METHODOLOGY AND SPECIFICATIONS GUIDE

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ARGUS RUSSIAN NETBACKS

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LAST UPDATED: FEBRUARY 2016

The most up-to-date Argus Russian Netbacks methodology is available on www.argusmedia.com

Introduction

Netback indexation

Russia is the largest producer and exporter of energy in the world. Its refineries were built in Soviet times to produce mainly gasoline to satisfy internal fuel demand. Most other oil products produced at refineries are exported. Over 80pc of Russian fuel oil and more than half of its gasoil production end up abroad.

For this reason pricing of crude and oil products in Russia often follows the "export parity" model, under which domestic prices are calculated as the product's value on the international market netted back to a delivery basis in Russia. This methodology is often applied for trading and state regulation of the products market in Russia and other former Soviet Union countries.

The volumes of refining in Belarus are much higher than needed to supply the domestic market with fuel and most of the oil products produced are exported. The modernisation of Belarusian refineries allowed them to produce quality fuels highly competitive not only in the markets of neighbouring Russia and Ukraine, but also in EU countries.

Netback calculation

Netbacks for Russian and Belarusian oil products are calculated daily according to the formulas:

$$N = P - F - D - S + T \text{ for Russia}$$

or

$$N = P - F - D - S \text{ for Belarus}$$

where

N – netback index;
P – price assessment for crude or product at comparative international market (northwest Europe, west Mediterranean or Asia-Pacific);
F – cost of seaborne transportation, including tanker freight, insurance, and additional navigation costs excluded from freight rate, such as Rotterdam harbour duty, ice and towage due in Primorsk or demurrage payments for delays in the Turkish straits;
D – Export duty;
S – cost of loading, storage and transportation, including transit costs and costs of railcar rent.
T – Russian taxes (value-added tax (VAT) and excise).

Netback indexes are published daily in Argus Russian Netbacks excluding and including taxes, where applicable.

Price assessments

All components of the formula reflect values active on the date of price assessment. Argus assesses open market arms length prices for various grades of crude, oil products and LPG traded in Russia and abroad, including former Soviet Union countries, northwest Europe, the Mediterranean, Middle East, Americas, Asia-Pacific and CIS countries. Coverage of the Russian market includes spot market prices, netback values and differetials between the two.

Export destinations

When calculating netback indexes Argus uses market assessments of freight costs and officially published tariffs for destinations actively used by each refinery or crude production unit over last few months.

Supplies to illiquid and regional markets, or using routes where tariffs are not set on the open market, are not included in netback calculations.

Export duties

Export duty is set monthly based on international market price monitoring. Netback formulas for crude, products and LPG use the current month's export duty values. Export duty is not collected for supplies from Russia to Kazakhstan and from Belarus to Russia.

Transportation costs

Railways

Russian railway tariffs are based on the tariff policy of former Soviet Union countries' railways effective on the date of publication for own (leased) tonnage for Russian supplies and for inventory tonnage for Belarusian supplies. Netback formulas for export supplies through the ports of Kaliningrad in Russia in certain cases take into account the cost of ferry transportation between Ust-Luga and Batiysk.

Argus uses specialised software for railway tariff calculations, such as Rail-Tariff.

The following assumptions are used for tariff calculations:

- Number of tank car axles – four, oil products tank car capacity – 66t, average tank car load for oil products and methanol – 60t, for propane-butane mix – 32t, for propane – 34t.
- All the tariffs are used excluding VAT, with the exception of internal transportation in Russia and Kazakhstan and empty tank car return in Russia.
- Export railway tariffs used in netback calculations are for full train (fixed-route dispatch), with the exception of tariffs for gasoline supplies to Kazakhstan and methanol that are set on a per car basis.
- Tariffs for empty tank car return are set on a per car basis.
- Extra charges:
  - security guarding costs (diesel, gasoline, etc.) are charged by the state railway security guard enterprise of the Russian Federation;
  - cargo security costs, used for calculation of the export alternative prices, are set for a loaded train (fixed-route dispatch);
  - in all other cases, the cargo security costs are set on a per car basis.
- Market rates for rail tank car rent are assessed and published on a monthly basis in Argus Neftetransport. The information on tonnage prices is collected by personal contacts, telephone, electronic mail and messengers. A cross-section of car fleet owners, operators and shippers (producers and traders) is consulted and the market information cross-referenced with active market participants. The rent costs are assessed

in Russia (in roubles, ex-VAT), Ukraine and Kazakhstan (in US dollars, ex-VAT). The rates are published in Argus Neftetransport.

The following base parameters are used for cost assessments:

- oil product and methanol tank car load – 60t, propane-butane car load – 32t, propane car load – 34t;
- speed of loaded tank car 550 km/d for oil products, 330 km/d for LPG and 200 km/d for methanol;
- speed of empty railway tank car return – 330 km/d for oil products and LPG, 200 km/d - for methanol;
- delays during tank car loading and discharge – four days for oil products and methanol, five days for LPG;
- delay on each border station – one day.

Crude pipelines

Argus monitors crude pipeline tariffs in Russia set by the Federal Tariff Service. The tariffs are published in Argus Neftetransport.

Product pipelines

Products pipeline tariffs are set by the system operator Transneft and published in Argus Neftetransport.

Internal waterways

Argus publishes assessments of river freight costs, including intermediate loadings, every year in the May issue of Argus Neftetransport. The rates are monitored throughout the navigation season from May to December. The high values of freight rates and floating storage loading costs are used in netback calculations.

Loading and storage at port terminals

Argus monitors the published port terminal rates for loading operations from overland transportation to sea-going tankers. Crude and product port loading operations and storage rates are set by the Federal Tariff Service and terminal operators in Russia, and by terminal operators in other former Soviet Union states. The costs of loading operations are assessed in the January and July editions of Argus Neftetransport. The information is collected by personal contacts, telephone, electronic mail and messengers. A cross-section of terminal operators and shippers (producers and traders) is consulted and the information cross-referenced with active market participants. In certain cases loading costs may include transit pipeline or railway tariff (ports of Latvia and Estonia, Kotka).

Foreign exchange rates

For netback calculations Argus uses the Russian rouble rate of the Central Bank of Russia and the Kazakh tenge rate of the National Bank of Kazakhstan published on official websites for the date of assessment. For euro and US dollar rates, Argus uses the market rate provided by Interactive Data for 6pm London time. For netback calculations for supplies to Ukraine, Argus uses Ukrainian hryvna to euro rate of the National Bank of Ukraine published on the official website for the date of assessment, and the Ukrainian hryvna to US dollar rate provided by Ukrdealing.

Crude

Netbacks for Russian crude are calculated as daily prices for Urals basis cif Rotterdam and cif Augusta less freight, insurance, navigation expenses (Rotterdam and Primorsk port duties, Black Sea straits delays), loading costs, current export duty and Transneft pipeline tariff from Nizhnevartovsk. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

International crude prices – Argus Crude
Urals quality – Argus Russian Domestic Crude Market
Transportation costs – Argus Neftetransport

Fuel oil

Netbacks for Russian fuel oil are calculated as daily prices for 3.5pc, 1pc and 1.5pc fuel oil basis cif northwest Europe, cif west Mediterranean or c+f east China less freight, insurance, navigation expenses (Rotterdam port duties, Black Sea straits delays), current export duty and railway tariffs between individual refineries and loading ports. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

European fuel oil prices – Argus European Products
Asian fuel oil prices – Argus Asia-Pacific Products
Russian fuel oil prices – Argus Russian Fuel Oil
Transportation costs – Argus Neftetransport

Gasoil and diesel

Netbacks for Russian gasoil and diesel are calculated as daily prices for German heating oil 0.005% cif NWE, Heating oil 0.1% cif NWE and cif Med, French diesel 10ppm cif NWE and cif Med, gasoil 500ppm fob Asia-Pacific less freight, insurance, navigation expenses (Rotterdam and Primorsk port duties), loading costs, current export duty and railway tariffs between individual refineries and loading ports.

Netbacks for Belarusian diesel are calculated as daily prices for French diesel 10ppm cif NWE, Belarusian diesel fca Korosten (Ukraine) or price index for diesel cpt Moscow (Russia) less freight, insurance, navigation expenses (Rotterdam port duties), loding costs, current export duty and railway tariffs between individual refineries and loading ports and railcar rent.

Price index for the Moscow region of Russia

Argus calculates the Russian diesel price index as an average between the diesel assessment fca Moscow, diesel price fca Yaroslavl, plus the railway transportation cost between Yaroslavl and Moscow, and the diesel price fca Ryazan, plus the railway transportation cost between Ryazan and Moscow. The Russian diesel price index less VAT, excise duty and rail transportation costs is used to produce the Belarusian diesel netback for refineries supplying fuel to Russia. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

European gasoil and diesel prices – Argus European Products
Asian gasoil and diesel prices – Argus Asia-Pacific Products
Russian diesel prices – Argus Russian Motor Fuels
Ukrainian diesel prices – Argus Ukrainian Motor Fuels
Central Asian diesel prices – Argus Caspian Market
Transportation costs – Argus Neftetransport

Jet

Netbacks for Russian jet fuel are calculated as daily prices for jet cif NWE and Med or the Kazakh jet index basis Almaty less freight, insurance, loading costs, current export duty and railway tariffs between individual refineries and loading ports or border crossing points and railcar rent. Argus price assessment methodologies are available online at www.argusmedia.com.

Jet price index in Kazakhstan

Argus calculates the Kazakh jet price index by adding railway transportation costs from the Pavlodar and Chimkent refineries to Almaty to jet fuel assessments basis fca Pavlodar and fca Chimkent less VAT. The Kazakh jet price index less rail transportation costs is used to produce the Russian jet netback for refineries supplying fuel to Kazakhstan.

Price reporting methodologies:

European jet prices – Argus European Products
Asian jet prices – Argus Asia-Pacific Products
Central Asian jet prices – Argus Caspian Markets
Transportation costs – Argus Neftetransport

Naphtha

Netbacks for Russian naphtha are calculated as daily prices for naphtha 65 para cif (NWE and Med), or naphtha 65 para c+f Japan (Asia-Pacific) less freight, insurance, navigation expenses (Rotterdam port duties), loading costs, current export duty and railway tariffs between individual refineries and loading ports and rail car rent. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

European naphtha prices – Argus European Products
Asian naphtha prices – Argus Asia-Pacific Products
Transportation costs – Argus Neftetransport

Motor gasoline

Netbacks for Russian gasoline are calculated as daily prices for motor gasoline cif NWE and Med or the Kazakh gasoline index basis Astana less freight, insurance, current export duty, loading costs and railway tariffs between individual refineries and loading ports or border crossing points and railcar rent.

Netbacks for Belarusian gasoline are calculated as daily prices for French diesel 10ppm cif NWE, Belarusian diesel fca Korosten (Ukraine) or price index for gasoline cpt Moscow (Russia) less freight, insurance, navigation expenses (Rotterdam port duties), loading costs, current export duty and railway tariffs between individual refineries and loading ports and rail car rent.

Motor gasoline price index in Kazakhstan

Argus calculates the Kazakh motor gasoline price index for 92-93 Ron and 95-96 Ron product by adding railway transportation costs from the Atyrau, Pavlodar and Chimkent refineries to Astana to gasoline assessments basis fca Atyrau, fca Pavlodar and fca Chimkent less VAT. The Kazakh gasoline price index less rail transportation costs is used to produce the Russian gasoline netback for refineries supplying fuel to Kazakhstan.

Price index for the Moscow region of Russia

Argus calculates the Russian gasoline price index for 92 Ron and 95 Ron as an average between the gasoline assessment fca Moscow, the gasoline price fca Yaroslavl, plus the railway transportation cost between Yaroslavl and Moscow, and the gasoline price fca Ryazan, plus the railway transportation cost between Ryazan and Moscow. The Russian gasoline price index less VAT, excise duty and rail transportation costs is used to produce the Belarusian gasoline netback for refineries supplying fuel to Russia.

Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

European gasoline prices – Argus European Products
Asian gasoline prices – Argus Asia-Pacific Products
Central Asian gasoline prices – Argus Caspian Markets
Russian gasoline prices – Argus Russian Motor Fuels
Transportation costs – Argus Neftetransport

Vacuum gasoil

Netbacks for vacuum gasoil (VGO) are calculated as daily prices for VGO 1,6pc cif (NWW), or VGO 1,5pc fob (Med) less freight, insurance, navigation expenses (Rotterdam port duties), loading costs, current export duty and railway tariffs between individual refineries and loading ports. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

European VGO prices – Argus European Products
Asian VGO prices – Argus Asia-Pacific Products
Transportation costs – Argus Neftetransport

LPG

Netbacks for Russian propane are calculated as daily prices for propane at the Russia-Poland border less railway costs, rail car rent and export duty.

Netbacks for Russian propane-butane mix are calculated as daily prices for propane-butane mix at the Russia-Poland border or Black Sea ports less loading costs and railway costs, including rail car rent and export duty. Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

LPG prices – Argus International LPG
Transportation costs – Argus Neftetransport

Base oils

Netbacks for Russian base oils are calculated as weekly prices for Base Oil SN150 and Base Oil SN500 fob Baltic, Black Sea or cpt Naushki less loading costs and railway costs, including rail car rent and export duty.

Argus price assessment methodologies are available online at www.argusmedia.com.

Price reporting methodologies:

Base oils prices – Argus Base Oils
Transportation costs – Argus Neftetransport

See detailed table of netbacks components on pp6-8.

Methanol

Netbacks for Russian methanol are calculated as weekly spot prices for methanol fob Rotterdam less freight, loading costs, railway tariffs between individual plants and loading ports and rail car rent.

Price reporting methodologies:

Methanol prices – Argus JJ&A Global Methanol

Highest products netbacks

Oil products netbacks for the most efficient export direction for each refinery are chosen and published daily in separate tables and in the Argus Russian Netbacks: Key Routes publication in roubles/t excluding excise duty and VAT.

Russian netbacks calculation components

Product	Price assessment	Freight	Additional costs	Loading costs	Export duty	Tariff outside the country of origin	Tariff in the country of origin
CRUDE							
Northwest Europe	Urals cif NWE	Primorsk – Rotterdam (100,000t)	Insurance, Rotterdam port duty, ice and towage due in Primorsk	Primorsk	Current month	–	Pipeline
Mediterranean	Urals cif Med (80,000t)	Novorossiysk – Augusta (80,000t)	Insurance, demmurage costs in Bosporus and Dardanelles	Novorossiysk	Current month	–	Pipeline
Asia-Pacific	ESPO Blend fob Kozmino	–	–	Kozmino	Current month	–	Pipeline
FUEL OIL							
Northwest Europe	Fuel oil 3.5pc cif NWE	Baltic ports – Rotterdam (100,000t), St Petersburg – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus (Klaipeda)	Railway, river freight
Northwest Europe	Fuel oil 3.5pc cif NWE, Fuel oil straight run M-100 NWE cif diff to fuel oil 3.5pc cracked	Baltic ports – Rotterdam (100,000t), St Petersburg – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus (Klaipeda)	Railway, river freight
Mediterranean	Fuel oil 3.5pc 0.998 cif W Med	Black Sea ports – Genoa/ Lavera (30,000t)	Insurance	Black Sea ports	Current month	Ukraine (Odessa and Sevastopol)	Railway, river freight
Mediterranean	Fuel oil 1pc W Med cif	Black Sea ports – Genoa/ Lavera (30,000t)	Insurance	Black Sea ports	Current month	Ukraine (Sevastopol)	Railway
Asia-Pacific	Fuel oil 1.5pc c+f East China	Vanino/Nakhodka – Qingdao (60,000t)	–	Nakhodka, Vanino	Current month	–	Railway
GASOIL OVER 50PPM							
Northwest Europe	Heating oil 0.1% cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus	Railway
Mediterranean	Heating oil 0.1% cif Med	Black Sea ports – Genoa/ Lavera (30,000t)	Insurance, Rotterdam port duty	Black Sea ports	Current month	–	Railway
Asia-Pacific	Gasoil 0.5pc fob Singapore	Vanino/Nakhodka – Singapore (40,000t)	–	Nakhodka, Vanino	Current month	–	Railway
GASOIL 50PPM							
Northwest Europe	German heating oil 0.005% cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus (Klaipeda)	Railway
Northwest Europe	Heating oil 0.1% cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus	Railway
Mediterranean	Heating oil 0.1% cif Med	Black Sea ports – Genoa/ Lavera (30,000t)	Insurance, Rotterdam port duty	Black Sea ports	Current month	–	Railway
Asia-Pacific	Gasoil 0.5pc fob Singapore	Vanino/Nakhodka – Singapore (40,000t)	–	Nakhodka, Vanino	Current month	–	Railway
DIESEL 10PPM							
Northwest Europe	Gasoil diesel French 10ppm cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	–	Railway
Northwest Europe	Gasoil diesel French 10ppm cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Primorsk, Ventspils	Current month	–	Pipeline
Northwest Europe (from Belarus)	Gasoil diesel French 10ppm cif NWE	Ventspils – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Ventspils	Current month	–	Railway
Mediterranean	Gasoil diesel French 10ppm cif Med	Novorossiysk – Genoa/ Lavera (30,000t)	Insurance	Novorossiysk	Current month	–	Railway
Ukraine (from Belarus)	Gasoil diesel summer/winter 10ppm fca Korosten	–	–	–	Current month	Ukraine	Railway
Russia (from Belarus)	Gasoil diesel summer/winter Moscow, Yaroslavl, Ryazan	–	–	–	–	Russia	Railway

Russian netbacks calculation components

Product	Price assessment	Freight	Additional costs	Loading costs	Export duty	Tariff outside the country of origin	Tariff in the country of origin
JET							
Northwest Europe	Jet-kerosine cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	–	Railway
Kazakhstan	Jet-kerosine fca Chimkent/Pavlodar	–	–	–	–	Kazakhstan	Railway
NAPHTHA							
Northwest Europe	Naphtha 65 para cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	–	Railway
Northwest Europe	Naphtha 65 para cif NWE	Kaliningrad – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Kaliningrad	Current month	–	Railway, Ust-Luga – Baltiysk ferry
Mediterranean	Naphtha 65 para cif W Med	Tuapse – Genoa/Lavera (30,000t)	Insurance	Tuapse	Current month	–	Railway
Asia-Pacific	Naphtha c+f Japan	Vanino/Nakhodka – Chiba (40,000t)	–	Nakhodka, Vanino	Current month	–	Railway
MOTOR GASOLINE AI-92							
Northwest Europe	Gasoline 91R cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	–	Railway
Northwest Europe	Gasoline 91R cif NWE	Kaliningrad – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Kaliningrad	Current month	–	Railway, Ust-Luga – Baltiysk ferry
Northwest Europe (from Belarus)	Gasoline 91R cif NWE	Ventspils – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Ventspils	Current month	–	Railway
Asia-Pacific	Gasoline 92R fob Singapore	Vanino/Nakhodka – Singapore (40,000t)	–	Nakhodka, Vanino	Current month	–	Railway
Kazakhstan	Gasoline AI-92/93 fca Chimkent/Pavlodar/ Atyrau	–	–	–	–	Kazakhstan	Railway
Ukraine (from Belarus)	Gasoline A-92 fca Korosten	–	–	–	Current month	Ukraine	Railway
Russia (from Belarus)	Gasoline AI-92 Moscow, Yaroslavl, Ryazan	–	–	–	–	Russia	Railway
MOTOR GASOLINE AI-95							
Northwest Europe	Gasoline 95R cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	–	Railway
Northwest Europe	Gasoline 95R cif NWE	Kaliningrad – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Kaliningrad	Current month	–	Railway, Ust-Luga – Baltiysk ferry
Northwest Europe (from Belarus)	Gasoline 95R cif NWE	Ventspils – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Ventspils	Current month	-	Railway
Asia-Pacific	Gasoline 95R fob Singapore	Vanino/Nakhodka – Singapore (40,000t)	–	Nakhodka, Vanino	Current month	–	Railway
Kazakhstan	Gasoline AI-95/96 fca Chimkent/Pavlodar/ Atyrau	–	–	–	–	Kazakhstan	Railway
Ukraine (from Belarus)	Gasoline A-95 fca Korosten	–	–	–	Current month	Ukraine	Railway
Russia (from Belarus)	Gasoline AI-92 Moscow, Yaroslavl, Ryazan	–	–	–	–	Russia	Railway
VACUUM GASOIL							
Northwest Europe	VGO 1.6pc cif NWE	Baltic ports – Rotterdam (30,000t)	Insurance, Rotterdam port duty	Baltic ports	Current month	Belarus, Lithuania	Railway, river freight
Mediterranean	VGO 1.5pc fob Med	Odessa – Augusta (30,000t)		Odessa	Current month	Ukraine	Railway

Russian netbacks calculation components							
Product	**Price assessment**	**Freight**	**Additional costs**	**Loading costs**	**Export duty**	**Tariff outside the country of origin**	**Tariff in the country of origin**
PROPANE-BUTANE MIX							
Poland	Propane-Butane Poland daf Brest	–	–	–	Current month	Belarus	Railway
Black Sea	Propane-Butane fob Black Sea	–	–	Kerch, Ilyichevsk	Current month	Ukraine	Railway
PROPANE							
Poland	Propane Poland daf Brest	–	–	–	Current month	Belarus	Railway
BASE OIL SN150							
Baltic	Base Oil SN150 fob Baltic Sea	–	–	Baltic ports	Current month	Belarus, Lithuania	Railway
Black Sea	Base Oil SN150 fob Baltic Sea	–	–	Black Sea ports	Current month	Ukraine	Railway
China	Base Oil SN150 cpt Naushki	–	–	–	Current month	–	Railway
BASE OIL SN500							
Baltic	Base Oil SN500 fob Baltic Sea	–	–	Baltic ports	Current month	Belarus, Lithuania	Railway
Black Sea	Base Oil SN500 fob Baltic Sea	–	–	Black Sea ports	Current month	Ukraine	Railway
China	Base Oil SN500 cpt Naushki	–	–	–	Current month	–	Railway
METHANOL							
Baltic	Methanol fob Rotterdam T2 spot	Kokta-Rotterdam	–	Kotka	-	-	Railway