

6.4.3. Wastewater and waste management

A key focus of the Sovcomflot Group's environmental protection activities is reducing the amount of wastewater and waste that gets into the World ocean during ship operations. These activities are carried out pursuant to the internal procedures of the Group, which encompass the requirements of both international and domestic legislation.

At present the Group's ships are equipped with wastewater treatment systems that combine mechanical, chemical, physical-chemical (including electrolysis) and biological methods. All wastewater treatment plants on board ships have the approval of classification societies confirming compliance with the requirements of Annex IV of the MARPOL 73/78 Convention. The quality of discharged water is confirmed by a wastewater plant certificate (type approval certificate).

Dynamics of fuel consumption in 2016-2018

Type of fuel		2018		2017		2016	
Fuel oil, tonnes	1,025,791	72 %	943,112	75.6%	943,112	75.6 %	
Diesel fuel, tonnes	231,860	16 %	208,690	16.7%	208,690	16.7 %	
Gas engine fuel, tonnes	166,741	12 %	96,442	7.7%	96,442	7.7 %	
Total	1,424,393	100 %	1,248,244	100%	1,248,244	100 %	

6.4.4. Energy consumption and efficiency

Different types of ship fuel are the main types of energy resources consumed during operations of the Group.

Sovcomflot Group is actively engaged in work to implement a state programme for introducing gas engine fuel in the transport sector. In 2013, the share of gas engine fuel amounted to 12 % of the total ship fuel consumption against 7.7 % a year earlier. The increase in this indicator is due to an increase in the intensity of liquefied gas transportation and the addition of new-generation LNG-fuelled vessels to the Group's fleet. The SCF fleet includes five LNG tankers equipped with LNG-powered internal combustion engines and four LNG tankers that also use gas fuel for the ship power plant (steam turbine). In addition, three dual-fuel Aframax tankers using liquefied natural gas as the primary fuel were brought into service in 2018.

Management of garbage produced on ships during operations is also organised in strict compliance with Annex V of the MARPOL 73/78 Convention, which governs the prevention of pollution by garbage from ships.

27 %

the reduction in the total amount of various types of garbage generated by the Group's vessels during operation in 2018 compared to 2017

12 %

THE SHARE OF GAS ENGINE FUEL

in the total amount of ship fuel consumed (vs. 7.7 % in 2017)

The consumption of energy resources such as heat, electricity, motor gasoline is associated with the operation of the Group's onshore units. Their consumption volume is insignificant compared to consumption volumes of different types of ship fuel. The Group does not consume any types of energy resources other than those listed above.