

CALCULATION OF EX-REFINERY PRICE INDICES FOR PETROLEUM PRODUCTS OF COMPARABLE FOREIGN MARKETS (NETBACK). METHODOLOGY

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1. GENERAL PROVISIONS

1.1 Price indices for petroleum products of comparable foreign markets (hereinafter - Indices) - commodity indices reflecting the estimated indicative price of specified generalized petroleum product at his refinery dispatch point and calculated by THOMSON REUTERS KORTES in accordance with this Methodology (hereinafter - the Methodology) based on quotations of THOMSON REUTERS (hereinafter - Reuters) and information about the transport, logistics and tax costs and payments.

1.2 Indices codes are formed according to the following rule: <Refinery code> - <code of generalized petroleum product > - <spot trade center code>

For example: index KNOZ - FOU - MED code indicates the estimated indicative netback price of one metric ton of low-sulfur fuel oil from the spot trade center in the Mediterranean on the basis of the Kirishinefteorgsintez refinery's dispatch station.

1.3 Indices are calculated for the following generalized petroleum products:

No.	Code	Generalized petroleum product
1	NAP	Naphtha
2	GAR	Regular gasoline 92
3	GAP	Premium gasoline 95
4	JET	Jet fuel
5	DTS	High-sulfur summer diesel (heating oil)
6	DTU	Low-sulfur summer diesel
7	DTW	Winter diesel
8	FOS	High-sulfur fuel oil
9	FOU	Low-sulfur fuel oil

The consumer properties and quality characteristics of each generalized petroleum product for which Indices are calculated are considered to be equivalent to consumer properties and quality characteristics of quoted petroleum products compliant with this generalized petroleum products (Appendix 1 to this Methodology).

1.4 The indices are calculated for Russian refineries. The calculation basis for each Index is the dispatch station of the respective refinery (Appendix 2 to this Methodology).

1.5 The indices are calculated for generalized petroleum products on the basis of the quotations in three centers of international spot trade: the North-West Europe (NWE), the Mediterranean (MED) and the Asia-Pacific region (SING), provided by THOMSON REUTERS.

2. THE GENERAL PROCEDURE FOR CALCULATING THE INDICES

- 2.1 The Indices are calculated daily, except weekends and non-working holidays in the Russian Federation. If petroleum products were not traded in the spot trade center at that moment, the last value of the trading day is taken as a quotation of the respective product in the spot trade center for further calculation (paragraph 2.4 of this Methodology).
- 2.2 Indices are calculated for each refinery basis, from where is effected (or can be effected, paragraph 4.6 hereof) export of generalized petroleum product (paragraph 1.3 hereof) to the particular spot trade center (paragraph 1.5 hereof).
- 2.3 THOMSON REUTERS KORTES can change the procedure and frequency of indices calculation, as well as to amend and extend the list of refineries and generalized petroleum products.
- 2.4 The values of the indices are calculated by deducting all respective transport and logistics costs from petroleum products' quotes in the spot trade center and adding taxes, according to the following formula:

$$I_n = (P_n - Tr_n - E_n + T_n) \cdot (1 + V_n),$$

Where: I_n is the value of the Index on the n^{th} date of calculation (in Russian rubles per one metric ton of generalized petroleum product);

P_n is the quotation of the petroleum product in the spot trade center, converted to Russian rubles per metric ton, in accordance with paragraph 3 hereof;

Tr_n - total transportation and logistics costs (in Russian rubles per metric ton of generalized petroleum product) in accordance with paragraph 4 hereof;

E_n - rate of export duties, converted into Russian rubles per one metric ton of generalized petroleum product;

T_n - excise tax (in Russian rubles per one metric ton of generalized petroleum product);

V_n - the VAT rate for the generalized petroleum product (expressed as a decimal).

- 2.5 We use the US dollar to Russian ruble exchange rate on the n^{th} date provided by the Central Bank of the Russian Federation (RIC - 'USDRUBFIX =) for the conversion of the US dollar values into Russian rubles
- 2.6 We use the euro exchange rate against the US dollar on the n^{th} date (RIC - 'EUR =) to convert values in euros into US dollars
- 2.7 The values of the Indices are rounded to the nearest integer number according to the rules of arithmetic rounding, and are expressed in Russian rubles per metric tonne.

3. DETERMINATION OF PETROLEUM PRODUCT QUOTATION IN THE INTERNATIONAL SPOT TRADE CENTER (P_N)

- 3.1 The quotations of petroleum products in the spot trade center (P_n) (hereinafter - the Quotation) are determined based on THOMSON REUTERS' data on petroleum products trading in the respective spot trade center: the North-West Europe (NWE), the Mediterranean (MED) and the Asia-Pacific region (SING).
- 3.2 The quotation is considered equal to the closing price of the trading day provided by Reuters, as of the date of Index calculation.
- 3.3 The quotation of petroleum product in the spot trade center is used in the calculation of the Index of the generalized petroleum product with equivalent consumer properties and quality characteristics in accordance with Appendix 1 of this Methodology.
- 3.4 The list of Reuters' instruments, whose quotations are used in the Index calculation, is represented in Appendix 1 of this Methodology and can be revised if the composition of the instruments provided by Reuters is changed.
- 3.5 Quotation (P_n) is expressed in Russian rubles per metric ton. We use the US dollar to the Russian ruble exchange rate on the n^{th} date provided by the Central Bank of the Russian Federation (RIC - 'USDRUBFIX =) for the conversion of the US dollar value into Russian rubles (paragraph 2.5 hereof).
- 3.6 The Reuters' data which is expressed in US dollars per barrel is converted into Russian rubles per metric ton using the coefficients defined in Appendix 1 of this Methodology.

4. TOTAL TRANSPORTATION AND LOGISTICS COSTS (TR_N)

- 4.1 We define estimated export route for each generalized petroleum product (hereinafter - Routes), for each refinery, whose dispatch station is the basis for Index calculation, to each spot trade center specified in paragraph 1.5 hereof.
- 4.2 The following routes can be set depending on the type of transport infrastructure:
 - railway route to Russian or foreign sea port;
 - pipeline route to Russian or foreign sea port;
 - mixed pipeline-railway route to Russian or foreign sea port.
- 4.3 The actual route is determined based on the statistics for the previous calendar year and the use of the respective transport infrastructure. If there are several alternative routes, we use the route that carried larger volume of exports of the specific generalized petroleum product from the respective refinery the previous calendar year.
- 4.4 The revision of the actual routes is made in accordance with paragraph 7 hereof.

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- 4.5 An unscheduled change in the actual route can be made on the basis of the results of monthly monitoring of data on the volumes of exports of the generalized petroleum product year to date and the use of transport infrastructure.
- 4.6 If it is impossible to define the real route for some refinery (there were no exports of generalized petroleum product to the spot trade centers the previous year), we take a theoretical route for such refinery and generalized petroleum product. The parameters of this route are determined on the basis of an expert assessment of average transportation and logistics costs for routes that are close or partially identical to this theoretical route and the possibilities of using the transport infrastructure. All calculations of transport and logistics costs of the theoretical route are carried similar to the calculation of the actual Route.
- 4.7 The total cost of transport and logistics (Trn) are made up of:
- cost of transportation services on the territory of Russia;
 - cost of transportation services on the territory of a neighboring state;
 - cost ship freight;
 - cost of transshipment services in the port.
- 4.8 If necessary, the above stated costs can be combined into one or more aggregated values.
- 4.9 Parameters related to the railway transport of petroleum products are listed in Appendix 3.
- 4.10 The cost of the freight is calculated for each port, taking into account the type of generalized petroleum product (Clean / Dirty), based on the following information:
- Cargo size Crude Clean Tanker=30k;
 - Cargo size Crude Dirty Tanker=80k;
 - Daily freight quotes for the spot trade centers according to THOMSON REUTERS KORTES, expressed in WS (World Scale);
 - WS100 values for each port of discharge;
 - Cargo insurance (% of CIF value of petroleum product);
 - When calculating the Baltic ports freight we also take into account: ice dues, fuel charge (SECA), charge at the port of Rotterdam, the distance from the port of dispatch to the port of Rotterdam.
- 4.11 The cost of transshipment services at the port is defined as the average value of the cost of transshipment of the respective generalized product in port terminals. If the transshipment costs are expressed in euros, the calculation is carried out in accordance with paragraph 2.6 of the Methodology.
- 4.12 A list of ports that can be used to determine the routes is specified in Appendix 4 of this Methodology.

5. THE RATES OF EXPORT DUTIES (E_N)

- 5.1 The Indices include the rates of export duties, calculated by Ministry of Economic Development of the Russian Federation for the respective generalized petroleum product or group of petroleum products, and effective for the moment of Index calculation.
- 5.2 The rates of export duties included to the Index are expressed in Russian rubles per one metric ton of the respective generalized petroleum product.
- 5.3 We use the US dollar to the Russian ruble exchange rate on the n^{th} date provided by the Central Bank of the Russian Federation for the conversion of the export duties expressed in US dollars into Russian rubles.

6. EXCISE RATES (T_N)

- 6.1 The rate of excise duty for the respective generalized petroleum product, for which the Index is calculated, is considered be equal to the rate of excise duty for the maximal ecological class of fuel allowed for the sale in all regions of the Russian Federation, according to the technical rules and regulations of the regions of the Russian Federation.
- 6.2 The rates of excise duty included to the Index are expressed in Russian rubles per one metric ton of the respective generalized petroleum product.
- 6.3 We take into account excise for Naphtha.
- 6.4 We apply the excise rate of heating oil to high-sulfur summer diesel (heating oil).

7. THE GENERAL PROCEDURE FOR CHANGING THE PARAMETERS OF INDICES CALCULATION

- 7.1 The periodicity of monitoring and adjustment of transport and logistics costs, the rates of export duties, excises and VAT are defined in Appendix 5 of this Methodology.

8. THE INDICES CALCULATION CONTROL

- 8.1 We reserve the right to recalculate the Indices which were previously calculated in the case of a technical failure in Index calculation or a technical failure leading to distortion of the data used to Indices calculation, but not before the previous day of the calculation.

9. AMENDMENTS TO THE METHODOLOGY

- 9.1 THOMSON REUTERS KORTES reserves the right to make changes in this Methodology.

APPENDIX 1: LIST OF THE PRICE QUOTES OF THOMSON REUTERS WHICH ARE USED TO CALCULATE INDICES AND THEIR CONFORMANCE WITH GENERALIZED TYPES OF PETROLEUM PRODUCTS

Code	Generalized petroleum product	North-Western Europe (NWE)		Mediterranean (MED)		Asia-Pacific region (SING)	
		Instrument	Coefficient to convert to \$/t	Instrument	Coefficient to convert to \$/t	Instrument	Coefficient to convert to \$/t
NAP	Naphtha	Naphtha CIF NWE (NAF-C-NWE)	1	Naphtha CIF MED (NAF-C-MED)	1	Naphtha FOB Singapore (NAF-SIN)	9.006
GAR	Regular gasoline 92	Gasoline 10ppm CIF NWE (RU-C-NWE)	1	-	-	Gasoline 92 FOB Singapore (GL 92-SIN)	8.519
GAP	Premium gasoline 95	Gasoline 10ppm CIF NWE (PU-C-NWE)	1	Gasoline 10ppm CIF MED (PU-C-MED)	1	Gasoline 95 FOB Singapore (GL 95-SIN)	8.519
JET	Jet fuel	Jet CIF NWE (JET-C-NWE)	1	Jet FOB MED (JET-F-MED)	1	Kerosene FOB Singapore (JET-SING)	7.880
DTS	High-sulfur summer diesel (heating oil)	Gasoil 0.1% CIF NWE (GO-CN-NWE)	1	Gasoil 0.1% CIF MED (GO01-C-MED)	1	Gasoil 0.5% FOB Singapore (GO-SIN)	7.450
DTU	Low-sulfur summer diesel	Diesel 10ppm CIF NWE (ULSD10-C-NWE)	1	Diesel 10ppm CIF MED (DL-CIF-MED)	1	Gasoil 0.05% FOB Singapore (GO005-SIN)	7.450
DTW*	Winter diesel	Theoretically-calculated quote – determined based on the mix of 50% Low-sulfur summer diesel (DTU) and 50% Jet fuel (JET)					
FOS	High-sulfur fuel oil	Fuel Oil 3.5% CIF NWE (FO35-C-NWE)	1	Fuel Oil 3.5% CIF MED (HFO-C-MED)	1	HSFO 380 (FO380-SIN)	1
FOU	Low-sulfur fuel oil	Fuel Oil 1.0 % CIF NWE (LFO-C-NWE)	1	Fuel Oil 1.0% CIF MED (LFO-C-MED)	1	HSFO 180 (FO180-SIN)	1

APPENDIX 2: LIST OF RUSSIAN REFINERIES, WHOSE STATIONS OF DISPATCH ARE USED AS BASIS FOR CALCULATING THE INDICES

№	CodeRUS	CodeENG	Refinery	Station of dispatch ID	Station of dispatch
1	КНОС	KNOS	Kirishinefteorgsintez	4520	Kirishi
2	ЛННОС	LNNOS	LUKOIL-Nizhegorodnefteorgsintez	26960	Zeletsino
3	РНПК	RNPC	Ryazan Refinery	22310	Stenkino 2
4	ЯНОС	YNOS	Yaroslavnefteorgsintez	31490	Novoyaroslavskaya
5	КмНПЗ	KmNPZ	Komsomolsk refinery	96870	Dzemgi
6	ЛВНП	LVNP	LUKOIL-Volgogradneftepererabotka	61200	Tatyanka
7	СрНПЗ	SrNPZ	Saratov Refinery	62100	Neftyanaya
8	ЛПНОС	LPNOS	LUKOIL-Permnefteorgsintez	76160	Osentsy
				25700	Kama
9	АфНПЗ	AfNPZ	Afipsky refinery	52400	Afipskaya
10	АчНПЗ	AcNPZ	Achinsk Refinery	88140	Novaya Elovka
11	АНХК	APCHC	Angarsk Petrochemical Company	93220	Sukhovskaya
12	ОмНПЗ	OmNPZ	Omsk Refinery	83150	Kombinanskaya
13	ТАИФ	TAIF	TAIF-NK	64820	Biklyan
14	СлНОС	SINOS	Gazprom neftekhim Salavat	65280	Allaguvat
15	КЭН	KEN	Krasnodareconeft	52440	Krasnodar 1
16	СмНПЗ	SmNPZ	Group of Samara refineries	63940	Novokuibyshevskaya
17	ОрНОС	OrNOS	Orsknefteorgsintez	81430	Nikel
18	МНПЗ	MsNPZ	Moscow Refinery	19450	Yanichkino
19	ЛУНП	LUNP	LUKOIL-Ukhtaneftepererabotka	28570	Vetlasyan
20	УНПЗ	UfNPZ	Group Of Ufa Refineries	65480	Chernikovka- Vostochnaya
21	ТпНПЗ	TuNPZ	Tuapse refinery	53340	Tuapse-Sortirovochnaya
22	ХбНПЗ	KbNPZ	Khabarovsk refinery	97040	Khabarovsk 1
23	СуЗСК	SuZSC	Surgut CSP	79730	Surgut
24	ГДАст	GDAst	Gazprom Dobycha Astrakhan	61700	Aksaraiskaya II
25	МаНПЗ	MaNPZ	Mariyskiy refinery	25280	Nuzhyaly

APPENDIX 3: THE BASIC PARAMETERS OF PETROLEUM PRODUCTS TRANSPORTATION BY RAIL

Light distillates					
	Cargo code	GNG code:	ETSNG code:	ETSNG cargo name	Weight
Gasoline	NAP, GAR, GAP	27250000	211056	Unleaded gasoline	52
Jet fuel	JET	27310000	212052	Jet fuel	55
Diesel	DTS, DTU; DTW	27410000	214039	Diesel fuel having a flash point above 61C (closed cup)	55
Conditions of transportation					
Country of departure:			Russia		
Country of destination:			Other countries		
Type of shipment:			Single wagon load. In tank wagons		
Velocity			Cargo		
Shipment			Direct exit route		
Type of rolling stock:			Tank wagon for petroleum products		
Ownership:			Own (without rent costs)		
Number of wagons:			1		
Number of wagons in shipment:			1		
Number of axles:			4		
Security			Yes		
Calculation result	Total per ton = freight charge (without VAT) + security(incl. VAT) + tank wagons return (incl. VAT)				

APPENDIX 3 (CONT'D): THE BASIC PARAMETERS OF PETROLEUM PRODUCTS TRANSPORTATION BY RAIL

Heavy distillates

Heavy distillates

	Cargo code	GNG code:	ETSNG code:	ETSNG cargo name	Weight
Fuel oil	FOS, FOU	27440000	221066	Fuel oil	60

Conditions of transportation

Country of departure:	Russia
Country of destination:	Other countries
Type of shipment:	Single wagon load. In tank wagons
Velocity	Cargo
Shipment	Direct exit route
Type of rolling stock:	Tank wagon for oil
Ownership:	Own (without rent costs)
Number of wagons:	1
Number of wagons in shipment:	1
Number of axles:	4
Security	No

Calculation result	Total per ton = freight charge (without VAT) + tank wagons return (incl. VAT)
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APPENDIX 4: LIST OF PORTS THAT ARE USED TO SET THE ESTIMATED EXPORT ROUTES

No.	Port	Country
1	Azov	Russia
2	Arkhangelsk	Russia
3	Baltiysk	Russia
4	Vanino	Russia
5	Ventspils	Latvia
6	Vitino	Russia
7	Vysotsk	Russia
8	Kavkaz	Russia
9	Kaliningrad	Russia
10	Klaipeda	Lithuania
11	Liepaja	Latvia
12	Murmansk	Russia
13	Nakhodka	Russia
14	Mykolaiv	Ukraine
15	Novorossiysk	Russia
16	Odessa	Ukraine
17	Riga	Latvia
18	St. Petersburg	Russia
19	Svetliy	Russia
20	Sevastopol	Ukraine
21	Slavyanka	Russia
22	Taganrog	Russia
23	Tallinn	Estonia
24	Tuapse	Russia
25	Ust-Luga	Russia
26	Yuzhniy	Ukraine

APPENDIX 5: LIST OF PARAMETERS INVOLVED IN THE CALCULATION AND PERIODICITY OF THEIR MONITORING

No.	Indicator	Periodicity of monitoring
1	VAT rate	Annually
2	Excise rate	Upon changed
3	Export duty rate	Monthly
4	Freight rate	Daily
5	Transshipment cost	Monthly (Upon changed)
6	Railway tariff on the territory of the Russian Federation	Upon changed
7	The cost of transportation through the territory of a neighboring state	Upon changed
8	Pipeline tariff	Upon changed
9	US dollar/Russian ruble exchange rate	Daily
10	Euro/Russian ruble exchange rate	Daily
11	US dollar/Euro exchange rate	Daily
12	Petroleum products quotes	Daily