficient load of steam-power equipment in cogeneration cycle, the decrease in production was influenced by lower CCGT-units production, resulting from growing repair volume.
- Heat output grew on the account of lower temperature in 1Q 2018. Average air temperature in the heating season amounted to -2,7°C (-1,5°C year-on-year).
- Heat output at boiler houses decreased on the back of load switch to CHPs.
- Fuel rate decrease resulted from growing electricity production in cogeneration cycle and optimization of the equipment set.

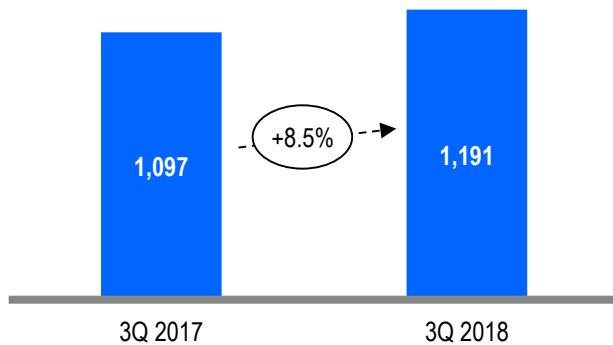
## Electricity Output, mn kWh



## Heat Output, thous. Gcal

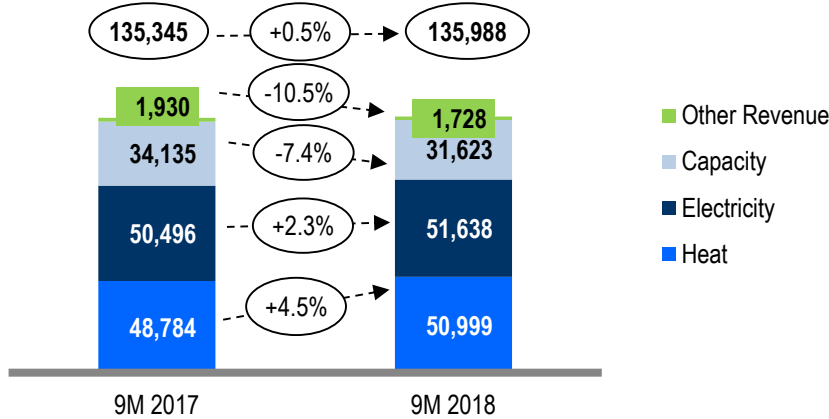


## Marginal Profit, mn RUR

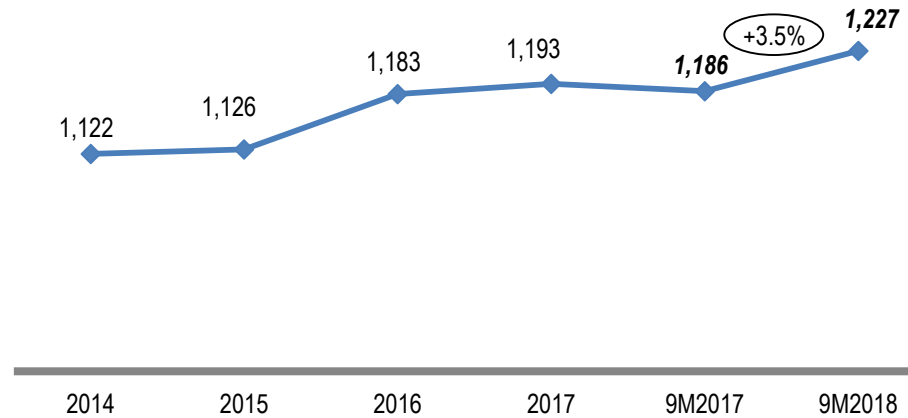


- Electricity production at CCGT-units grew marginally year-on-year, while steam-power equipment production decreased by 4.8% on the account of load optimization and minimization of inefficient equipment load.
- Lower heat output resulted from weather factor.
- Heat output at boiler houses was decreasing faster, among other factors, due to load switch to CHPs.
- Marginal profit grew by 8.5% on the account of work regime optimization.

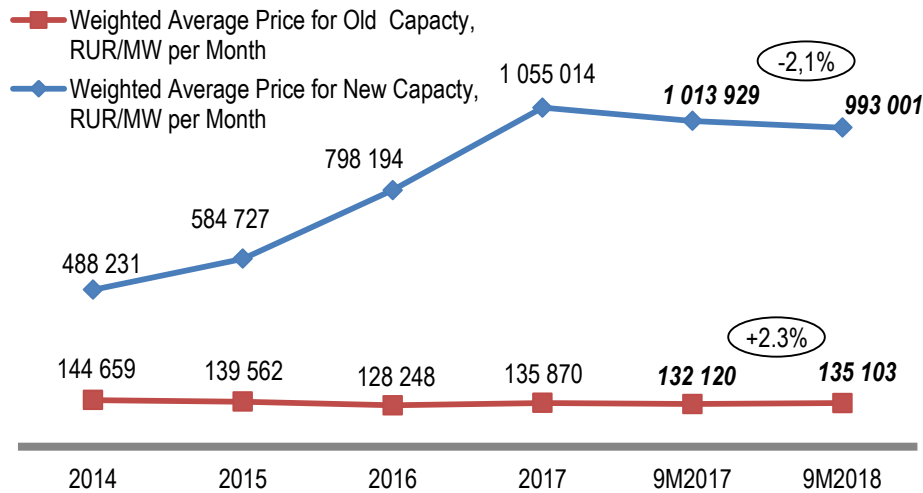
### Revenue, mn RUR



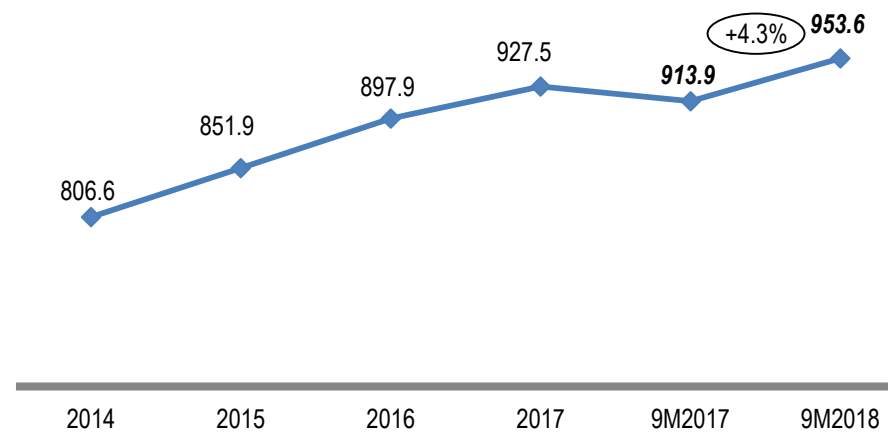
### Weighted Average Price for Electricity at the Wholesale Market, RUR/MW h

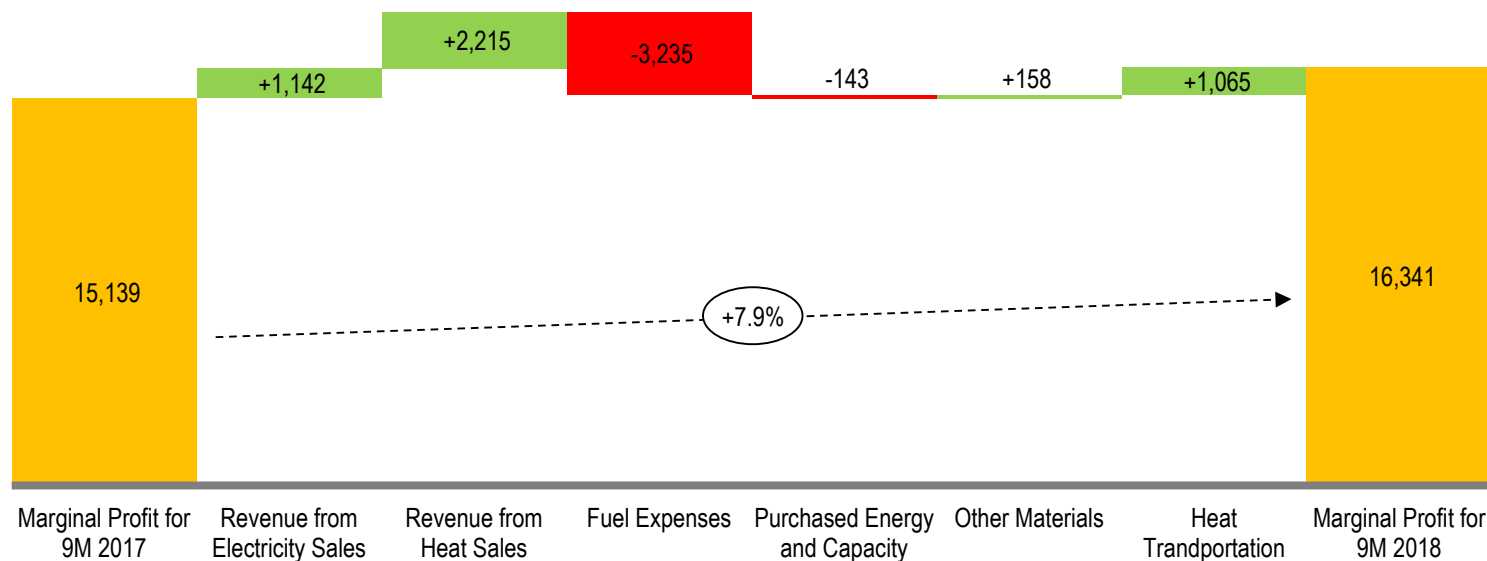


### Weighted Average Capacity Price



### Weighted Average Tariff for Heat Generation, RUR/Gcal

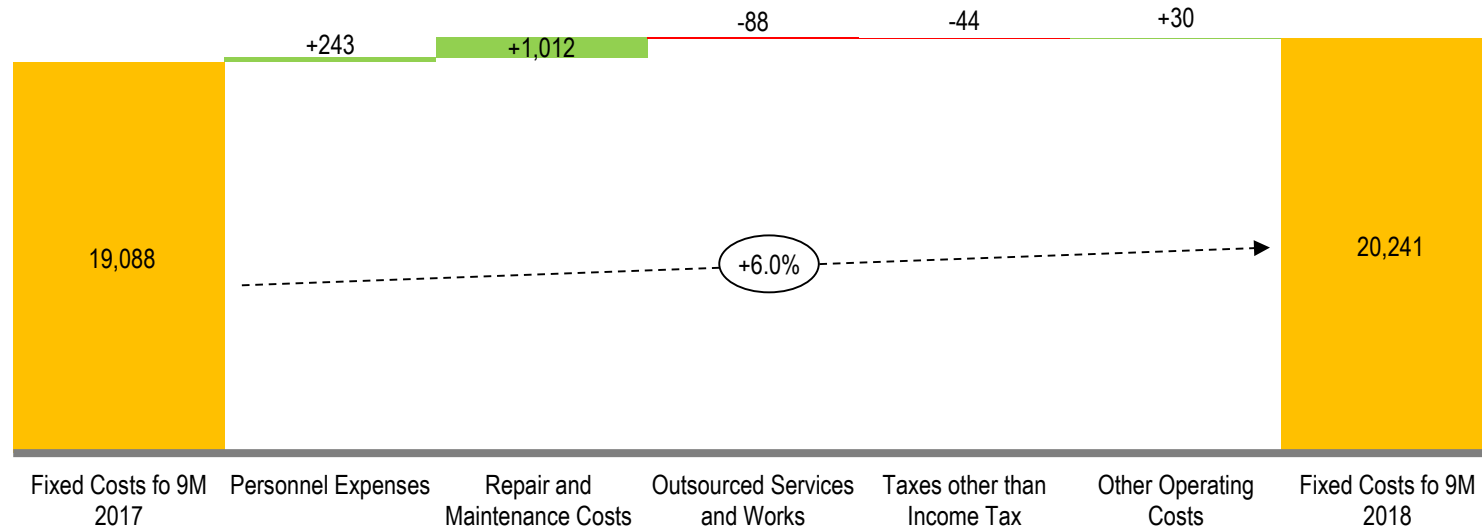




## Marginal Profit Factors

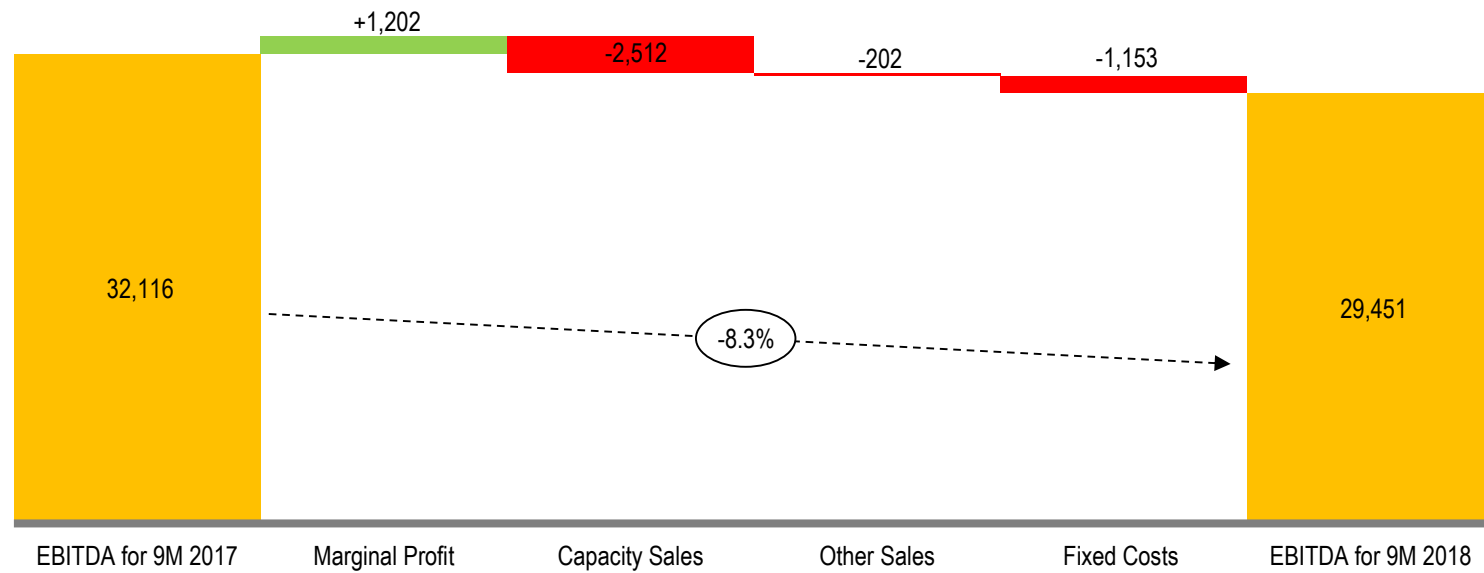
- Increased revenue from electricity sales on the back of growing weighted average price at the wholesale market by 3.5%.
- Growing revenue from heat sales on the back of output growing by 2.5% (colder 1Q 2018).
- Fuel expenses growth, in spite of lower fuel rate, took place on the account of heat output and average fuel price growth.
- Lower heat transportation costs resulted from less heat output, subject to transportation (via heating grid), on the back of increased share of heat output from power plants collectors (boiler houses).
- Optimization of generating equipment set and minimization of inefficient equipment output between heating seasons.





## Fixed Costs Changer Factors

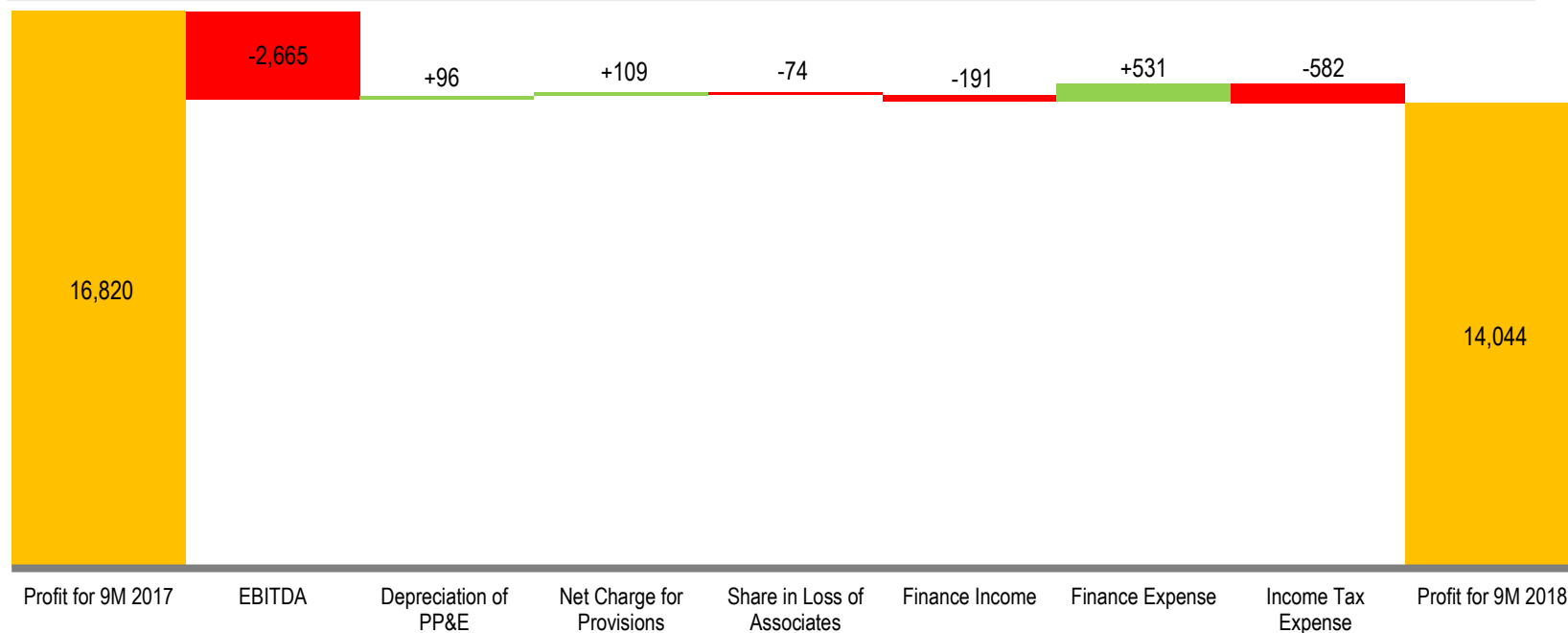
- Repair and maintenance costs grew mainly on the account of growing maintenance costs for CCGT units under service contracts.

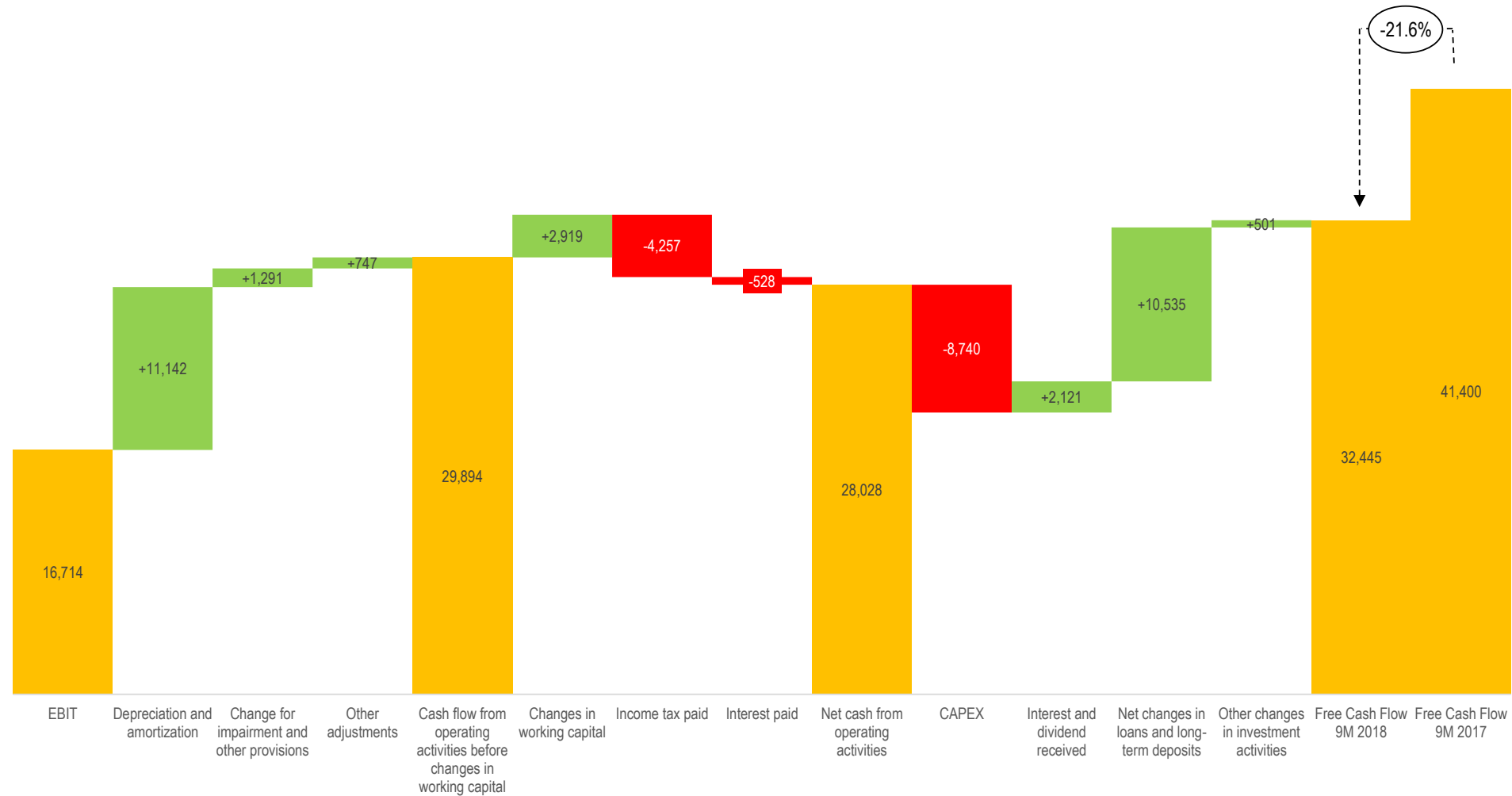


1. Adjusted to net charge for impairment and other provisions

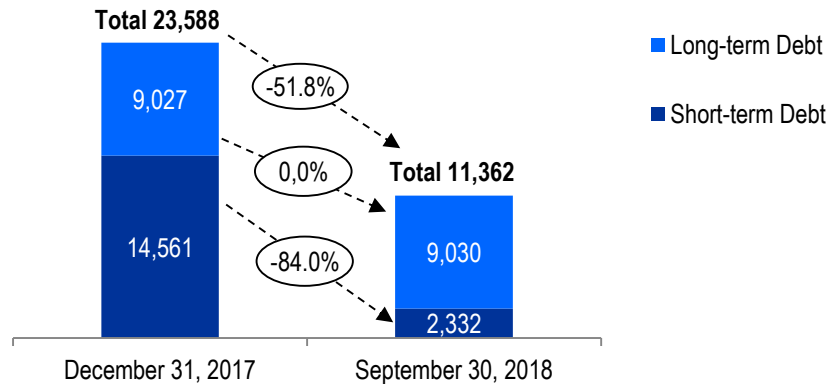
# Profit Composition

Parameter	9M 2017	9M 2018	Change
<b>EBITDA</b>	<b>32,116</b>	<b>29,451</b>	<b>-8.3%</b>
Depreciation of PP&E	(11,238)	(11,142)	-0.9%
Net Charge for Impairment and Other Provisions	(1,400)	(1,291)	-7.8%
<b>Operating profit</b>	<b>19,478</b>	<b>17,018</b>	<b>-12.6%</b>
Share in Loss of Associates	(231)	(305)	+32.0%
Finance Income	4,008	3,817	-4.8%
Finance Expense	(3,334)	(2,803)	-15.9%
Income Tax Expense	(3,101)	(3,683)	+18.8%
<b>Profit for the Period</b>	<b>16,820</b>	<b>14,044</b>	<b>-16.5%</b>

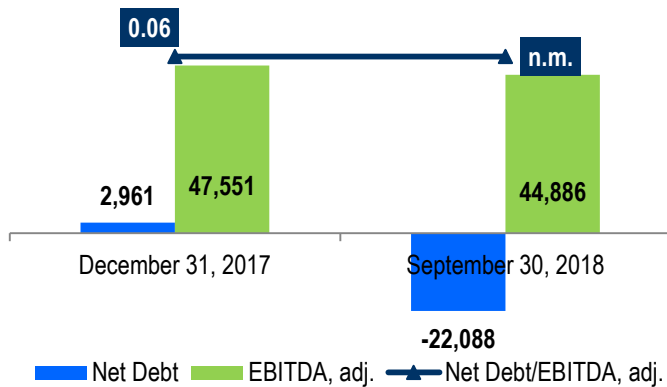




## Debt Structure, mn RUR

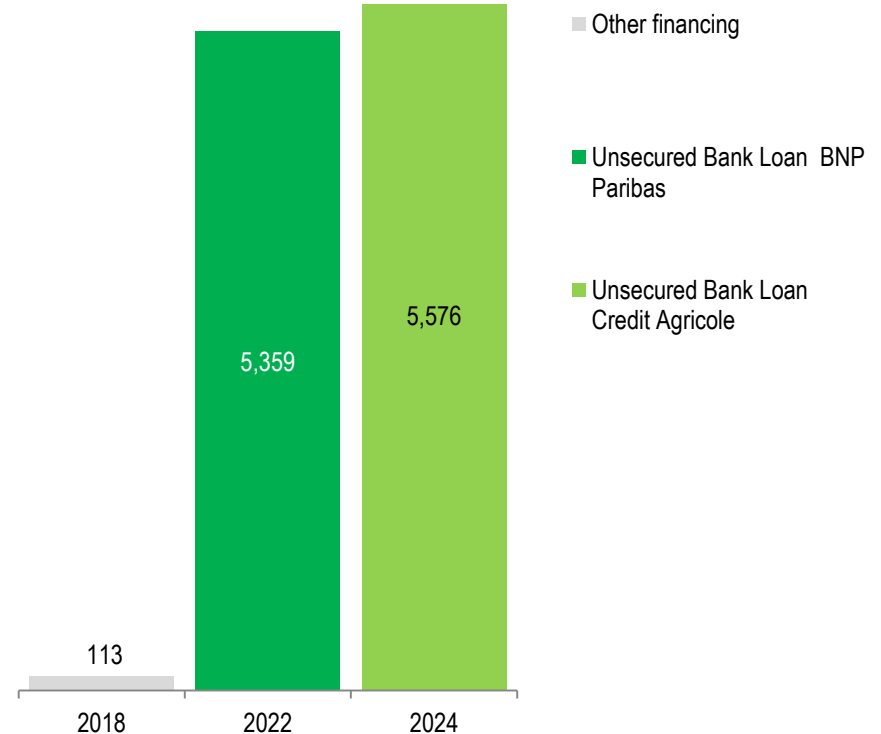


## Debt/ EBITDA, adj. for 12 months<sup>1</sup>

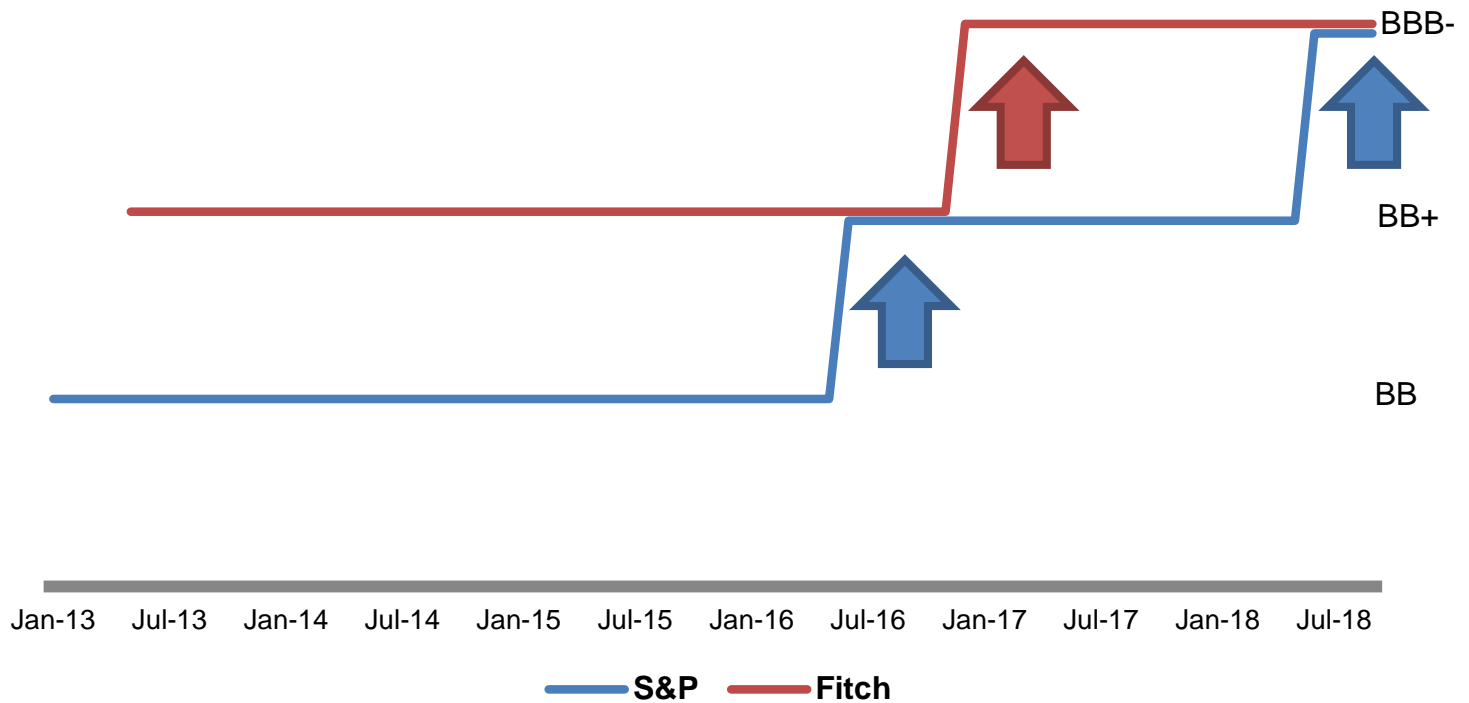


<sup>1</sup> EBITDA, adj for 12 months ended 30.09.2018 = EBITDA, adj for 12 months ended 31.12.2017 - EBITDA, adj for 9M 2017 + EBITDA, adj for 9M 2018

## Maturity Profile as of September 30, 2018, mn RUR (carrying amount)<sup>2</sup>



<sup>2</sup> Not including debt for interest payable of 112 mn RUR and finance lease liabilities of 202 mn RUR



## Modernization under CSA'

Requirements for modernization identified as 2.7 GW:

- Modernization with prolonged resource for old efficient equipment – 2.1 GW
- Modernization in order to upgrade technical and economic parameters and thermal power of turbines with exhausted resource in areas with heat deficit – 0.6 GW

## Operational Effectiveness Growth

- Finalization of inefficient capacity decommissioning program (GRES-3 and CHP-17, 90 atm units at CHP-16 and 90 atm units at CHP-20)
- First production unit commissioning of the most powerful Russian cogeneration turbine 295 MW at CHP-22 (unit 9)
- Increase of payable capacity of CCGT units, increase of period between services and operational lifetime
- Realization of a program in order to upgrade primary technical and economic parameters
- Termination of coal usage at CHP-22
- Optimization of chemical water treatment at CHP-21, CHP-23 and CHP-25

## Business Expansion

- Finalization of MOEK boiler houses switch to Mosenergo sources within Old Moscow borders
- Actions in order to boost heat sales on the account of new territories, perspective real estate development areas

# Thank You for Your Attention!

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