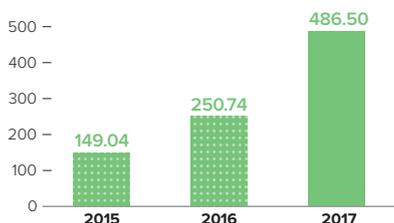
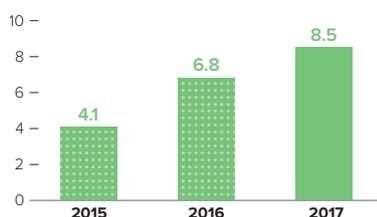


**INVESTMENTS IN RES DEVELOPMENT<sup>1</sup>, RUB million**



**SHARE OF INCOME RECEIVED FROM THE SALE OF ELECTRICITY FROM RES IN THE TOTAL INCOME RECEIVED FROM THE SALE OF ELECTRICITY GENERATED BY LUKOIL GROUP POWER GENERATION FACILITIES, %**



<sup>1</sup> Data for 2017 relate to LUKOIL-Ekoenergo and LUKOIL-Volgogradenergo.

**Energy efficiency and energy conservation**

Increasing energy efficiency, including through lowering fuel and energy resource consumption, is a key component of our overall efforts to improve operating efficiency and a critical factor in the maintenance of the Company's competitive edge in our rapidly changing world.

LUKOIL Group organizations have adopted an energy management system based on international standard ISO 50001:2011, and are elaborating and implementing measures to boost energy efficiency and energy conservation. In 2017 the energy management systems of 26 LUKOIL Group organizations had certificates on the ISO 50001 standard.



**Target 9.4.**

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

**TOTAL ENERGY CONSUMPTION OF LUKOIL GROUP SUBSIDIARIES**

	2015	2016	2017
Industrial electricity consumption, billion kWh	20.2	20.8	20.9
Industrial heat consumption, million Gcal	16.4	20.7	23.5
Industrial consumption of boiler and furnace fuels, million tonnes of reference fuel	7.7	8.3	9.5
Industrial energy consumption of LUKOIL Group subsidiaries (total energy consumption within the organization) <sup>2</sup> , million tonnes of reference fuel	13.9	14.5	15.6

<sup>2</sup> Total energy consumption within the organization = consumption of non-renewable types of fuel + electricity and heat purchased for consumption. The consumption of non-renewable types of fuel = consumption of boiler-furnace fuels (takes into account fuel consumption for electricity generation and domestic heat). Electricity and heat sold to external consumers are not included in productive consumption and are taken into account separately.

**Energy conservation program**

The energy conservation program of LUKOIL Group subsidiaries in Russia for 2018 and 2019-2020<sup>3</sup> is intended to boost the energy efficiency of the industrial activity. The goals of energy

conservation measures include a reduction and/or containment of growth in the share of energy costs in total production costs, as well as a reduction and/or containment of

the specific consumption of energy resources in production, oil refining, and petrochemistry, as well as in the sale of petroleum products and electricity and heat generation.

<sup>3</sup> The energy conservation program of LUKOIL Group subsidiaries covers Russian oil and gas production, oil and gas refining, petrochemical, power engineering, petroleum product marketing and distribution and transportation subsidiaries. The energy conservation programs of foreign assets are not included in the corporate program. The energy efficiency of foreign assets is monitored as part of the assessment and approval of investment projects.

The energy conservation program benchmarks for LUKOIL Group subsidiaries in Russia up to 2020 comprise energy savings covering a total of three years (from 2018 to 2020), and consisting of:

- Electricity: about 280 million kWh
- Heat: about 330 thousand Gcal
- Boiler and furnace fuels: about 360 thousand tonnes of reference fuel

Program measures were performed in full in 2017, and planned consumption benchmarks and fuel and energy savings were met.

**ENERGY SAVINGS FROM IMPLEMENTATION OF THE ENERGY CONSERVATION PROGRAM OF LUKOIL GROUP SUBSIDIARIES IN RUSSIA**

	2015	2016	2017
Electricity, million kWh	108	82	66
Heat, thousand Gcal	168	57	186
Boiler and furnace fuels, thousand tonnes of reference fuel	49	76	181
Financial savings, RUB million	764	708	1,185



**Target 9.5.**

Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

**Energy saving technologies**

The LUKOIL Science and Technology Complex develops technology and equipment that is designed to improve the energy efficiency of production processes. An example in this regard is the development of submersible brushless electric motors

for oil production, which are capable of providing energy savings of up to 24%. The end-to-end cycle, from initial idea to serial production, took around 20 years.

The strategy for replacing asynchronous motors with brushless motors at oil

production enterprises was approved in 2017, with respective oil production energy savings expected to exceed 10%. The equipment will be supplied not only to LUKOIL subsidiaries, but also to domestic and international markets.

**Energy-efficient products**

Increased energy efficiency requirements on the part of consumers and a reduction in emissions of pollutants and greenhouse gases have become noticeable trends on the fuels and lubricants market.

LUKOIL is constantly improving both its consumer basket and the formulae of its products. For example, the new product line (including ECTO-100 motor oil and LUKOIL Genesis Glidetech synthetic

motor oils) has improved fuel efficiency characteristics: test results have shown that their use reduces fuel consumption and, consequently, air emissions.

**Electric car infrastructure**

The wider use of electric vehicles is seen in various countries as a potential way of reducing greenhouse gas emissions and pollutants. LUKOIL has analyzed the potential of and limitations on expanding the infrastructure for electric cars, with due consideration of the experiences of developed countries in this regard, as well as the dynamics of the fleet of electric and hybrid cars used by consumers. Promising solutions have

been identified, including converting filling stations into client-focused facilities. Options and conditions for installing charging stations at the Company's filling stations have been considered, and the first projects are under way.

In 2016, in the Krasnogorsk District of the Moscow Region, a charging station was installed at a LUKOIL filling station

integrated into the MOESK-EV network. Another project was implemented at a filling station in Krasnodar Krai.

As of 2017, over 10 charging stations for electric cars had been installed at LUKOIL filling stations, with a number of similar projects in the pipeline for the Moscow Region, the Perm Territory, and the south of Russia.