



Optimization of energy consumption

In today's rapidly changing world, the requirement for sustainable development in energy consumption is more relevant than ever.

At the heart of our approach is a commitment to innovation and continuous improvement. The transition to sustainable energy requires a concerted effort and a willingness to change. By utilizing advanced technologies, adopting best practices, and fostering a culture of energy conservation among our employees, we aim to make significant progress toward achieving our sustainability goals while improving our operational resilience and competitiveness.

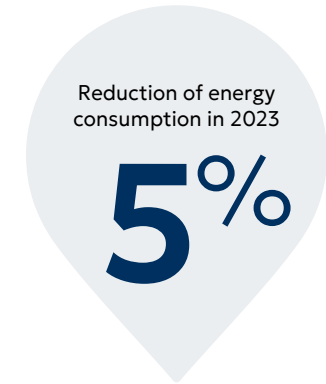
"Energy and Resource Saving Programme until 2027" defines our goals and objectives in energy and resource saving and energy efficiency improvement and sets priority areas and principles for implementing energy-saving and efficiency improvement measures. One of the priority organizational measures of the Programme was the creation of a system of the regular collection, analysis, and current control of information on the results of economic activity and volumes of fuel and energy consumption in the Fund's companies.

Quarterly (annual for some reporting forms) reporting under the Programme is envisaged.

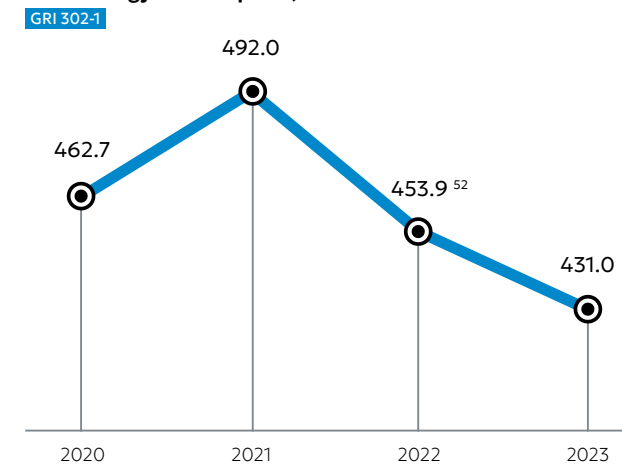
Large portfolio companies have approved energy efficiency management programs, energy saving programs, energy policies, etc. Portfolio companies' low-carbon development concepts/programs also specify energy efficiency targets. Most companies have an energy management system in place by the international standard ISO 50001:2011 requirements. **GRI 3-3** Several portfolio companies regularly conduct energy audits by the standard. Energy efficiency measures are planned and implemented based on the results of energy audits.

Indicators of consumption of fuel and energy resources

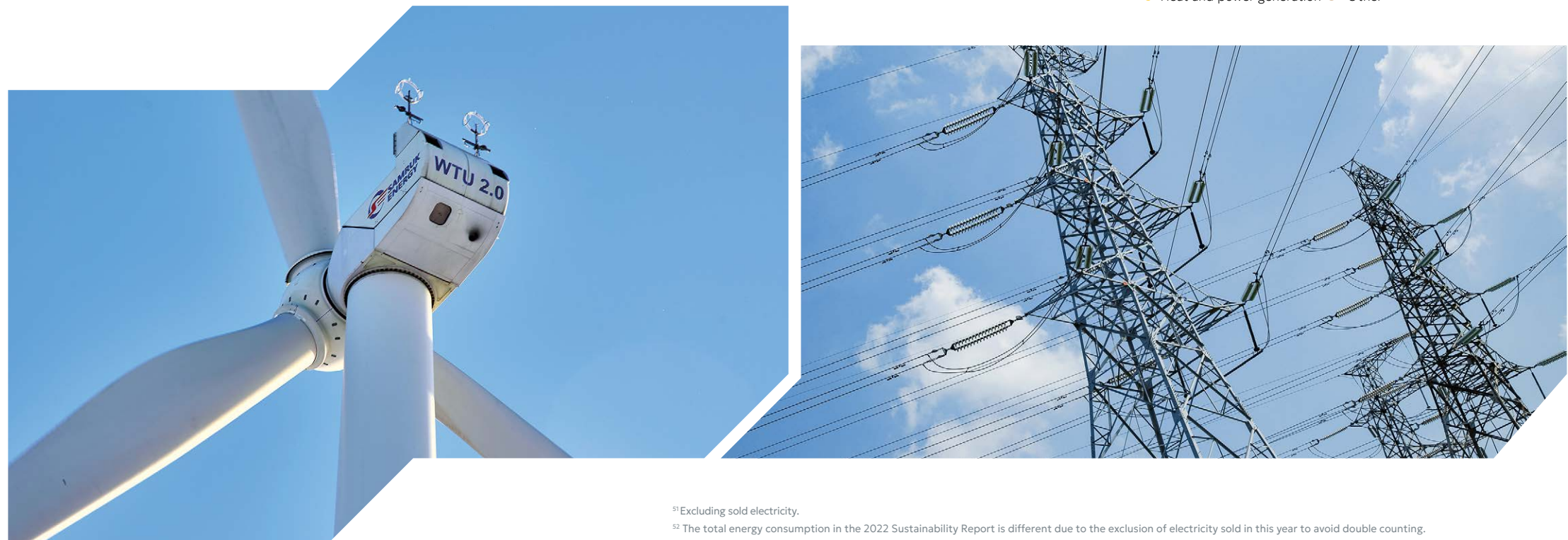
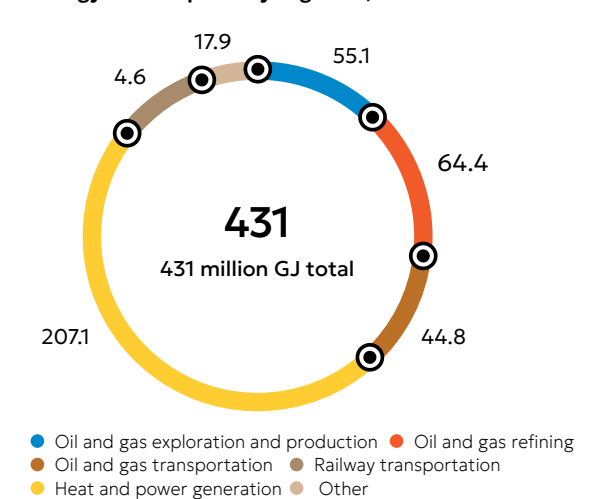
Total energy consumption within the Fund in 2023 was 431⁵¹million GJ, which is 5% below that the previous year.



Total energy consumption, million GJ



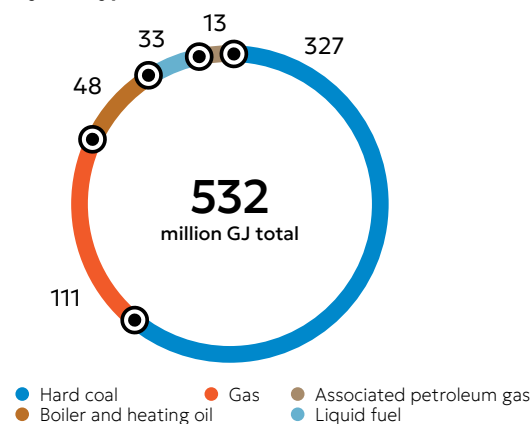
Energy consumption by segment, million GJ



⁵¹Excluding sold electricity.

⁵² The total energy consumption in the 2022 Sustainability Report is different due to the exclusion of electricity sold in this year to avoid double counting.

Fuel consumption from non-renewable sources, by fuel type, million GJ



Fuel consumption from renewable sources, thousand GJ

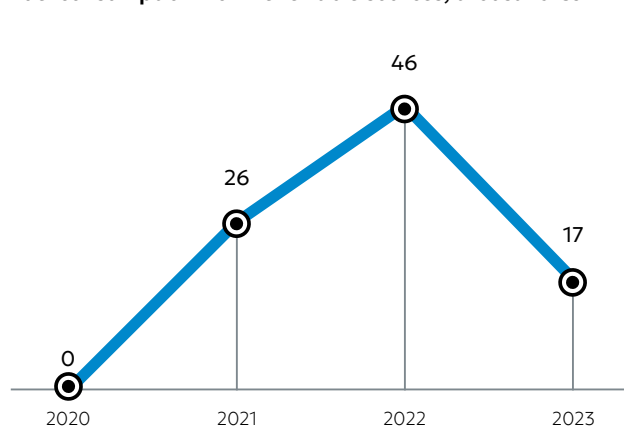


Table 18. Consumption of FER from non-renewable sources*, thousand GJ

GRI 302-1, SASB

Type of fuel	2020	2021	2022	2023
Liquid fuel, including:	28,970	30,634	31,685	32,972
Petrol	1,007	928	880	1,090
Diesel fuel	27,962	29,706	30,806	31,882
Boiler and heating oil, including:	49,877	45,385	50,255	47,523
Heating oil	42,206	39,700	46,372	42,380
Petroleum	781	652	958	1,169
Fuel oil	6,836	5,006	2,924	3,975
Marine fuel oil (IFO fuel oil)	54	28	1	0
Associated petroleum gas	13,932	14,461	15,702	12,933
Hard coal	293,556	334,710	328,633	327,121
Gas, including:	114,536	145,496	129,662	111,346
Natural gas	97,069	12,248	112,458	94,789
Stripped gas	17,257	18,036	17,103	16,484
LPG	214	217	102	73
Total	500,870	570,686	555,938	531,895

*Fuel consumption conversion coefficients from natural values to GJ were determined by the «Methodology for Formation of Fuel and Energy Balance and Calculation of Certain Statistical Indicators Characterising the Energy Sector» dated 11 August 2016 No. 160 GRI 302-1, GRI 302-4

In the structure of fuel and energy resources consumption from non-renewable sources for the Fund in 2023, hard coal accounts for 62%, gas – 21% (including natural gas – 18%), diesel fuel – 6%, and boiler and furnace fuel – 4%. The sector that consumes the most FER (coal) is the electricity and heat production sector, for electricity and heat production at CHPPs.

Total energy savings for 2023

11.5
million GJ

Energy consumption from renewable sources totaled 16.9 thousand GJ. GRI 302-1

The most significant energy consumption is in the heat and electricity generation sector – 207.1 million GJ, 48% of the total consumption. In the exploration, production, oil and gas processing and oil transportation sector, energy consumption totaled 124.1 million GJ (29% of total consumption). In this sector, fuel consumption decreased by 7% year-on-year due to decreased natural gas and APG consumption. The gas transportation sector consumed 40.2 million GJ, which accounted for 10% of the total energy consumption. Energy consumption of the railway freight transport sector totaled 41.6 million GJ – 10% of the total energy consumption.

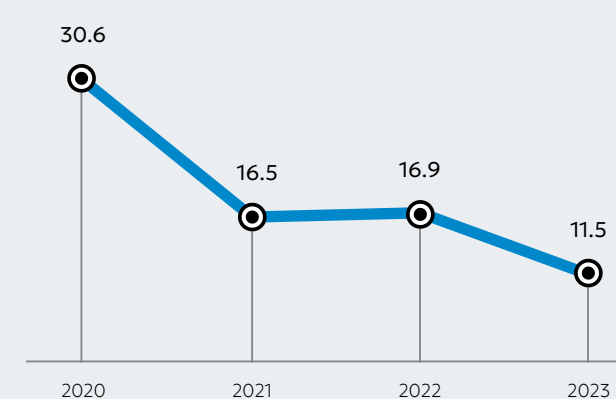
Electricity purchased totaled 60.6 million GJ, and thermal energy 5.2 million GJ. Electricity sold totaled 143.1 million GJ, and thermal energy totaled 23.8 million GJ. GRI 302-1

The energy intensity per unit of output in each sector of the Fund is shown in Annex 11. ESG Data. GRI 302-3

As part of the ongoing work on energy and resource saving and energy efficiency improvement for 2023, the total energy savings totaled – 11.5 million GJ. GRI 302-4

The electricity and heat generation sector accounted for the largest share in the reduction of energy consumption – 87%. According to the requirements of the environmental legislation of the Republic of Kazakhstan, work is being carried out to reduce the negative impact on the environment

Reduction of energy consumption as a result of reduction initiatives, million GJ



(reduction of emissions of pollutants and reduction of greenhouse gas emissions) in the regions where the Company operates. The sector implements energy efficiency measures, such as the construction of new substations, reconstruction and improvement of power grids, and optimization and modernization of energy infrastructures. GRI 302-4

In the oil and gas production and refining sector, energy savings totaled 717 thousand GJ, and in the gas transmission sector, 352 thousand GJ. The following measures were implemented: modernization of process equipment, the introduction of energy-saving technologies, development of own energy generation sources, replacement of lighting, reduction of room temperature during non-working hours, optimization of compressor station loads, etc.

In the uranium exploration and production sector, energy savings totaled 218 thousand GJ. In the area of energy consumption and energy efficiency improvement, efficiency is set not to exceed the annual planned specific energy consumption rates.

In the rail transport sector, fuel and energy savings increased more than 10-fold year-on-year to 150 thousand GJ. In 2023, a Low Carbon Development Action Plan for 2023-2027 was approved, detailing the measures to be taken. JSC NC Kazakhstan Temir Zholy purchased passenger coaches with combined heating, locomotives with higher environmental performance, heating in branches was switched from solid fuel to electric heating, and energy efficiency measures were implemented in branches of JSC NC Kazakhstan Temir Zholy and its subsidiaries, which reduced fuel consumption and, consequently, pollutant emissions.