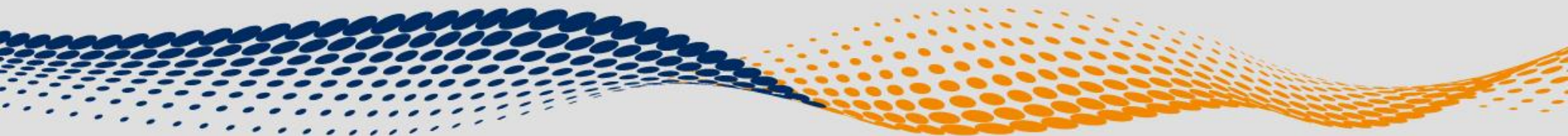




# Inter RAO Group 1H2018 Consolidated Financial and Operating Results

15 August 2018



# Key Factors Affecting Group's Financial Performance

1

## GENERATION IN THE RUSSIAN FEDERATION:

- Commissioning of 1790 MW of new and modernized power generation capacity under the Capacity Delivery Agreements (CDA);
- Commissioning of Kaliningradskaya Generation LLC (Talakhovskaya TPP and Mayakovskaya TPP);
- KOM's capacity prices increased on the wholesale market;
- Unfavorable pricing environment on the day-ahead market (DAM). Electricity price depreciation in the 1<sup>st</sup> pricing zone (by 2.1%) and an insignificant increase in the 2<sup>nd</sup> pricing zone (0.6% YoY increase in electricity prices);
- Heat tariffs across Russian assets of the Group increased on average 4.4% YoY; lower average air temperature in the regions where the stations are present YoY.

2

## SUPPLY IN THE RUSSIAN FEDERATION:

- Electricity prices for end-users have increased on average due to the growth of regulated (grid tariff) and non-regulated components (CDA for TPP, Renewables, NPP, as well as supply margin increase for the balancing of tariffs in the Far-Eastern Federal District);
- Regional expansion and client base increase in guaranteed supply companies and independent supply companies;
- Active development of the paid services (PS) segment.

3

## TRADING:

- Electricity export increased to Finland by 15% and import from Kazakhstan increased by 35% YoY;
- The increase in the price of the Nord Pool electricity exchange in Lithuania and Finland;
- Weakening of the Russian national currency against the currencies of major export power supply contracts: (decrease by 14.5% YoY against EUR).

4

## FOREIGN ASSETS:

- The increase in the price paid for the available electrical capacity of Trakya Elektrik,
- Increase in the average tariff for electricity sales of JSC Telasi;
- The resumption of direct electricity supplies to Moldova.



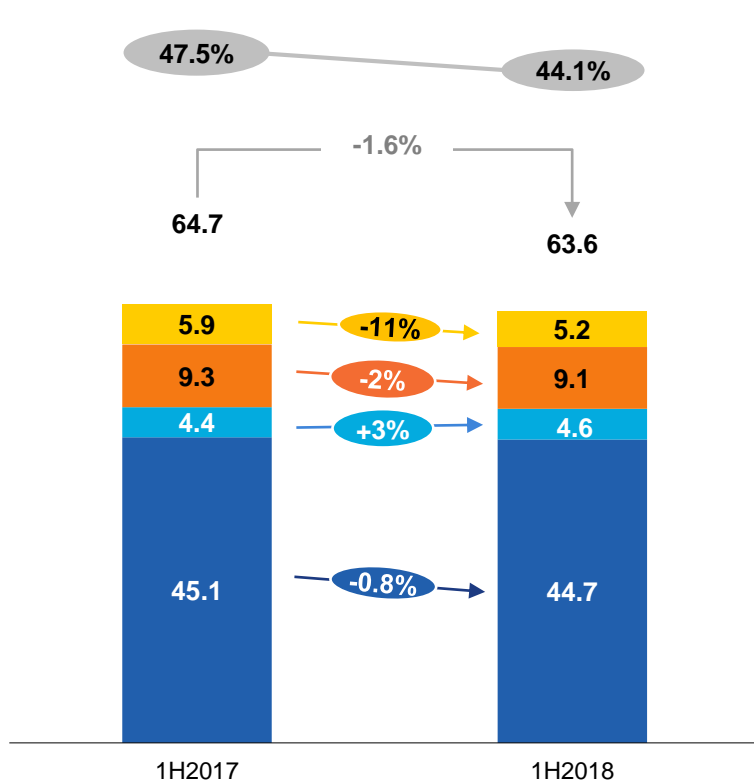
## I. Operational Performance Results



# Electricity and Heat Generation

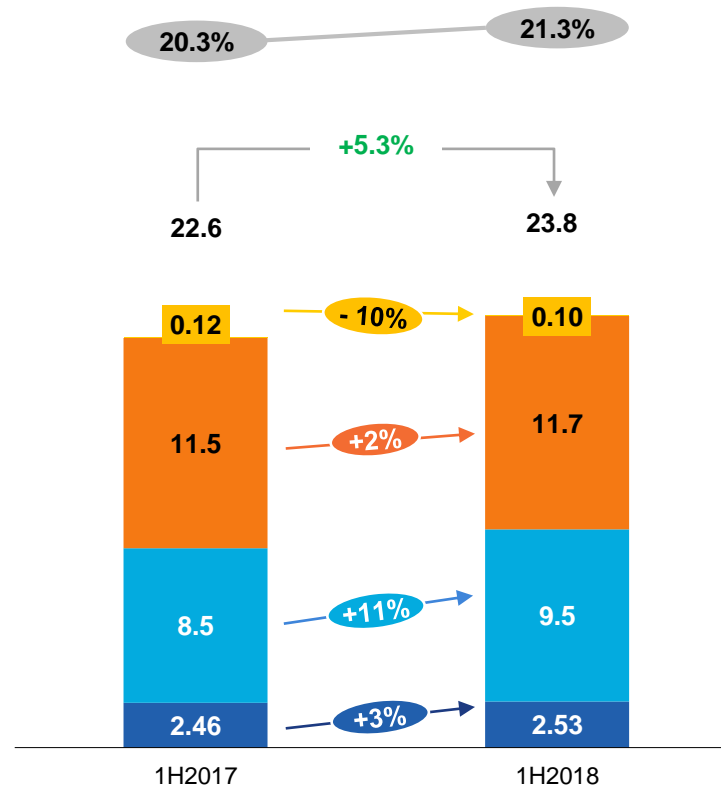
## Electricity Generation

TWh



## Heat Generation

Mln Gcal



■ INTER RAO – Electricity Generation Group<sup>(1)</sup>

■ BGC Group

■ Foreign Generation<sup>(2)</sup>

● # % Load Factor — ● # % → Electricity/heat production dynamics

■ TGK-11 Group & Tomsk Generation Group

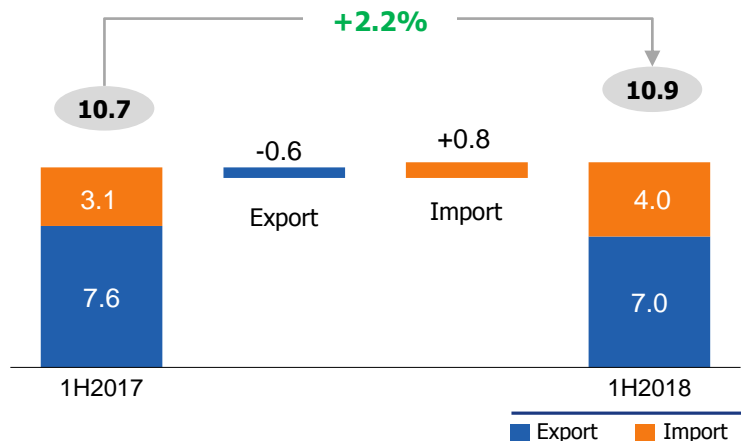
**Generation decrease due to load profile optimization of the stations of Inter RAO Group**

(1) Includes: Inter RAO – Electricity Generation JSC and Nizhnevartovskaya GRES

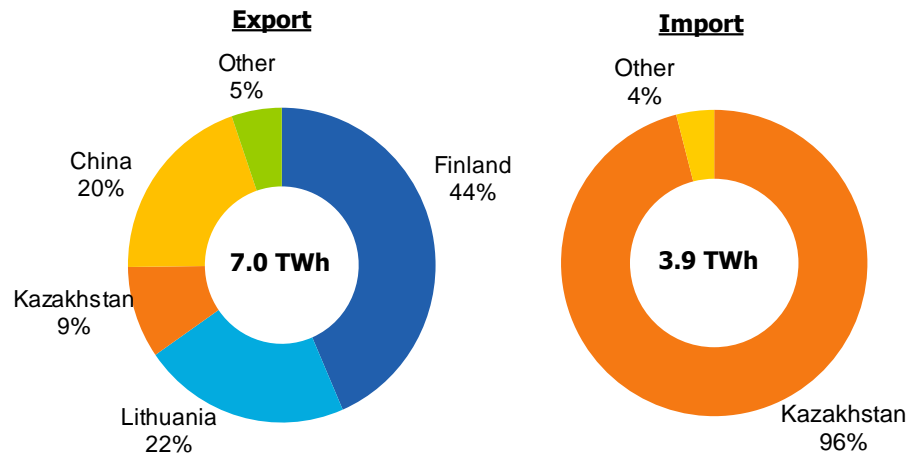
(2) Includes JSC Ekibastuskaya GRES-2

## Export / Import Volumes

TWh



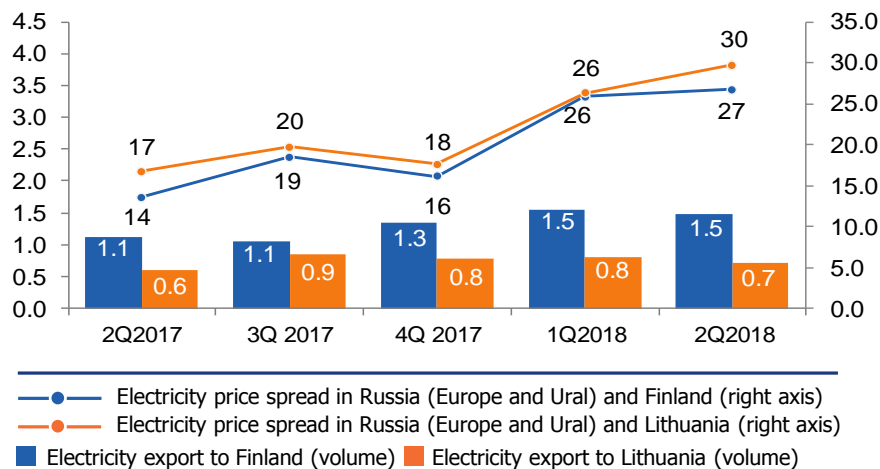
## Export / Import Structure 1H2018



## Electricity Export Dynamics and Price Spread

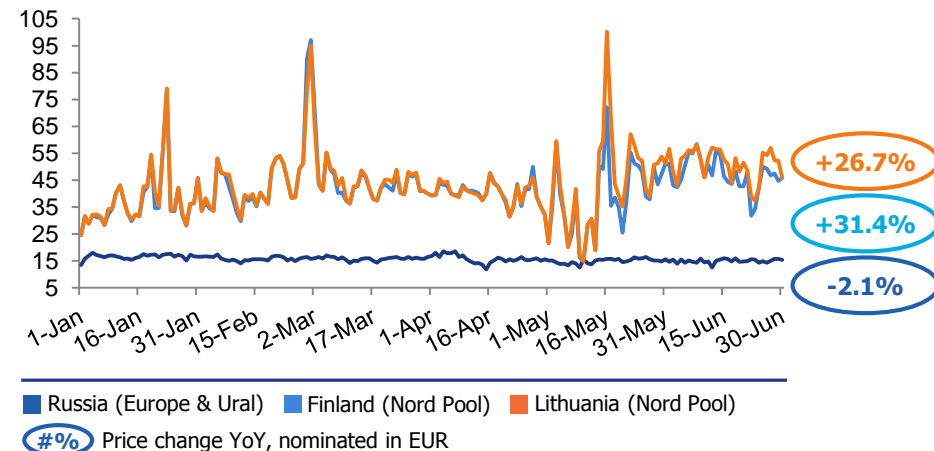
TWh

€/MWh



## Evolution of Electricity Spot Prices

€/MWh

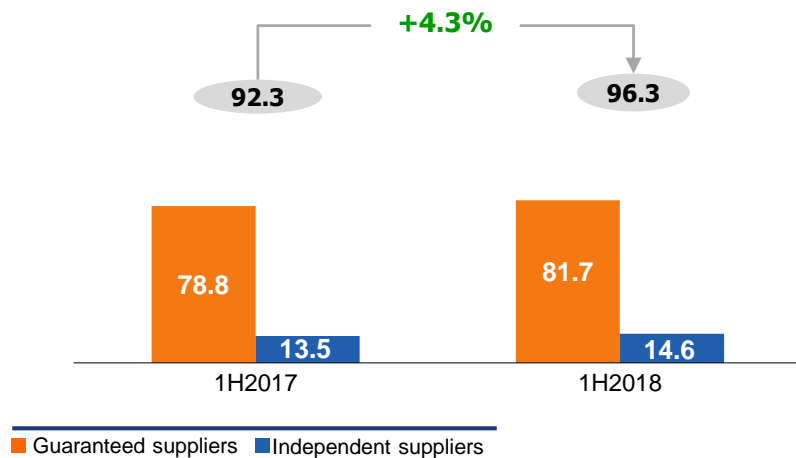


\* Data Includes JSC EEC

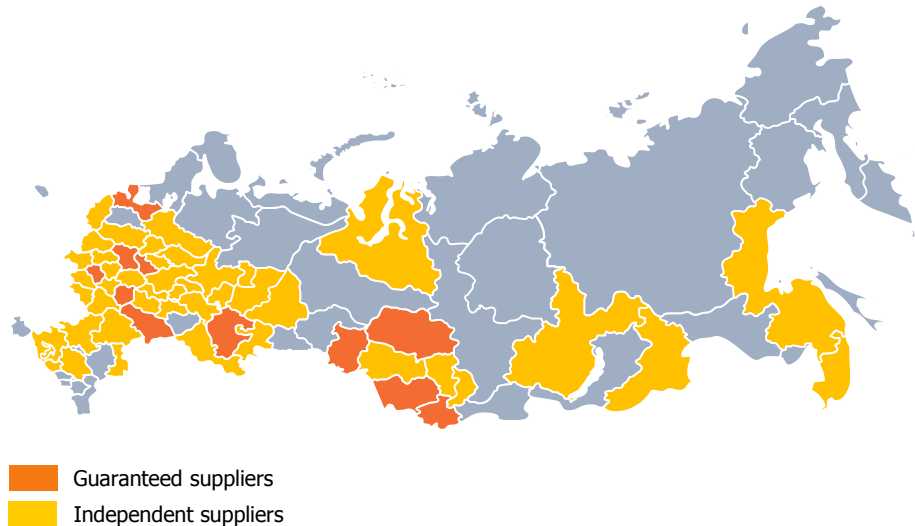
# Supply Business

## Electricity Supply to Customers

TWh

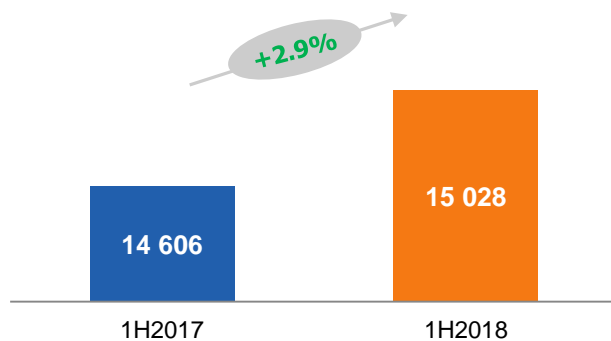


## Supply Companies' Regions of Operation

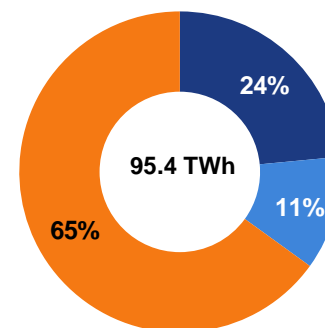


## Customer Base

thousands of customers



## Retail Electricity Sales Structure



■ Households and equated groups of customers ■ Loss compensation ■ Other customers





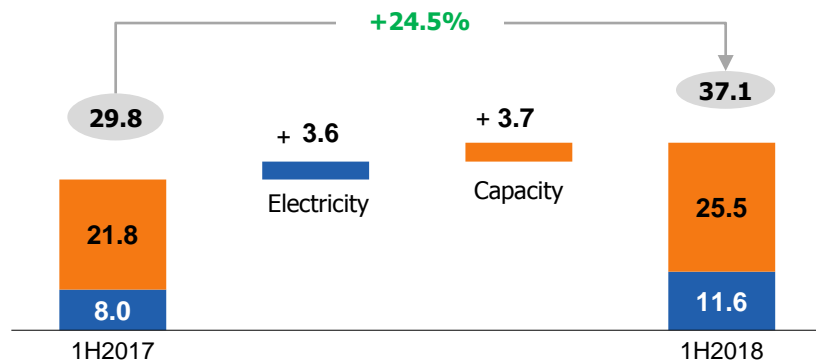
## II. Increase in Operational Efficiency



# Increased Operational Efficiency in Electricity Generation<sup>(1)</sup>

## Increased Revenue Bridge for CDA Units<sup>(2)</sup>

RUB bn



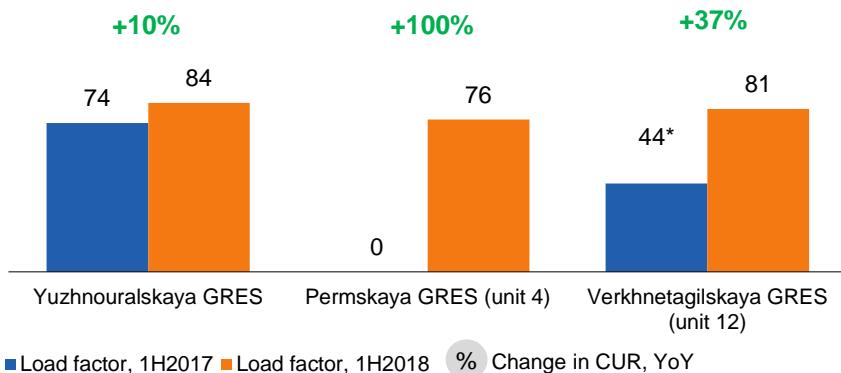
(1) Includes: Inter RAO – Electricity Generation JSC and Nizhneartovskaya GRES

(2) The slide illustrates revenue of CDA units, balanced by the sale and purchase of electricity and capacity

## Efficient Load of New High-Margin Power Units (CDA)

%

Output of high-margin power units increased by 8%

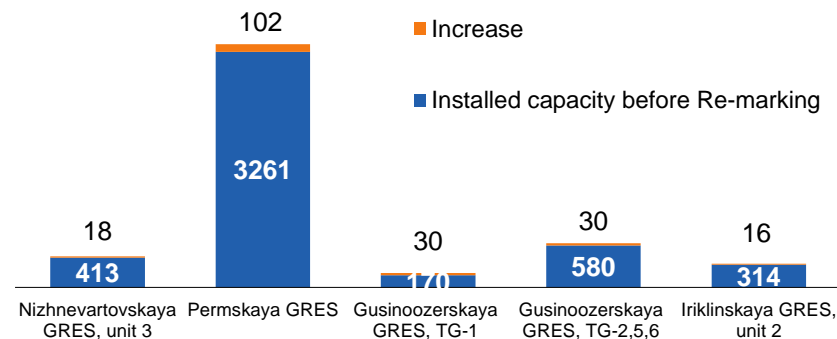


\*Taking into account that the block was commissioned in June 2017

## Re-marking of units

MW

Combined effect on the profit from equipment re-marking<sup>(3)</sup> at RUB 288 mln\*  
Increase on the basis of re-marking<sup>(4)</sup>: 185 MW

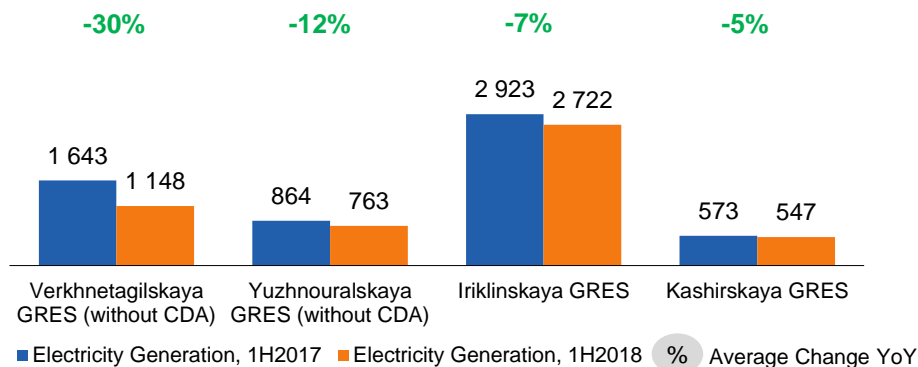


(3) From re-marking made in 2017 - 2018

(4) Average amount of re-marked equipment volume in 1H2018

## Optimized Load of Low-Margin Generating Units

mln kWh

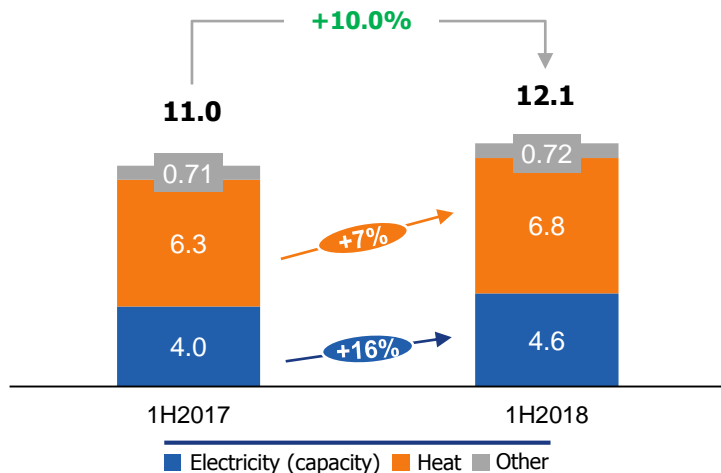




# Increased Operational Efficiency in Heat Generation

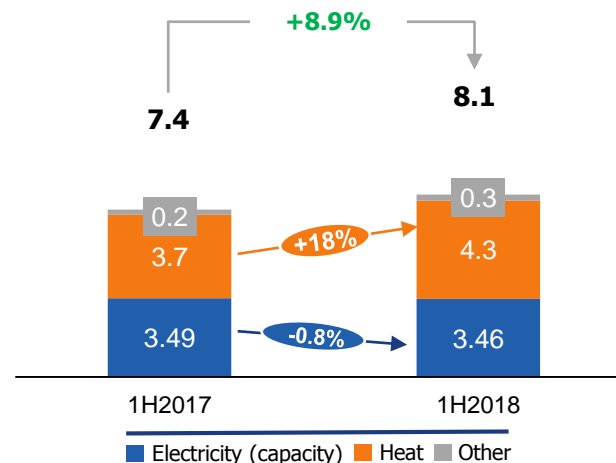
## Marginal Profit Dynamics of BGC Group

RUB bn



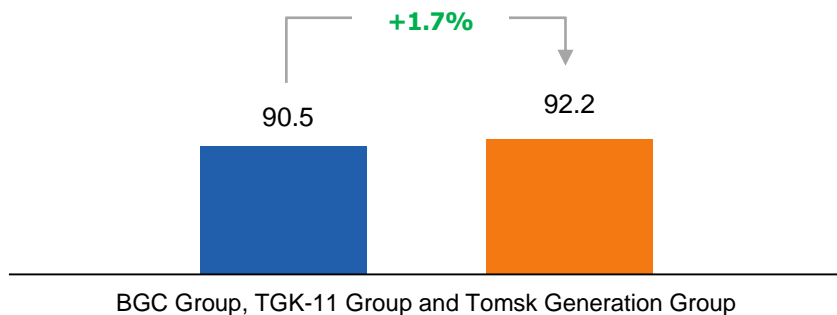
## Marginal Profit Dynamics of TGK-11 Group and Tomsk Generation Group

RUB bn



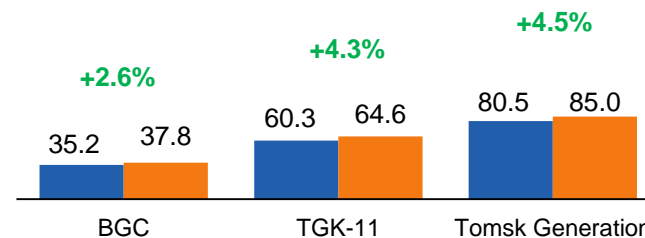
## Payments collection

%



## Share of electricity generation in cogeneration mode

%

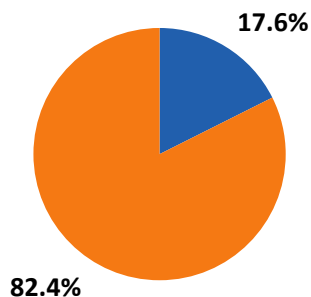


■ 1H2017 ■ 1H2018

# Increased Operational Efficiency in Retail Business

## Market share of Inter RAO Group on the Russian retail electricity market

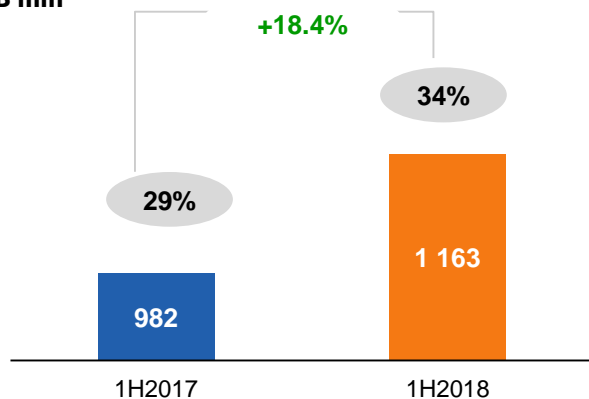
%



■ Inter RAO Group's Supply companies ■ Other Supply companies

## Marginal profit from PS dynamics

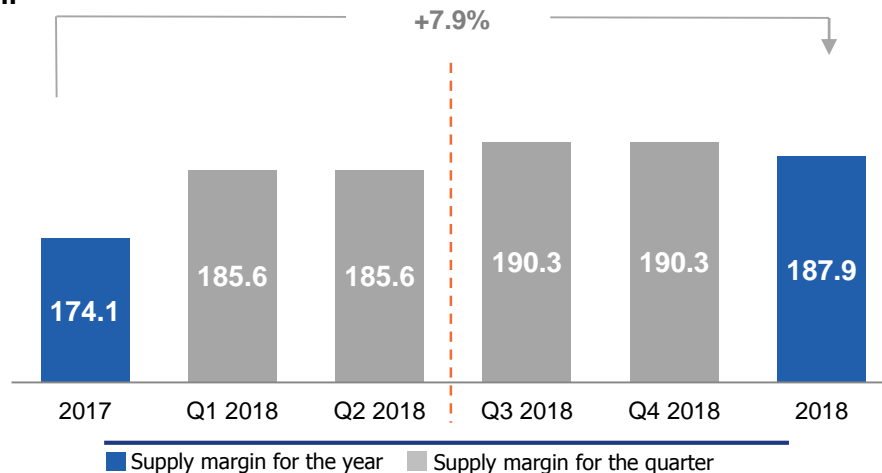
RUB mln



x EBITDA Margin %

## Supply Margin of Guaranteed Suppliers Dynamics<sup>(1)</sup>

RUB/MWh

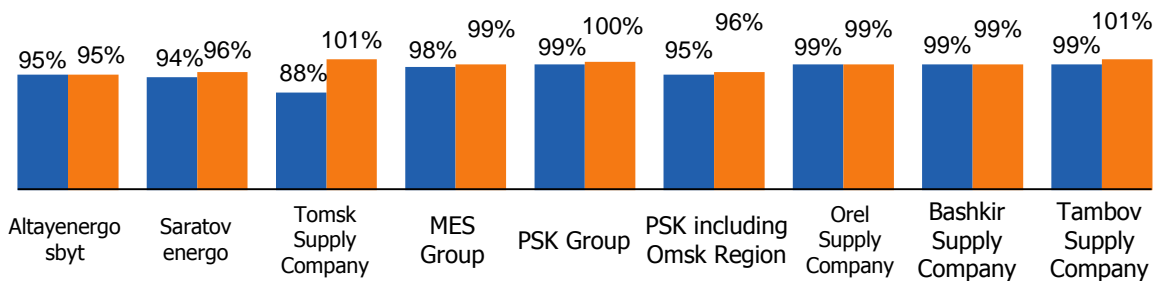


(1) Based on weighted average of supply margins of the Group's guaranteed suppliers (not including Volga Supply Company)

## Payments Collection of Guaranteed Suppliers

%

Average Payments Collection Level for 1H 2018 is 99%\*



\* Includes operational results of Volga Supply Company from 01.04.2018



## III. IFRS Financial Results



# Key Financials

RUB bn	1H2018	1H2017	Change
<b>Revenue</b>	<b>460.7</b>	<b>413.8</b>	<b>11.3%</b>
Operating expenses	422.4	388.0	8.9%
Operating profit	43.5	29.3	48.3%
<b>EBITDA</b>	<b>59.4</b>	<b>48.1</b>	<b>23.5%</b>
EBITDA margin	12.9%	11.6%	10.9%
Net profit	38.3	30.8	24.4%
<b>CAPEX</b>	<b>13.8</b>	<b>12.3</b>	<b>11.7%</b>

RUB bn	30.06.2018	31.12.2017	Change
<b>Total assets</b>	<b>674.9</b>	<b>639.1</b>	<b>5.6%</b>
<b>Total equity</b>	<b>469.0</b>	<b>461.5</b>	<b>1.6%</b>
<b>Loans and borrowings<sup>(1)</sup></b>	<b>12.7</b>	<b>16.2</b>	<b>-21.5%</b>
<b>Lease liabilities<sup>(2)</sup></b>	<b>35.6</b>	<b>12.7</b>	<b>2.8 times</b>
<b>Net debt<sup>(3)</sup></b>	<b>-132.6</b>	<b>-135.5</b>	<b>-</b>

Please note:

-all relative percentage changes are shown in accordance with calculations in mln. RUB

(1) Includes share in lease liabilities of joint ventures in amount of RUB 0.1bn as of 30.06.2018

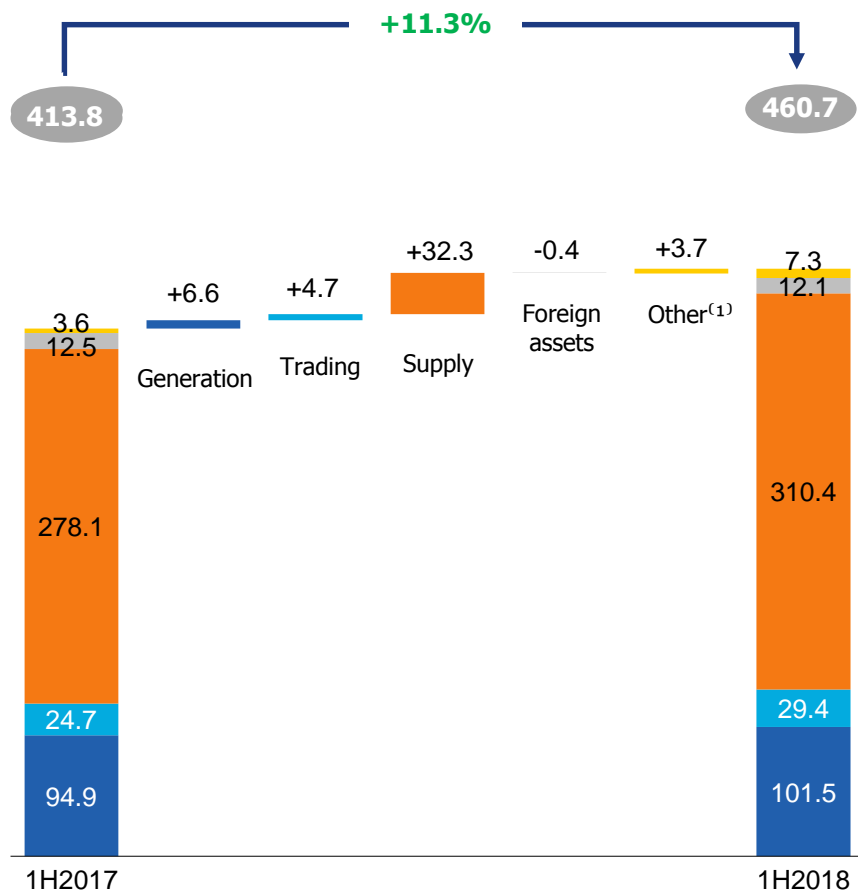
(2) Due to IFRS 16 "Lease" standard in statement of financial position as of 31.12.2017 we recognize lease liabilities in amount of RUB 12.3 bn. Total lease liabilities figure including share in lease liabilities of joint ventures amounted to RUB 12.7 bn.

(3) Includes cash deposits (3-12 months) in amount of RUB 24.6 bn as of 30.06.2018 (as of 31.12.2017 – RUB 22.3 bn) and lease liabilities (including share in lease liabilities of joint ventures in amount of RUB 0.1bn) in amount of RUB 35.6 bn as of 30.06.2018 (as of 31.12.2017 – RUB 12.7 bn)

# Evolution of key financials

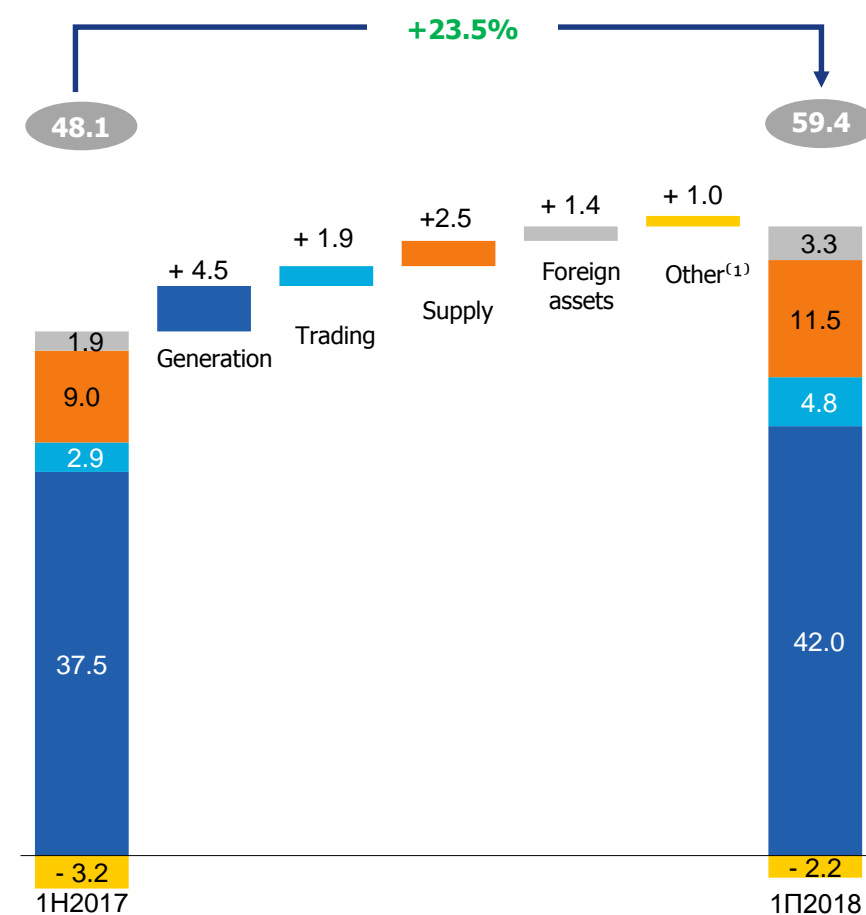
## Revenue bridge

RUB bn



## EBITDA bridge

RUB bn



Please note:

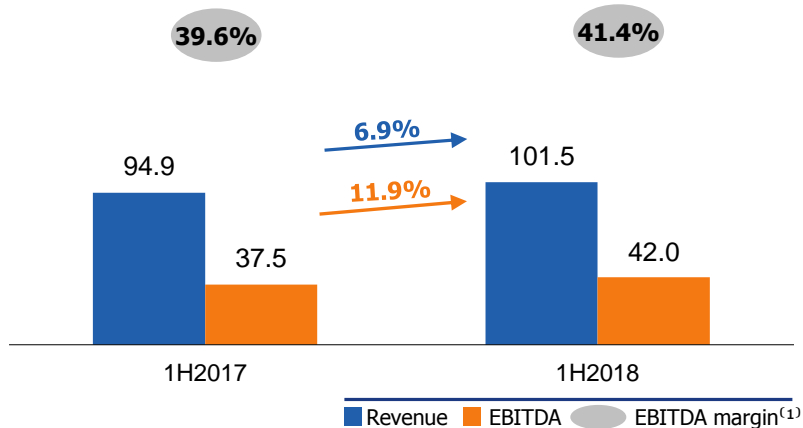
Generation includes financial results from the Electricity Generation and Heat Generation segments

(1) Includes the segments Engineering and Corporate Centre

# Generation and Supply

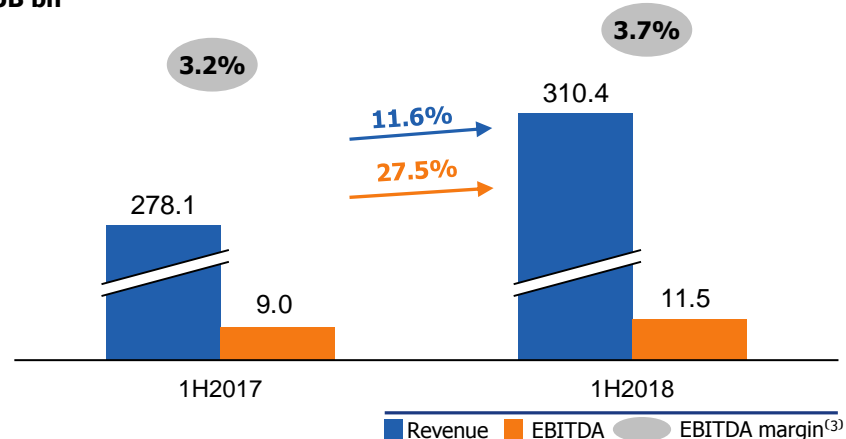
## Generation: Revenue and EBITDA

RUB bn



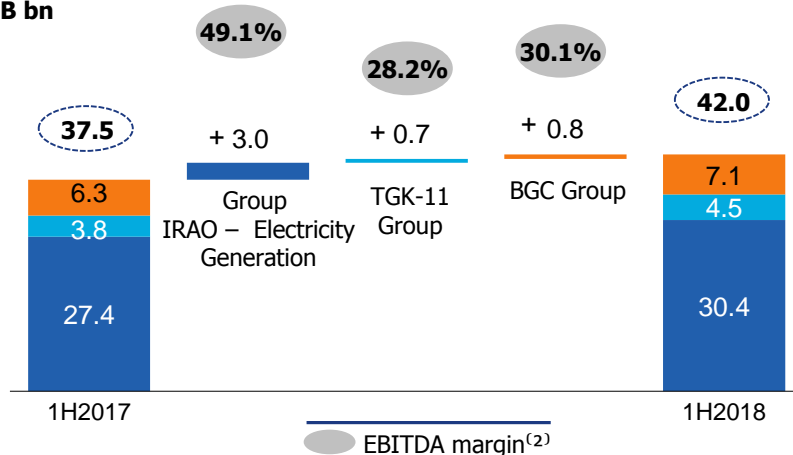
## Supply: Revenue and EBITDA

RUB bn



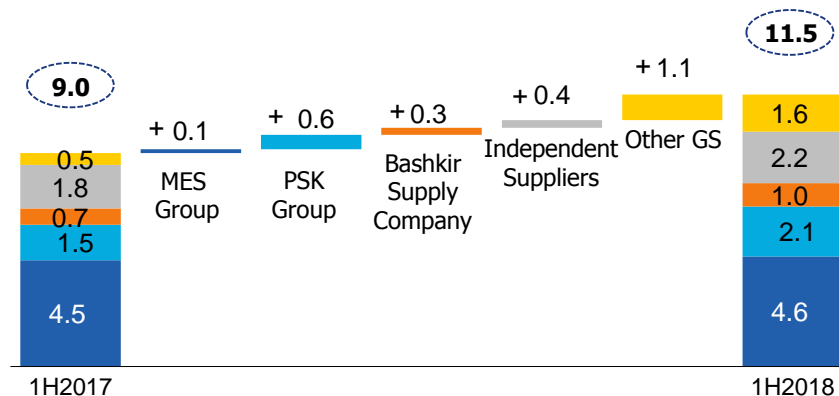
## Generation: EBITDA contribution by company

RUB bn



## Supply: EBITDA contribution by company

RUB bn



(1) EBITDA margin calculation excludes inter-segment revenue (RUB 26.7 bn in 1H 2017 and RUB 28.7 bn in 1H 2018)

(2) EBITDA margin calculation excludes inter-segment revenue for 1Q 2018 (Inter RAO – Electricity Generation – RUB 20.9 bn, TGK-11 Group – RUB 2.1 bn., BGC Group – RUB 5.7 bn)

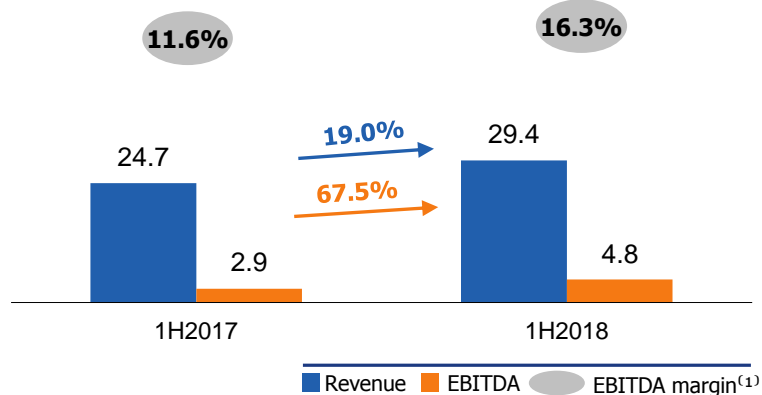
(3) EBITDA margin calculation excludes inter-segment revenue (RUB 0.8 bn in 1H 2017 and RUB 0.8 bn in 1H 2018)



# Trading and Foreign Assets

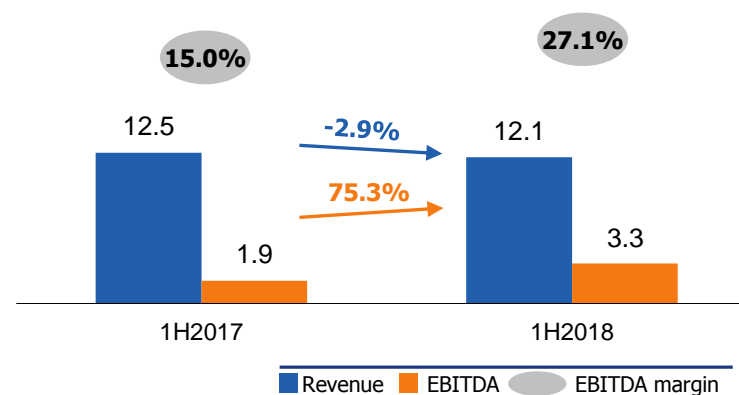
## Trading: Revenue and EBITDA

RUB bn



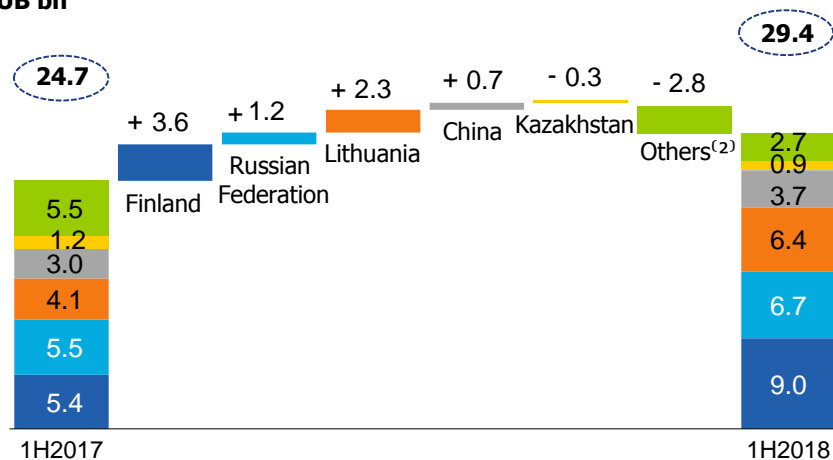
## Foreign Assets: Revenue and EBITDA

RUB bn



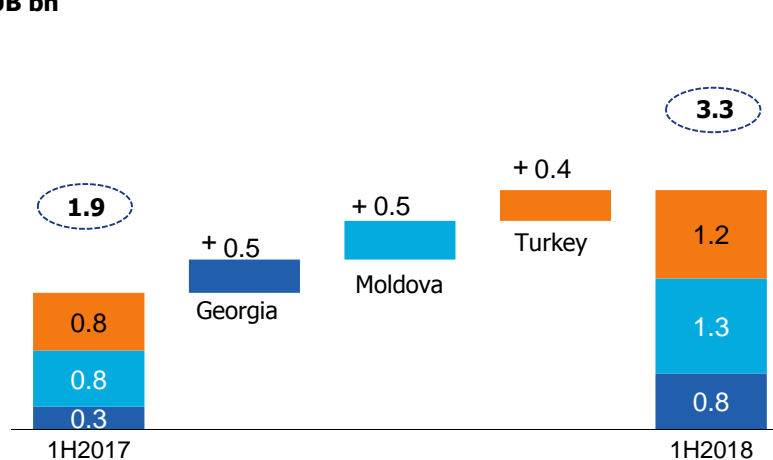
## Trading: Revenue contribution by country

RUB bn



## Foreign Assets: EBITDA contribution by country

RUB bn

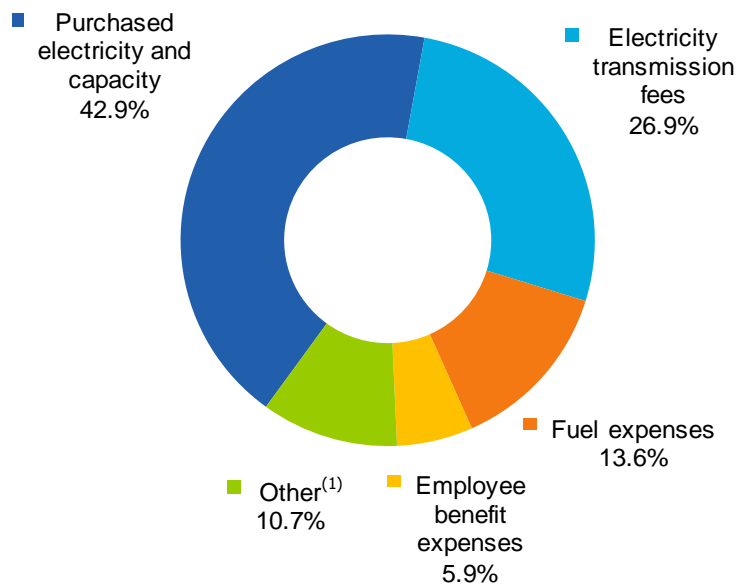


(1) EBITDA margin calculation excludes inter-segment revenue (RUB 1.1 bn in 1H 2017 and RUB 1.3 bn in 1H 2018)

(2) Belorussia, Georgia, South Osetia, Azerbaijan, Mongolia, Norway, Latvia, Estonia, Ukraine and Poland

# Consolidated Operating Expenses

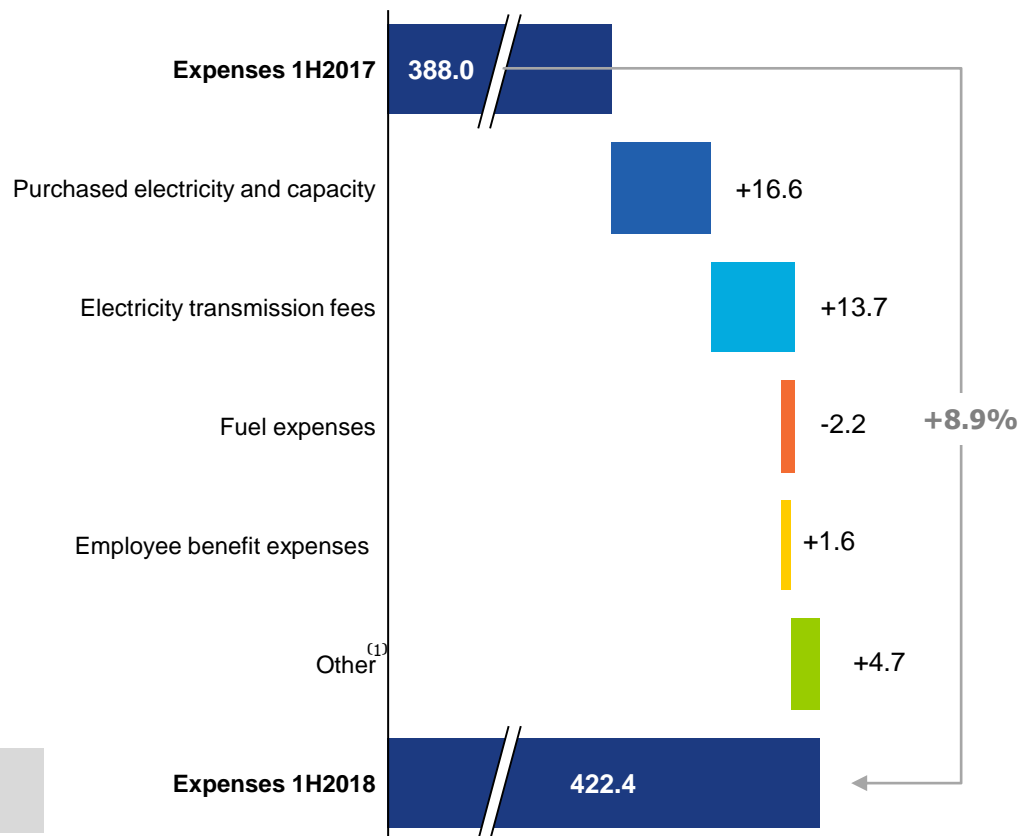
## OPEX breakdown



**Consolidated operating expenses of Inter RAO Group for the 1H2018 amounted to RUB 422.4 bn**

## OPEX dynamics

RUB bn

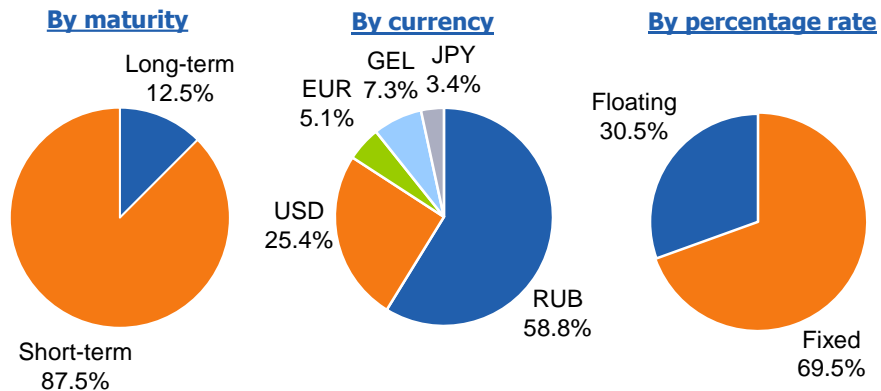


**Consolidated revenue growth of Inter RAO Group for 1H 2018 (+11.3% YoY) exceeds the growth of consolidated operating expenses (+8.9% YoY)**

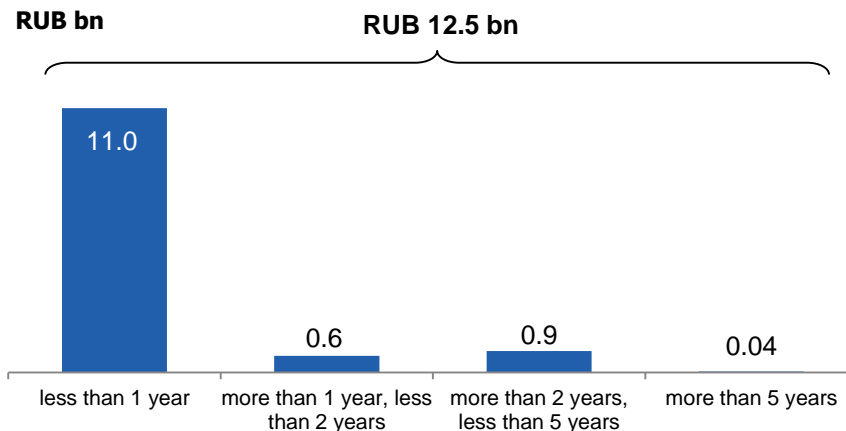
<sup>(1)</sup> Other expenses include depreciation and amortization, provision for impairment of accounts receivables, construction contracts expenses and other operating expenses

# Debt and Liquidity Analysis

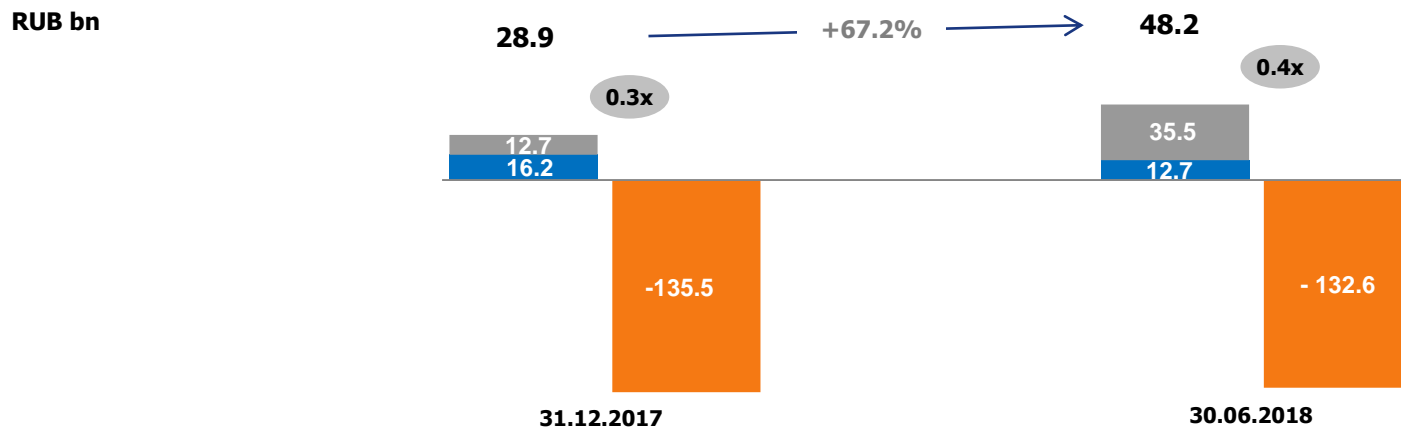
## Loans and borrowings composition<sup>(1)</sup>



## Loans and borrowings maturity profile<sup>(1)</sup>



## Total debt statistics<sup>(2)</sup>



■ Loans and borrowings 
 ■ Lease liabilities 
 ■ Group's net debt (includes lease liabilities) 
 ○ Debt/EBITDA (includes lease liabilities)

(1) Excluding lease liabilities and share in debt of joint ventures

(2) Includes debt and lease liabilities in joint ventures as of 30.06.2018 in amount of RUB 0.1 bn and RUB 0.4 bn respectively (lease liabilities of joint ventures as of 31.12.2017 – RUB 0.4 bn) and cash deposits (3-12 months)



## IV. Regulatory Transition to Supply Benchmark Model



# Regulatory Transition to the Supply Bench Mark Model

## Goals and objectives

- Defining clear and "transparent" procedures for setting tariffs;
- Increase the operating results of regulated organizations;
- Increase of investment attractiveness due to long-term use of methods of tariff regulation;
- Development of competition in the energy sales sector based on the application of best practices of the functioning of guaranteeing suppliers in the Russian Federation, their differentiation by the region of operation scale.

## Key Features

- Supply margin is established not in the form of a formula but rather in rubles per kWh;
- A phased transition to the benchmark revenue (required gross revenue) within 2-3 years;
- Supply margin is differentiated by groups of consumers, regions and groups of scale, depending on the number of delivery points;
- Supply benchmark expenses are reviewed no more than once in every 3 years.

## The components of Benchmark Revenue (Required Gross Revenue)<sup>(1)</sup>:

### Constant components of supply benchmark expenses:

- labor compensation, maintenance of premises,
- printing and delivery of invoices
- call center and Internet services,
- collection of meter readings
- acceptance of payment without commission.

### Variable components of expenses:

- Provision for doubtful debts - 1.5% of total revenue,
- % on loans – base rate + 4%.
- Uncontrolled costs (depreciation, taxes, capital investment from investments, measures of the investment program);
- Profit - 1.5% of revenue without transmission services

Constant components of the supply benchmark expenses were established by the Federal Antimonopoly Service (FAS) for 3 years.

They are differentiated by groups of consumers, regions and groups of scale, depending on the number of delivery points

**From 1<sup>st</sup> July 2018, Supply margins of Guaranteed suppliers will be established by the comparing analogues method in which the benchmark revenue (required gross revenue) is formed on the basis of the benchmark costs (previously regulated by the "cost + "method)**

1) Decree of the Government of the Russian Federation of July 21, 2017 No. 863 Federal Antimonopoly order from 21.11.2017 r. № 1554/17

# New Tariff Setting Method for Heat Supply



R U S S I A N

F E D E R A L  
L A W

J u l y 2 9 , 2 0 1 7

Nº 2 7 9 - F L

Changes to the Federal law “Heat supply”  
and other legislative acts of  
the Russian Federation on improving the  
system of  
Heat supply

The following law has been taken into  
effect since August 2017

## Key Features

- New Tariff Setting Method for Heat Supply;
- Creation of pricing zones with the maximum price capped by the level of the alternative heat boiler benchmark;
- New responsibilities of the Unified Heat Supply Organizations.

## Features of the new heat supply system

- **Tariff setting - the final price for heat energy is capped by the level of the alternative heat boiler benchmark.**
- Price level of the alternative heat boiler benchmark – the estimated cost of replacing heat energy from the centralized source
- If the price of the Alternative Heat Boiler benchmark is lower than the current tariff, the final price paid by the consumer does not change until it reaches the price level of the Alternative Heat Boiler benchmark
- If the price of the Alternative Heat Boiler benchmark is higher than the current tariff, there will be a gradual increase of the tariff to the level of alternative heat boiler benchmark within 5 years
- **New responsibilities of the Unified Heat Supply Organizations**
  - Formation and regular updating of the heat supply scheme
  - Ensuring the implementation of investment measures prescribed in the heat supply scheme
  - The pre-emptive right to conclude concession agreements without a tender within the scope of the zone of activity
- Decision to switch to a new model is voluntary and individual for each municipality. The decision is made by the Government of the Russian Federation with the consent of the Governor of the region on the basis of an application from the municipality and the Unified Heat Supply Organizations

**Federal antimonopoly service will have control function over heat price formation in order to prevent Unified Heat Supply Organizations from manipulating their dominant position**



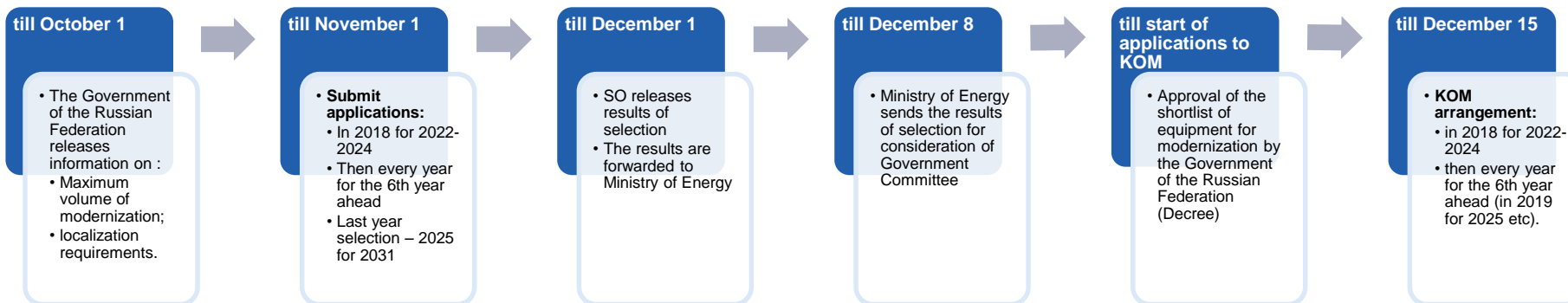


## V. Modernization of Generation Equipment



# Stages and Parameters of Modernization

## Stages of Modernization



## Parameters of Modernization

### 1 VOLUME AND TIMING

2022		2023-2031	
1 Pricing zone – 2.4 GW	2 Pricing zone – 0.6 GW	1 Pricing zone – 3.2 GW	2 Pricing zone – 0.8 GW

### 2 CAPEX PER UNIT

- Standardized CAPEX per unit for each type of operations included in Government Decree.
- Marginal Capex. Amount which can not be exceeded by Capex on the operations:
  - RUB 33,000/kWt – for gas
  - RUB 54,000/kWt – for coal
  - RUB 44,000/kWt – gas turbine topping(expected)

### 3 LOCALIZATION 90% (Ministry of Industry and Trade Methodology)

### 4 TERM OF AGREEMENT AND PAYMENT -16-year agreement, while:

- 1<sup>st</sup> year –payment for OPEX only
- 2<sup>nd</sup>-16<sup>th</sup> year – compensation of CapEx with a 14% rate of return adjusted for Sovereign bond rate

### 5 INDEXATION CONDITIONS - Capex is adjusted for inflation from 01.01.2018 till the year when the selection is held

### 6 MEETING QUALIFICATION CRITERIA

# Selection Process and Capacity Payments

## Selection

$$\text{Efficiency indicator} = \underbrace{\frac{P_{\text{capex}} + OPEX}{CUR \times 730}}_{\text{Payment for capacity component}} + \underbrace{P_{\text{dam}} \times (1 - K_{\text{dam}})}_{\text{Payment for energy component}} \rightarrow \min$$

**CUR** Real CUR of a plant within last 3 years before selection

**730** Average amount of hours in a month

**P<sub>dam</sub>** Average price in a day-ahead-market within 12 months before selection

**K<sub>dam</sub>** Profit margin in the electricity market (profitability)

## Competition parameters

- Capex. The lower – the more competitive
- Operating costs. the lower – the more competitive
- Profit margin in the electricity market (K<sub>dam</sub>). The more you profit you can give from electricity market – the more competitive. Within selection a generating company takes the responsibility for CUR and profit margin in the electricity market.

## Capacity payments

$$P_{\text{capacity}} 1_{\text{year}} = OPEX$$

$$P_{\text{capacity}} 2_{16_{\text{year}}} = (CAPEX + \text{Rate of Return}) + OPEX + \text{Taxes} - P_{\text{dam}} \times K_{\text{dam}} \times CUR \times H$$

<b>CAPEX +</b>	Annual return on investments based on the application with a rate of return = 14%
<b>Rate of Return</b>	adjusted for the rate of Sovereign Bonds over the period of 15 years
<b>OPEX</b>	Payment based on the application adjusted with a rate of (CPI-0.1 p.p.)
<b>Taxes</b>	Payment includes refunds on income tax and property tax
<b>P<sub>dam</sub></b>	Average DAM price in a month of delivery to delivery points of the plant
<b>K<sub>dam</sub></b>	K <sub>dam</sub> stated within the selection process
<b>CUR</b>	CUR stated within the selection process
<b>H</b>	Amount of hours in a month of delivery

**SELECTION IS DONE WITH A SINGLE-COMPONENT PRICE, WHICH INCLUDES PAYMENT IN THE CAPACITY MARKET AS WELL AS IN THE ELECTRICITY MARKET**

# Types of Modernization of Generating Equipment

## Types of modernization and minimum amount of replacement work to be done



### Boiler

and  
or



### Turbine

### + Options

#### One of 1.1 or 1.2:

##### 1.1. Boiler replacement

##### 1.2. Total replacement of not less than 3 elements:

- barrel
- superheater
- superheater collector
- heating screen
- bypass pipelines
- pipelines between the boiler and turbine

**Qualification requirements for boiler** – launched less than 40 years till the modernization deliveries

#### One of 2.1 - 2.3:

##### 2.1. Turbine replacement

##### 2.2. Gas turbine topping

##### 2.3. Replacement of HPC

##### 2.4. Replacement of HPC and on of below:

- MPC (MPC or LPC)
- LPC

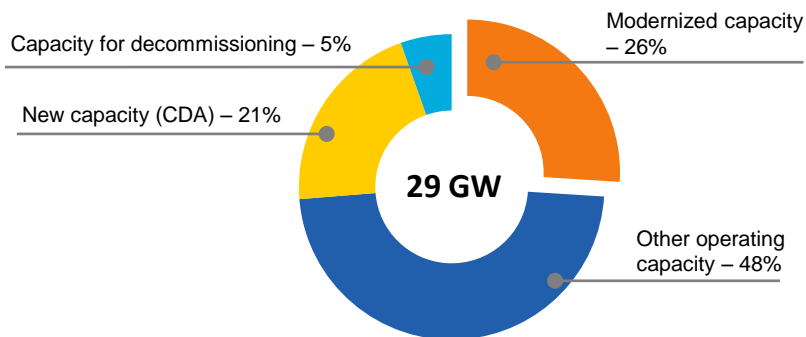
#### Qualification requirements for the turbine:

Finished effective operation period:

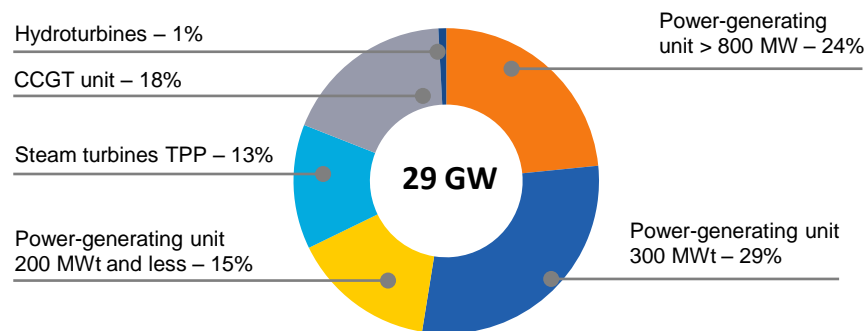
- Less than 50 MW - 270 thousand hours.
- 50-300 MW - 220 thousand hours.
- 300-500 MW - 170 thousand hours.
- More than 500 MW - 100 thousand hours.

- generator replacement
- rotor replacement
- cooling tower construction
- replacement of electric filters
- replacement of a stack at a coal station
- replacement of the fuel conditioning system
- reconstruction of the main building
- reconstruction of the ash dump

## Structure of current installed capacity of the Group



## Structure of the equipment of the installed capacity of the Group



**EQUIPMENT OF INTER RAO THAT IS PLANNED TO BE MODERNIZED MEETS QUALIFICATION CRITERIA**



**V. Q&A**

