

THOMSON REUTERS KORTES

METHODOLOGY

Petroleum oils. Supply and demand balance Quarterly (M2) and annual (M21) reports

Content:

Balance of supply and demand of petroleum in the Russian market.

Groups of marketable products:

The following groups of petroleum oils are listed in the section:

- Basic;
- Industrial;
- Motor;
- Hydraulic;
- Transformer;
- Turbine;
- Gear;
- Compressor;
- Other oils.

Petroleum base oils are oils which are obtained after crude oil processing, are used to produce commercial oils for various purposes.

Industrial oils are commercial petroleum oils used to reduce friction and wear of industrial equipment.

Motor oils are commercial petroleum oils used to lubricate reciprocating internal combustion engines. In this paper, we consider the total production of oils for gasoline, diesel, gas, aircraft engines, as well as universal motor oils.

Hydraulic oils are commercial oils used as fluids for hydraulic systems of industrial equipment, as well as in hydrostatic drives for agricultural and other machinery, in power steering and hydrostatic transmission systems.

Gear oils are commercial oils intended for use in the friction units of gears of cars and trucks, buses, tractors, diesel locomotives, road-building and other machines.

Turbine oils are commercial energy oils intended for lubrication and cooling of bearings of various turbine units: steam and gas turbines, hydraulic turbines, turbochargers.

Transformer oils are commercial energy insulating oils, liquid dielectrics used for pouring power and measuring transformers, reactor equipment, and oil switches.

Compressor oils are commercial energy oils used to lubricate compressors used in various industries and transport, as well as in refrigeration plants.



Other oils in this report include axial, washing, process oils, as well as oils for various purposes.

Information sources:

- Statistical data of FGBU "CDU TEK" for the production of motor, industrial, gear, hydraulic, transformer, turbine, compressor, base and other oils.
- Statistical data of FGBU "CDU TEK" on the inventories of motor, industrial, gear, hydraulic, transformer, turbine, compressor, base and other oils at manufacturers at the end of the period under review.
- Thomson Reuters Kortes' own data on the production of petroleum oils in the territory of the Russian Federation.
- Data on transportation of petroleum oils by rail.
- Data of Morcenter-TEK on the transportation of petroleum oils by inland waterways.
- Statistics of foreign economic activity of the Russian Federation - export and import of petroleum oils.

The data presented in the report is preliminary processed and adjusted as information is improved.

Data provided in the report:

BALANCE OF SUPPLY AND DEMAND FOR PETROLEUM OILS

The balance of supply and demand for petroleum oils consists of four chapters. The first chapter considers the balance of supply and demand of petroleum oils as a whole. This section also reviews the price information for some groups of oils. The second and third chapters describe the balances of supply and demand of motor and industrial oils respectively, the content of these sections is built accordingly to the first one. The only difference is the coverage of imports. The fourth section presents data on other oils in table, indicating the main indicators.

CONCEPT OF THE BALANCE OF SUPPLY AND DEMAND

The balance of supply and demand is a balance of the receipt and consumption of oils in the market of the Russian Federation for a given period of time (quarter or year).

The *supply* reflects the flows of oils to the market from domestic (*production*) and external (*import*) sources.

The *demand* reflects the consumption of oil in the domestic market (*consumption*) and shipments to foreign markets (*exports*).

The difference between supply and demand is the amount of inventory change in the domestic market. *The main balance ratio* is fulfilled:

$$\{\text{Supply}\} - \{\text{Demand}\} - \{\text{Inventory change}\} = 0.$$

The inventory change is calculated as the difference between the volume of oils producers' stocks at the end of the reporting period and the volume of stocks at the end of the previous period.

If the total supply exceeds the total demand for the period under consideration, then the inventories are growing, otherwise there is a decrease of inventories.

Indicators of demand, supply and changes in balance, along with indicators reflecting the level of domestic and foreign prices, characterize the market of petroleum products and are an important object of marketing analysis. The identification of regularities in the dynamics of these indicators, their dependence on external factors, serves as a basis for forecasting the market situation.

CONSTRUCTION OF THE BALANCE OF SUPPLY AND DEMAND

The balance of supply and demand for oil products is based on statistical data on the volumes of production, imports, exports and inventory change. Since no statistical data can be absolutely accurate, the main balance ratio takes the following form.

$$\{\text{Supply}\} - \{\text{Demand}\} - \{\text{Inventory change}\} = \{\text{Error in statistics}\}$$

In the general case, the aggregate data of Russian statistics does not allow determining the amount of inventory change at consumers and at petroleum depots directly. Therefore, in this paper, the amount of domestic consumption includes not only direct consumption, but also inventory change at consumers and at petroleum depots and statistical error.

Taking into account this remark, the main balance ratio takes the following form:

$$\{\text{Supply}\} - \{\text{Export}\} - \{\text{Producers' inventory change}\} = \{\text{Domestic consumption}\}$$

The following procedure is used to build balances of supply and demand for petroleum products:

- *volumes of production, imports, exports and producers' inventory change are determined on a base of statistical data;*
- *supply is calculated as the sum of production and import;*
- *domestic consumption is calculated as the difference between supply, export and producers' inventory change;*
- *demand is calculated as the sum of domestic consumption and exports.*

BUILDING OF THE MAIN SECTIONS OF THE BALANCE

PRODUCTION

Production is shown by company and refinery, as well as by groups of petroleum oils.

Data on the production of petroleum oils by companies and refineries for the quarter (year) is presented in the table with the indication of changes against the previous quarter (year) and the same period last year.

Data on enterprises that do not have their own production of base oils (except RN-Lubricants and LLK-International in Tyumen, as well as Neftemaslozavod (Orenburg) NMZ) is not included in the Report, when calculating the production of lubricating oils in the territory of the Russian Federation.

Volumes of production by companies are calculated as the sum of refineries' output, which are affiliated with the company. The affiliation is indicated in accordance with the source of the initial information, except Slavneft-Yaroslavlnefteorgsintez, whose output is shared 50/50 between Rosneft and Gazprom Neft.

The structure of production of petroleum oils by groups is presented for the quarter (year) in a table indicating changes against the previous quarter (year) and the same period of the previous year.

EXPORT

Export is broken down by directions and countries, by companies, as well as by groups of petroleum oils.

The volume of exports in the direction of the "CIS countries" is calculated as the sum of export shipments of oils to the countries that are part of the Commonwealth of Independent States. The volume of exports in the direction of "non-CIS countries" is calculated as the sum of export shipments of oils to countries that are not part of the CIS.



Data on the export of oils from Russia by country for the quarter (year) is presented in the table with the indication of changes against the previous quarter (year) and the same period last year. The table considers the largest recipients of Russian petroleum oils. The rest are aggregated in the line "Other countries".

The data on railroad shipments of petroleum oils with a breakdown by country is the initial information for exports by countries. This data is supplemented by volume of export shipments by motor vehicles and water transport according to customs stats.

Data on the export of petroleum oils from the Russian Federation for companies for the quarter (year) is presented in the table with changes against the last quarter (year) and the same period last year.

Volumes of exports by companies are calculated as the sum of refineries' output, which are affiliated with the company. The volumes of export from Slavneft-Yaroslavnefteorgsintez are distributed between Rosneft and Gazprom Neft in accordance with the Contractor's field in customs stats.

The volume of total exports of petroleum oils by independent producers is also indicated; these are enterprises that do not belong to the petroleum refining industry and produce oils out of purchased feedstock.

Data on the export of petroleum oils from Russia by group for the quarter (year) is presented in the table with the indication of changes against the previous quarter (year) and the same period last year.

Volumes of export by groups are calculated according to the statistical data of foreign economic activity of the Russian Federation. Based on the description of commodity declarations of customs statistics, groups of oils are determined in accordance with the list specified in paragraph 3.1.

IMPORT

Import of petroleum oils is given with a breakdown by groups.

Data on the import of petroleum oils by group for the quarter (year) is presented in the table with the indication of changes against the previous quarter (year) and the same period of the previous year.

The volumes of imports by groups are calculated according to the statistical data of the foreign economic activity of the Russian Federation. Based on the description of commodity declarations of customs statistics, groups of oils are determined in accordance with the list specified in paragraph 3.1.

Import of motor and industrial oils is given by country of origin, by major manufacturing companies and by major importing companies.

Data on imports of motor and industrial oils by country of origin for the quarter (year) is presented in the table showing changes against the previous quarter (year) and the same period of the last year.

The volumes of imports of motor and industrial oils by country of origin are determined from the statistical data of foreign trade activities based on the field "Country of origin".

Data on imports of motor and industrial oils by major manufacturing companies for the quarter (year) is presented in the table with the indication of changes against the previous quarter (year) and the same period of the previous year.

The volumes of imports of motor and industrial oils by main manufacturing companies are determined according to the statistical data of foreign trade activities based on the field "Manufacturer's name".

Data on imports of motor and industrial oils by main recipient companies for the quarter (year) are presented in the table.

The volumes of imports of motor and industrial oils by main recipient companies are determined according to the statistical data of foreign economic activity on the basis of the field "Name of the recipient".

DOMESTIC MARKET (CONSUMPTION)

Domestic consumption of petroleum oils is given with a breakdown by group.

Data on domestic consumption of petroleum oils on the Russian market by groups for the quarter (year) is presented in the table, indicating the share of each group in the total domestic consumption of petroleum oils.

The volumes of domestic consumption of petroleum oils by groups are calculated as the difference between supply, export and inventory change at producers by group (see 1.2).

PRICE INFORMATION

The report provides on price information specifying the monthly average prices at refineries for the period under consideration for the following groups of oils:

- motor;
- industrial;
- gear;
- turbine;
- compressor.

Changes in prices for these groups of oils at the end of the period under review are described against the end of the past period and the end of the same period of the previous year (for the quarter).

The average price at refineries for motor oils considers the price of M-10g2k grade, for industrial ones - I-40A, for transmission ones - TS-15K, for turbine - TP-22B, for compressor - KS-19.

Dimension: tons.

Periodicity of issue:

For M2 - quarterly, within 55 days after the end of the reporting period.

For M21 - annually, until March 10 of the year following the reporting period.

Form of issue:

The report is provided in the .pdf file format.

METHODOLOGY. Petroleum oils. Supply and demand balance (M2 and M21 reports)

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