

Program to enhance the energy efficiency of the Russian generating assets of the Inter RAO Group

Specific consumption of equivalent fuel for electricity output amounted to 296.99 g/kWh in 2018 (as compared with the target of 299.26 g/kWh, the actual level of 303.14 g/kWh in 2017, and the standard level of 298.72 g/kWh). The indicator was met as positive trends were seen in relation to the previous year.

The Inter RAO Group's Energy Conservation and Efficiency Improvement Program for the next five-year period from 2019 to 2023 was approved on January 11, 2019 at a meeting of the PJSC Inter RAO Management Board (Minutes No. 792 dated January 11, 2019).

The planning and implementation of the Energy Conservation and Efficiency Improvement Program is regarded as an integral part of the systematic approach to managing energy conservation and efficiency. This approach covers all stages of activities – from an energy analysis that determines the potential for energy conservation and a set of priority energy efficiency measures that aim to achieve the target indicators to organizing their funding as part of investment and production programs, implementing the planned measures, and taking into account the economic effect (energy conservation) in practical activities.

The Energy Conservation and Efficiency Improvement Program is prepared based on a comprehensive analysis and assessment of devices, equipment, systems, processes, and personnel that significantly affect the nature of the use and the amount of the energy resources consumed within a single system based on:

- the Company's Development Strategies
- the Group's Innovative Development Programs
- the Group's Technical Policy
- R&D programs

The Energy Conservation and Efficiency Improvement Program is compiled for two types of activities: electric and thermal power generation as well as heat supply (heat networks).

The key indicators of the Energy Conservation and Efficiency Improvement Program are:

- for electric and thermal power generation activities – the fuel heat utilization factor (KITT) and thermal efficiency reserves
- for heat supplying activities – total relative losses of thermal power and relative costs of electricity for the transmission of thermal power through heating networks

Taken together, these indicators make it possible to identify the potential for improving energy efficiency and developing measures to improve fuel efficiency.

The target indicators as well as the technical and economic indicators of the program reflect the operational indicators at which key performance indicators are achieved.

Indicator	2016	2017	2018	Change vs. 2017, %
Fuel equivalent consumption for electricity output, kg of fuel equivalent/MW	307.45	303.14	296.99	-2.0
Fuel equivalent consumption for thermal power output, kg of fuel equivalent/Gcal	145.04	143.90	144.36	0.3

The main factors that had a positive effect on reducing the specific consumption of fuel equivalent for electricity at the Inter RAO Group in 2018 are:

- an increase in the utilization ratio of more efficient equipment
- an increase in the share of co-generation electricity output
- the implementation of the planned Energy Conservation and Efficiency Improvement Program and additional measures that aim to improve energy efficiency