Chemical Information Resources for East Europe and CIS

CIREC MONTHLY NEWS

Chemical Industry News for Central Europe, South East Europe and Eurasia

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Key pointers from this month's issue

Central Europe

Orlen's production of monomers in Poland changed slightly for 2018, rising to 913,000 tons from 877,000 tons, whilst polyolefin production at Plock dropped to 507,000 tons against 543,000 tons. Sales of chemicals and polymers for the whole group increased for product categories such as monomers, polymers and aromatics, but fell in fertilisers, plastics and PTA. Polish PTA exports totalled 292,622 tons in January to November 2018 against imports of 40,680 tons. Unipetrol processed 7.5 million tons of crude in 2018 in the Czech Republic, with the refineries operating at 86% and the petrochemical facilities at 81%. Sales volumes of refinery products reached 6.3 million tons and of petrochemical products 1.9 billion tons. In Hungary, BorsodChem is planning the construction of a new aniline plant in order to reduce dependency on imports from China from the Wanhua Industrial Group.

Russian chemical production

Russian ethylene production totalled 2.923 million tons in 2018 against 2.860 million tons in 2017. The major changes took place at Salavat where production rose from 318,000 tons to 382,800 tons, and Stavrolen where production rose from 253,300 tons to 320,300 tons. Russian plants produced 2.168 million tons of propylene in 2018 versus 1.994 million tons in 2017. SIBUR Tobolsk increased production from 246,000 tons in January to December 2018 to 380,300 tons in 2017, whilst Gazprom neftekhim Salavat increased production from 126,800 tons to 160,400 tons. Russian polypropylene production totalled 1.37 million tons in 2018, 2% down on the previous year. SIBUR Tobolsk reduced polypropylene output in 2018 by 15% to 436,100 tons, the drop due mainly to two shutdowns for maintenance. Methanol production in Russia totalled 4.269 million tons in 2018 against 3.978 million tons in 2017. The largest proportional rise was recorded by Azot at Novomoskovsk which increased by 24% to 295,000 tons, followed by Shchekinoazot.

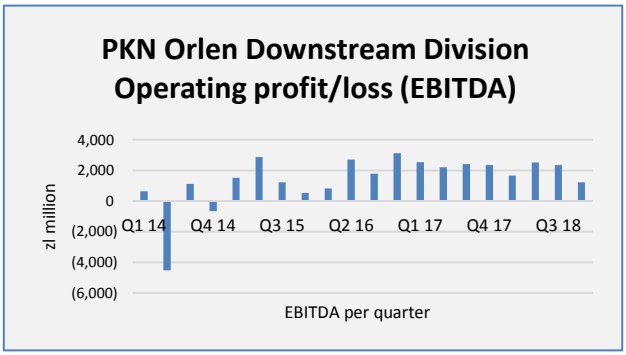
Russian chemical trade

Russia imported 45,200 tons of TDI in the first eleven months in 2018, valued at $98.3 million. Around 25% of supplies came from Germany, followed by Hungary and Saudi Arabia. TDI costs totalled $133 million for the first eleven months, with prices softening in the second half of the year after high numbers recorded in the first half of 2018. MDI imports into the Eurasian Customs Union totalled 140,700 tons in the first eleven months in 2018, against 132,300 tons in the same period in 2017. Most product was delivered to Russia. The major change in supplies in 2018 came from the increase in deliveries from Saudi Arabia. Export volumes for Russian synthetic rubber in the first eleven months in 2018 totalled 923,000 tons against 934,000 tons in the same period in 2017.

Russian chemical projects

Irkutsk Oil Company (INK) has concluded a contract with Toyo Engineering for the construction of polyethylene plant at Ust-Kut in the northern part of the Irkutsk Oblast. SIBUR has entered the final stage of construction of the ZapSibNeftekhim polyolefin production complex in Tobolsk. The launch is scheduled for 2019, originally planned for the fourth quarter but could start by the end of the second quarter. Ust Luga on the Baltic coast could become a major location for Russian methanol if the two projects under consideration by Baltic Gas Chemical and Ruskhimkom materialise to the construction and completion stages.

CENTRAL & SOUTH-EAST EUROPE



PKN Orlen, Jan-Dec 2018

PKN Orlen's downstream EBITDA for Q4 2018 amounted to zl 1.3 billion against zl 1.6 million in the same period in 2017. The segment's Q4 performance was affected by scheduled maintenance of the olefin unit and shutdown of the PTA plant at PKN Orlen, as well as prolonged downtime of Unipetrol's steam cracker following its periodic overhaul in Q3 2018. Overall for 2018 Orlen's downstream EBITDA dropped to zl 6.0 billion against zl 8.7 billion in 2017. PKN Orlen increased overall revenues by 15% in 2018 to zl 110 billion, helped by record crude throughput and sales volumes. Crude oil and natural gas prices increased by over 30% and 29% respectively, whilst scheduled maintenance took place ta the refineries at Kralupy and Mazeikiu, and the petrochemical sections of PKN Orlen and Unipetrol.

PKN Orlen Group Chemical Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Monomers	913	877
Polymers	507	543
Aromatics	385	397
Fertilisers	1,142	1,088
Plastics	396	395
PTA	528	519

Orlen's production of monomers changed slightly for 2018, rising to 913,000 tons from 877,000 tons, whilst polyolefin production at Plock dropped to 507,000 tons against 543,000 tons. Sales of chemicals and polymers for the whole group increased for product categories such as monomers, polymers and aromatics, but fell in fertilisers, plastics and PTA.

Regarding petrochemical margins for Orlen, paraxylene increased sharply at the end of 2018 to €628 per ton against €431 per ton in the third quarter whilst benzene dropped from €262 to €189.

PKN Orlen Petrochemical Margins (€ per ton)								
Product	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18	Q3 18	Q4 18
Ethylene	637	689	642	653	652	630	644	640
Propylene	442	517	471	477	510	503	552	568
Toluene	240	222	191	205	166	192	213	195
Benzene	513	402	329	398	335	255	262	189
Butadiene	1,072	1,087	461	760	415	255	657	571
Paraxylene	461	459	384	418	387	362	431	628

Polish PTA trade, Jan-Nov 2018

Polish PTA exports totalled 292,622 tons in January to November 2018 against imports of 40,680 tons. Exports to Germany amounted to 254,574 tons followed by Belarus with 16,500 tons and Lithuania with 7,900 tons. Imports of PTA into Poland totalled 41,155 tons for the first eleven months in 2018, with South Korea shipping 27,300 tons. Orlen's revenues from PTA sales in 2018 totalled zl 1528 million against zl 1339 million in 2017.

Polish PTA Trade (unit-kilo tons), Jan-Nov 2018		
Country	***Imports***	***Exports***
Austria	0.0	1.9
Belarus	0.0	16.5
France	0.5	2.0
Spain	1.7	0.1
Netherlands	8.3	1.5
South Korea	27.3	0.0
Lithuania	0.0	7.9
Germany	0.0	254.6
Portugal	3.3	0.0
Switzerland	0.0	4.6
Italy	0.0	2.3
Others	0.0	1.4
Total	41.1	292.6

PKN Orlen, crude supply diversification

Orlen signed a new two-year contract with Rosneft at the end January for crude supply from Russia, even if the Polish group is diversifying away from Urals blend. Supplies to the Płock refinery will amount to 5.4 to 6.6 million tpa of raw material between 1 February 2019 and 31 January 2021. Last year around 30% of crude oil supplied to the Orlen refinery came from Saudi Arabia, the United Arab Emirates, the USA and Africa. Orlen has drawn attention to the deteriorating quality of Russian crude which It previously had depended on

for most of its supply. For other Orlen Group refineries in Lithuania and the Czech Republic spot supply contracts have been arranged for WTI crude from the US. Supplies of light crude, such as WTI, optimise processing, especially into the most desired fractions like gasoline and diesel oil.

Unipetrol, Jan-Dec 2018

Unipetrol's revenue grew by 7% in 2018 to Kc 130.8 billion, and the EBITDA Kc 13.8 billion. The net profit increased by 4% compared to 2017 to Kc 9 billion. The 2018 investment for Unipetrol totalled Kc 7.9 billion, which was directed primarily to the construction of the new polyethylene unit PE3 in Litvinov and the new boiler house at the steam cracker at Litvinov. It also covered the planned six-week maintenance of the refinery at Kralupy nad Vltavou. Other key investment projects on all sites of the Unipetrol Group included the ongoing revamp of the T700 power plant at Litvinov and the construction of a new gas boiler house at Spolana's Neratovice site. Unipetrol processed 7.5 million tons of crude in 2018, with the refineries operating at 86% and the petrochemical facilities at 81%. Sales volumes of refinery products reached 6.3 million tons and of petrochemical products 1.9 billion tons.

Unipetrol Financial Performance (Kc million)		
	2018	**2017**
Revenues	**130,768**	122,478
EBITDA LIFO	**13,779**	14,817
EBITDA	**13,079**	14,954
EBIT	**9,756**	12,045
Net profit	**8,978**	8,659

Czech petrochemical exports, Jan-Dec 2018

Ethylene exports from Unipetrol totalled 69,000 tons in 2018 against 67,000 tons in 2017. Almost all of the ethylene exports in 2018 was shipped to Bohlen in Germany. Propylene exports from Unipetrol dropped to 21,400 tons from 25,300 tons, whilst ethylbenzene exports from the Czech Republic totalled 126,500 tons against 127,300 tons. In other product areas, exports of phthalic anhydride from the Czech Republic totalled 15,839 tons in 2018 against 15,000 tons in 2017. Exports of DINP in 2018 amounted to 38,398 tons versus 34,845 tons.

Czech Petrochemical Exports (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Ethylene	69.0	67.0
Propylene	21.4	25.3
Butadiene	0.6	5.3
Benzene	36.7	19.4
Toluene	13.3	11.9
Ethylbenzene	126.5	127.3

Czech petrochemical imports, Jan-Dec 2018

Propylene imports into the Czech Republic totalled 54,845 tons in 2018 against 45,383 tons in 2017. Germany was the main supplier in 2018 shipping 29,804 tons, followed by Ukraine (6,809 tons) and Slovakia (5,410 tons). Benzene imports into the Czech Republic dropped to 68,698 tons in 2018 from 81,143 tons in 2017. Almost all of the benzene imported into the Czech Republic in 2018 was delivered from Poland.

Czech Petrochemical Imports (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Ethylene	4.007	3.183
Propylene	54.845	45.383
Butadiene	37.195	38.176
Benzene	68.698	81.143
Ethylbenzene	5.575	19.981
Styrene	8.108	17.193

Czech TDI Imports (unit-kilo tons)		
Country	***Jan-Dec 18***	***Jan-Dec 17***
Belgium	2.4	2.2
Germany	4.2	3.6
Hungary	2.2	2.1
Poland	1.8	0.3
Slovakia	0.1	7.0
UK	1.3	3.3
Others	0.9	1.4
Total	12.9	20.0

TDI imports into the Czech Republic totalled 12,900 tons in 2018 against 20,200 tons in January to December 2017. Imports were sourced last year from Germany, the UK, and Hungary.

BorsodChem-MCHZ, expansion

Wanhua Industrial Group has set out a programme for investing around €100 million into BorsodChem MCHZ in Ostrava, having concluded a memorandum of cooperation between the Moravian-Silesian Region, the City of Ostrava and the Shandong Province of China. Funds are required to upgrade the plant so that production is as environmentally friendly as possible in the region.

The first investment of Kc 800 million involves the modernisation of the nitrobenzene plant, which will use the latest Canadian technology. The new plant replaces the existing one which will be permanently

Czech Aniline Exports (unit-kilo tons)		
Country	*Jan-Dec 18*	*Jan-Dec 17*
Hungary	88.7	117.6
Slovakia	5.9	2.2
Others	1.7	0.5
Total	96.3	120.3

Czech MDI Imports (unit-kilo tons)		
Country	*Jan-Dec 18*	*Jan-Dec 17*
UAE	2.0	0.9
Belgium	7.0	3.0
Germany	9.2	7.1
Hungary	7.2	12.1
Netherlands	1.2	2.4
Others	4.1	2.6
Total	30.9	28.0

Polish Chemical Production (unit-kilo tons)		
Product	*Jan-Dec 18*	*Jan-Dec 17*
Caustic Soda Liquid	323.2	350.9
Caustic Soda Solid	58.7	78.5
Ethylene	467.8	482.8
Propylene	312.7	340.2
Butadiene	54.4	56.0
Toluene	13.1	19.2
Phenol	42.5	43.9
Caprolactam	152.9	167.2
Acetic Acid	25.4	25.2
Polyethylene	344.0	346.7
Polystyrene	59.4	55.7
EPS	86.2	95.2
PVC	247.4	288.1
Polypropylene	273.6	270.2
Synthetic Rubber	267.5	246.3
Ammonia (Gaseous)	2539.0	2779.0
Ammonia (Liquid)	123.0	98.4
Pesticides	52.8	47.3
Nitric Acid	2343.0	2372.0

Polish Methanol Imports (unit-kilo tons)		
Country	*Jan-Nov 18*	*Jan-Nov 17*
Belarus	9.0	7.3
Cyprus	33.5	0.0
Finland	25.2	91.2
Germany	98.3	98.7
Lithuania	3.2	2.7
Norway	61.0	89.6
Netherlands	0.3	0.5
Russia	392.3	276.0
Slovakia	10.7	1.4
Venezuela	56.0	75.0
Total	689.5	644.9

shut down and ecologically destroyed. The process of preparing and putting a new nitrobenzene plant into trial operation is expected in autumn 2021.

BorsodChem-Kazincbarcika

BorsodChem is planning the construction of a new aniline plant in order to reduce dependency on imports from China from the Wanhua Industrial Group. The construction of the new aniline production facility will increase the vertical integration of BorsodChem's existing manufacturing plant in Kazincbarcika. In the fourth quarter in 2018 the European Commission approved has found Hungary's €45 million investment aid to BorsodChem Zrt to be in line with EU State aid rules. The aid will contribute to the development of the region of Northern Hungary and reduce environmental risks, without unduly distorting competition in the Single Market.

The €45 million investment aid granted by Hungary will support BorsodChem's plan to invest in total €142 million in a new facility for the production of aniline at Kazincbarcika where the company currently manufactures methylene diphenyl diisosyanate (MDI). The Commission assessed the aid measure under the Guidelines on Regional State Aid for 2014-2020, which enable Member States to support economic development and employment in EU's less developed regions and to foster regional cohesion in the Single Market.

Without the public funding, the project would not have been carried out in Hungary or any another EU Member State, as it would have been cheaper for the beneficiary to continue importing aniline from the group's existing production plants in China. The effects on competition, on the other hand, will be limited given BorsodChem's limited market position and the strong growth rates in the MDI markets both in Europe and worldwide.

BorsodChem-Casale nitric acid plant

In January 2019 Casale and BorsodChem signed an agreement to build a 660 ton/day nitric plant at Kazincbarcika. The facility will produce 68% strength acid and is identical to a similar unit on the same site that has been in operation since 2012. Casale will provide the license, the basic engineering, the review of detail engineering and site assistance to the project.

PCC Rokita-€45 million loan

In January PCC Rokita has signed a contract with the EIB for a loan of €45 million for investments. The loan was concluded with the European Investment Bank (EIB) for the implementation of an investment project worth in total of €110.5 million. This will include the expansion and modernisation of chemical installations. The project includes a pilot plant for the development of polyols, a pilot installation for the production of phosphates and phosphates, and investments related to the expansion and optimization of electrolysis and propylene oxide installations.

RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Caustic Soda	1,279.5	1,239.0
Soda Ash	3,433.0	3,489.0
Ethylene	2,976.0	2,860.0
Propylene	2,168.2	1993.6
Benzene	1,394.4	1,359.0
Xylenes	584.8	549.2
Styrene	694.5	690.9
Phenol	204.0	222.5
Ammonia	17,800.0	17,100.0
Nitrogen Fertilisers	10,341.0	9,993.0
Phosphate Fertilisers	3,967.0	3,886.0
Potash Fertilisers	8,460.0	8,645.0
Plastics in Bulk	8,192.0	7,759.0
Polyethylene	2,189.0	1,980.0
Polystyrene	549.6	541.0
PVC	1,015.6	945.0
Polypropylene	1,480.4	1,451.0
Polyamide	168.5	159.0
Synthetic Rubber	1,640.0	1,572.0
Synthetic Fibres	172.0	171.0

Russian chemical production Jan-Dec 2018

The Russian chemical industry showed positive signs of progress in 2018 in terms of both production and profitability, and the deficit in chemical product balance has narrowed slightly although the country upholds a large deficit in this product sector.

Ammonia production increased significantly in 2018 due to the introduction of new capacity whilst in the petrochemical sector marginal rises were recorded by a number of producers. It is possible that SIBUR's flagship project ZapSibNeftekhim at Tobolsk will start production before the end of the second quarter, representing a key project for Russia. Nizhnekamskneftekhim is also undertaking the construction of a new cracker to meet the deficit of ethylene in Tatarstan, whilst gas chemical projects are under consideration by Irkutsk Oil Company and SIBUR regarding its potential the Amur Gas Chemical Complex at Svobodny.

Methanol production in Russia increased by around 10% in 2018 to 4.268 million tons and a similar increase is anticipated for 2019 if the new 450,000 tpa plant at Shchekinoazot performs well. Shchekinoazot is also working on its third methanol project, of 500,000 tpa, which is scheduled for completion in 2021 at the same time Nizhnekamskneftekhim plans to complete its own 500,000 tpa project. Five larger methanol projects are under consideration for North West Russia and the Russian Far East which would have a major effect on Russian export capability by around 2023-2024.

Russian petrochemical projects

ZapSibNeftekhim could start in Q2 2019

SIBUR has entered the final stage of construction of the ZapSibNeftekhim polyolefin production complex in Tobolsk. The launch is scheduled for 2019, originally planned for the fourth quarter but could start by the end of the second quarter. The configuration of the ZapSibNeftekhim project involves the construction of 1.5 million tpa of ethylene (technology-Linde) and 500,000 tpa of propylene, 240,000 tpa of high margin by-products (including butadiene, butene-1, and pyrobenzene).

ZapSibNeftekhim (ZapSib-2) could start by Q2 2019-Plant configuration

- 1.5 million tpa of ethylene (technology-Linde)
- 500,000 tpa of propylene
- 240,000 tpa of high margin by-products (including butadiene, butene-1, MTBE, pyrobenzene).

The project comprises the construction of production of various grades of polyethylene with an aggregate capacity of 1.5 million tpa (technology-INEOS), installations for the production of polypropylene with a capacity of 500,000 tpa (technology-LyondellBasell).

In addition to polymers SIBUR has conducted tests of a pilot plant for the production of alpha-olefins using its own technology for the ZapSibNeftekhim complex at Tobolsk. If the company decides to go ahead with constructing a new plant, alpha olefins production could be available by 2022. The technology has been tested out by SIBUR's research division NIOST at Tomsk.

Amur Gas-Processing Plant proceeding to schedule

The construction of the Amur Gas Processing Plant (GPP) at Svobodny is proceeding in accordance with the schedule, the project has been implemented by 30% as at the end of January. The first two phases of the plant will be launched at the end of 2021, as planned. The construction of the Power of Siberia gas pipeline is being implemented as planned, it will be launched at the end of 2019.

The first stage of the gas processing plant is scheduled to be commissioned in 2021, and full design capacity is targeted from 1 January 2025. The launch of the enterprise will allow annually producing up to 2.6 million tons of ethane, 1.6 million tons of liquefied hydrocarbon gases, up to 60 million cubic metres of helium and up to 38 billion cubic metres of marketable gas.

SIBUR expects to complete a detailed study of the Amur Gas Chemical Complex project in 2019, and at this stage is not clear if the gas-chemical complex will be approved due to uncertainty over future demand for polyolefins. In February 2018, SIBUR and Gazprom signed a preliminary contract for the supply of ethane for the gas chemical complex at around 2 million tpa but that does not mean that the project is going ahead. Gazprom's investments into the fourth stage of the Amur Gas Processing Plant are closely correlated with the prospect of the gas-chemical complex being constructed, to which it could provide ethane supply by around 2024.

Irkutsk Oil Company & gas-chemical project outline

Irkutsk Oil Company (INK) has concluded a contract with Toyo Engineering for the construction of polyethylene plant at Ust-Kut in the northern part of the Irkutsk Oblast. The construction of the 650,000 tpa plant is scheduled to be completed by 2023. The amount of funding required for the project will be 175 billion roubles. The polyethylene project represents the third stage of the investment programme for INK after completion of the first and second stages.

Irkutsk Oil Company-Toyo

- Contract signed for construction of 650,000 tpa polyethylene plant by 2023
- Polyethylene plant to be constructed after completion of first and second stages of gas extraction and treatment
- Lummus technology selected by Irkutsk Oil Company for cracker at Ust-Kut

The first stage includes the construction of an integrated treatment facility for natural and associated gas with a capacity of 3.6 million cubic metres per day for raw materials at the Yarakta field, in addition to a 196 km product pipeline to Ust-Kut. The second stage provides for an increase in gas production at the Yarakta NKGM, the construction of a new gas treatment unit with a capacity of 12 million cubic metres per day for raw materials, as well as a liquefaction facility for helium.

Toyo has been contracted to construct the petrochemical plant as part of the third stage, whilst Lummus has been selected as the licensor of pyrolysis. The plant will specialize in the production of LLDPE and HDPE. Investment in the project is estimated at 175 billion roubles. The shareholders of the INK Group include the European Bank for Reconstruction and Development (EBRD), Goldman Sachs International, and Russian legal entities.

Kazanorgsintez-ethylene modernisation

- Four new cracker furnaces installed November 2018
- Replacing eight of the ten obsolete furnaces

Kazanorgsintez launch of new ethylene furnaces

Kazanorgsintez launched four new pyrolysis furnaces at the E-200 complex in the second half of November. The four new pyrolysis furnaces after commissioning should replace ten old obsolete furnaces that have been in operation for almost forty years. The modernisation of the kiln unit will increase the efficiency of existing production: increase the productivity of ethylene plants, enhance the safety of the process, and reduce production costs for Kazanorgsintez.

Nizhnekamskneftekhim-new ethylene plant

- Linde to start construction in second half of 2019
- Capacities include 600 ktpa of ethylene, 270 ktpa of propylene & 248 ktpa of benzene

The process on the new furnace units at Kazanorgsintez is fully automated. The construction of new furnaces was carried out from May 2017 to November 2018 by Technip Benelux which also supplied the equipment. Eight out of ten old furnaces will be decommissioned and dismantled. Two furnaces will continue to work.

Nizhnekamskneftekhim- cracker construction 2019

According to Linde, construction of a new ethylene complex at Nizhnekamskneftekhim is scheduled to begin in the second half of 2019. This will be the first of two EP-600 crackers to be constructed at Nizhnekamsk, which is expected to be completed by 2021. In May 2018, Nizhnekamskneftekhim went into a long-term loan agreement with Deutsche Bank for a loan of €807 million which will be valid until 2032. The first EP-600 cracker will also include 270,000 tpa of propylene, 248,000 tpa of benzene, and 89,000 tpa of divinyl and other intermediates.

Russian petrochemical production & sales

Russian Ethylene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Angarsk Polymer Plant	193.8	200.2
Kazanorgsintez	586.3	586.5
Stavrolen	320.3	253.3
Nizhnekamskneftekhim	611.1	613.2
Novokuibyshevsk Petrochemical	60.4	56.9
Gazprom n Salavat	382.8	318.0
SIBUR-Kstovo	353.1	377.5
SIBUR-Khimprom	52.2	51.0
Tomskneftekhim	262.6	278.5
Ufaorgsintez	99.9	125.3
Total	2922.5	2860.3

Russian ethylene production, Jan-Dec 2018

Russian ethylene production totalled 2.923 million tons in 2018 against 2.860 million tons in 2017. The major changes took place at Salavat where production rose from 318,000 tons to 382,800 tons, and Stavrolen where production rose from 253,300 tons to 320,300 tons. These rises helped to reduce the impact of slightly lower production at other plants at Ufa, Tomsk, Kstovo and Angarsk. For 2019, production is forecast to exceed 3 million tons for the first time should (as expected) SIBUR starts its ZapSibNeftekhim complex at Tobolsk.

Regarding feedstocks for ethylene production in Russia naphtha remains the most dominant source followed by LPGs and ethane. The Russian government plans to introduce a reverse excise tax on ethane in 2019 to stimulate its processing, although the logistics of ethane supply mean that from current producers only Gazprom neftekhim Salavat and Kazanorgsintez currently can benefit from this policy change. ZapSibNeftekhim will also benefit from the change in excise policy, if enacted, when it starts production in full.

Russian Propylene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Angarsk Polymer Plant	112.2	111.0
Kazanorgsintez	39.4	40.2
Lukoil-NNOS	247.9	293.9
Stavrolen	127.2	107.2
Nizhnekamskneftekhim	279.6	294.4
Novokuibyshevsk	43.4	0
Omsk Kaucuk	42.0	13.5
Polyom	187.1	202.0
Gazprom n Salavat	160.4	126.8
SIBUR Kstovo	172.6	151.4
SIBUR-Khimprom	66.1	67.8
Tomskneftekhim	140.7	151.8
SIBUR Tobolsk	380.3	246.0
Ufaorgsintez	169.3	171.5
Total	2168.2	1993.6

Russian propylene production, Jan-Dec 2018

Russian plants produced 2.168 million tons of propylene in 2018 versus 1.994 million tons in 2017. SIBUR Tobolsk increased production from 246,000 tons in January to December 2018 to 380,300 tons in 2017, whilst Gazprom neftekhim Salavat increased production from 126,800 tons to 160,400 tons. Gazprom neftekhim Salavat increased the processing of naphtha in 2018 at the expense of ethane, which made it possible to increase the yield of propylene at the pyrolysis unit. In addition, the Salavat complex switched to a two-year repair cycle, resulting in uninterrupted production throughout 2018.

The change in the composition of pyrolysis raw materials and an increase in the production of propylene at Salavat was prompted by increased demand for processing propylene into oxo alcohols, acrylic acid and butyl acrylate.

Russian Propylene Merchant Domestic Sales (unit-kilo tons)		
Company	***Jan-Dec 18***	***Jan-Dec 17***
Angarsk Polymer Plant	66.3	73.3
Omsk Kaucuk	1.3	2.1
SIBUR-Kstovo	113.4	93.0
Akrilat	5.0	1.4
Lukoil-NNOS	181.6	192.9
Tomskneftekhim	0.2	4.7
Gazprom neftekhim Salavat	7.9	0.0
SIBUR-Khimprom	0.2	0.0
Stavrolen	0.0	2.0
Tobolsk-Polymer	0.3	1.4
Total	376.1	371.1

Russian propylene domestic sales 2018

Propylene sales on the Russian domestic market totalled 376,100 tons in 2018 versus 371,100 tons in 2017. Lukoil-NNOS at Kstovo reduced shipments from 192,900 tons to 181,600 tons whilst SIBUR-Kstovo increased sales from 93,000 tons to 113,400 tons. The third largest supplier to the merchant market is Angarsk Polymer Plant. Lukoil-NNOS sends most of its propylene to Saratovorgsintez, SIBUR-Kstovo ships of all its monomer to SIBUR subsidiaries and Angarsk Polymer ships to consumers such as Omsk Kaucuk and SIBUR-Khimprom.

Saratovorgsintez reduced propylene purchases from 172,800 tons in January to December 2017 to 141,200 tons in 2018. The next two largest Russian consumers comprised SIBUR-Khimprom at Perm and SIBUR Tobolsk, both of which purchased 55,000 tons in 2018. Propylene consumption in Russia rose in 2018 due mostly to higher oxo alcohol production at both Gazprom neftekhim Salavat and SIBUR-Khimprom. Propylene consumption for cumene production rose in 2018 due to increased processing at Ufaorgsintez and could rise again if Omsk Kaucuk restarts its cumene plant in May and June 2019.

Russian Propylene Exports (unit-kilo tons)		
Producer	**Jan-Dec 18**	***Jan-Dec 17***
Lukoil-NNOS	64.2	82.4
SIBUR-Kstovo	26.8	53.0
Omsk Kaucuk	0.0	1.0
Stavrolen	14.4	5.0
Total	105.3	141.5

Russian propylene exports Jan-Dec 2018

The rise in consumption of propylene in the Russian domestic market in 2018 led to a reduction in the availability for export, and volumes dropped from 141,500 tons in 2017 to 105,300 tons. The decrease in gross export volume was due mostly to a reduction in the supply of propylene from SIBUR-Kstovo. From January to December 26,800 tons of monomer was shipped from SIBUR's Kstovo plant to foreign markets, against 53,000 tons in the same period in 2017. The decline in export activity of SIBUR-Kstovo occurred due to a reduction in the production of propylene at the plant and an increase in internal supplies to the holding's plants. Under the conditions of a shortage of own production, shipments of propylene from SIBUR-Kstovo to SIBUR Tobolsk increased by 65% to 34,500 tons.

Russian Styrene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Nizhnekamskneftekhim	275.0	305.1
Angarsk Polymer Plant	36.6	36.8
SIBUR-Khimprom	130.5	121.1
Gazprom n Salavat	200.5	171.0
Plastik, Uzlovaya	52.0	56.9
Total	694.5	690.9

Russian Styrene Domestic Sales (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Angarsk Polymer Plant	16.3	17.6
Plastik	9.0	11.3
Gazprom n Salavat	45.2	41.3
SIBUR-Khimprom	38.5	30.7
Nizhnekamskneftekhim	3.8	1.5
Total	113.8	102.3

Russian styrene production & exports Jan-Dec 2018

Russia produced 694,500 tons of styrene in 2018 which is 3% more than in 2017. Gazprom neftekhim Salavat increased styrene production by 9% to 200,500 tons in 2018, followed by SIBUR-Khimprom at Perm where production increased from 121,100 tons to 130,500 tons. Styrene sales on the Russian domestic merchant market totalled 112,900 tons in 2018 against 102,300 tons in 2017, with Gazprom neftekhim Salavat increasing shipments from 41,300 tons to 45,200 tons and SIBUR-Khimprom increasing shipments from 30,700 tons to 38,500 tons. Main Russian consumers for merchant styrene include Styrovit and rubber producers such as Voronezhsintezkaucuk.

Bulk Polymers

Russian HDPE Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Kazanorgsintez	505.1	507.7
Stavrolen	293.6	232.2
Nizhnekamskneftekhim	43.9	65.6
Gazprom n Salavat	118.2	92.8
Total	960.8	898.3

Russian HDPE production, Jan-Dec 2018

HDPE production rose 7% in Russia in 2018 to 960,800 tons although only two companies out of four increased capacity utilisation. Kazanorgsintez reduced production by 0.5% to 505,100 tons whilst Stavrolen increased production by 26% to 293,600 tons. Gazprom neftekhim Salavat increased production of HDPE by 28% to 118,200 tons, the increase due mainly to the lack of downtime during 2018. Nizhnekamskneftekhim reduced production from 65,600 tons to 43,900 tons due to greater emphasis on LLDPE production. Regarding polyethylene trade, Russia remains a net importer

Russian polypropylene production, Jan-Dec 2018

Russian polypropylene production totalled 1.37 million tons in 2018, 2% down on the previous year. SIBUR Tobolsk reduced polypropylene output in 2018 by 15% to 436,100 tons, the drop due mainly to two shutdowns for maintenance. Polyom at Omsk increased the production of polypropylene by 4% to 214,200 tons whilst Nizhnekamskneftekhim increased marginally to 215,800 tons. Tomskneftekhim produced 141,300 tons versus 141,500 tons in 2017 and Ufaorgsintez reduced production by 4.2% to 119,300 tons.

Moscow based Neftekhimya showed an increase of 23% to 131,400 tons which was due to uninterrupted production in 2018 whilst Stavrolen increased production by 11% to 111,800 tons.

Russian Polypropylene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Ufaorgsintez	119.3	124.5
Stavrolen	111.8	101.0
Neftekhimya	131.4	107.1
Nizhnekamskneftekhim	215.8	210.2
Polyom	214.2	205.3
Tomskneftekhim	141.3	141.5
SIBUR Tobolsk	436.1	510.5
Total	1369.9	1355.8

Neftekhimiya NPP switched the production of polypropylene to phthalate-free catalysts for the first time in Russia in 2017, making it possible to manufacture products that are recommended for use in the production of medical goods.

Russian PVC, Jan-Dec 2018

Imports of PVC in 2018 dropped from 48,900 tons in 2017 to 14,500 tons. For 2018, Chinese companies imported 12,500 tons of resin into the Russian market against 44,600 tons in the previous year. For the full year, exports totalled 149,700 tons (excluding supplies to Belarus and Kazakhstan), which is 50% higher than in 2017. RusVinyl and Bashkir Soda Company had the largest volumes of external supplies.

Russian PVC Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Bashkir Soda	253.4	243
Kaustik	92.2	87
RusVinyl	334.3	312.7
Sayanskkhimplast	278.8	265.5
Total	958.7	908.2

Russian PVC production totalled 958,600 tons in 2018 which was 6% higher than the previous year. RusVinyl increased production by 7% to 334.300 tons, which is 7% more whilst Sayanskkhimplast increased production from 263,500 tons to 278,800 tons. Bashkir Soda Company increased production by 4% to 253,400 tons and Kaustik at Volgograd increased production from 87,000 tons to 92,200 tons.

PX-PTA chain

Russian paraxylene production & sales 2018

Russian paraxylene production increased to 334.000 tons in 2018 against 303,400 tons in 2017. The largest rise was recorded by Ufaneftekhim, rising to 132,000 tons from 98,500 tons. Gazprom Neft at the Omsk refinery produced 137,000 tons of paraxylene in 2018 against 138,300 tons in 2017.

Russian Paraxylene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Gazprom Neft	137.0	138.3
Kirishinefteorgsintez	65.0	66.6
Ufaneftekhim	132.0	98.5
Total	334.0	303.4

Paraxylene sales on the Russian domestic market amounted to 180,600 tons in 2018 versus 183,000 tons in 2017. Ufaneftekhim increased sales from 101,200 tons to 120,200 tons in 2018, whilst Gazprom Neft at Omsk reduced shipments from 82,000 tons to 60,500 tons.

Russian Xylene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Gazprom Neft	240.4	247.9
Kirishinefteorgsintez	120.9	124.0
Ufaneftekhim	223.4	172.7
Total	584.8	506.8

Russian Paraxylene Domestic Sales (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Gazprom Neft	60.5	82.0
Ufaneftekhim	120.2	101.7
Total	180.6	183.3

Gazprom Neft concentrated more on export activity in 2018, helping to increase Russian exports of paraxylene in 2018. Ufaneftekhim continues to sell most of its paraxylene to Polief, Kirishi exports almost all of its production and Gazprom Neft does both. Regarding future supply, Taneko at Nizhnekamsk has now started construction of the aromatics complex aimed for completion in 2021. This will eventually result in the construction of a 147,000 tpa plant for paraxylene, intended to be integrated into PTA and PET production.

Russian exports of paraxylene amounted to 165,800 tons in in 2018 against 145,000 tons in 2017. Finland increased its share of Russian paraxylene exports in 2018, rising from 83% to 98% and in volume terms. Belarus reduced purchases of paraxylene from Russia in January to December 2018, falling from 12% to 1.5% and from

26,500 tons to 12,500 tons. Most of the growth in Russian export activity in 2018 came from Gazprom Neft at the Omsk refinery.

Russian PTA Imports (unit-kilo tons)		
Country	***Jan-Nov 18***	***Jan-Nov 17***
Belgium	1.6	36.1
India	5.7	33.0
China	136.4	79.7
South Korea	68.2	38.3
Poland	1.3	18.5
Thailand	18.9	31.7
Total	232.2	237.3

Russian PTA imports, Jan-Nov 2018

Russian PTA imports totalled 232,200 tons in the first eleven s in 2018 against 237,300 tons in the same period in 2017. China supplied 136,400 tons in the first eleven months against 79,700 tons in the same period in 2017, whilst India reduced shipments from 33,000 to 5,700 tons. Thailand reduced exports to 18,900 tons from 31,700 tons. Russian importers comprise almost exclusively Alko-Naphtha at Kaliningrad and the Senezh PET plant near Moscow.

Polief PTA expansion and extended outage 2019

Polief has started its scheduled a four-month stoppage of the PTA plant from February 2019 for modernisation. During the scheduled shutdown, which started on 5 February, the plant capacity at Blagoveshchensk is to be increased from 272,000 tpa to 350,000 tpa. PTA production is expected to be resumed in June 2019, whilst new reactors for the plant will be started in August and possibly increased output could be seen by the fourth quarter. Production of PET by Polief will continue during the modernisation period. An estimated amount of 40,000 tpa of PTA has been arranged provisionally with Chinese suppliers to cover the extended outage.

During the shutdown period Polief's paraxylene suppliers Ufaneftekhim and Gazprom Neft at Omsk are both expected to increase export activity in the first half of 2019. After the restart of the PTA plant, normal deliveries will be resumed but availability for paraxylene export should fall after the completion and commissioning of the PTA plant. Polief's paraxylene requirements are expected to rise subsequently from around 180,000 tpa to 235,000 tpa.

Titan-Polymer Pskov

The Titan Group, based primarily in the Omsk region, is progressing to plan with its investment project Titan-Polymer at Pskov in western Russia consisting initially for new facilities for BOPET films and later PET. To date, contracts have been concluded with equipment suppliers for the project in the Moglino SEZ site which will be implemented in four stages. The first stage includes the creation of two lines of biaxially oriented polyethylene terephthalate film (BOPET) with a capacity of up to 70,000 tpa. At a later date Titan aims to construct a PET plant with a capacity of up to 170,000 tpa.

The total investment in the project is estimated at 19 billion roubles, of which 20% will come from Titan's own funds. According to Titan, the Russian market of BOPET films will grow to 75,000 tons in the next few years justifying the investment in the new plant at Pskov. Currently, the country imports up to 50,000 tpa. Raw materials for the plant will be purchased from Kazan and Nizhnekamsk. If Russian raw materials prove unprofitable, the Pskov plant is well located to import from other sources.

In addition to providing feedstocks for PET production, the expanded PTA capacity will also provide raw materials for the new DOTP plasticizer plant at Perm which is scheduled to be completed in June 2019. The 100,000 tpa DOTP plant, which is being constructed on the SIBUR-Khimprom site, will require around 40,000 tpa of PTA from the Polief plant.

Aromatics

Russian benzene production, Jan-Dec 2018

Benzene production in Russia totalled 1.341 million tons in 2018 against 1.166 million tons in 2017. Rosneft plants at Angarsk, Ryazan and Novokuibyshevsk increased production to 150,000 tons versus 113,300 tons in 2017, whilst the largest individual producer in Russia Nizhnekamskneftekhim increased production from 191,800 tons to 222,700 tons after expansion in 2017. Gazprom Neft at Omsk also increased production in January to December 2018, rising to 100,800 tons against 73,500 tons in the same period in the previous year.

Russian benzene market, February 2019

Supply of benzene for merchant purchase on the Russian market showed clear signs of tightness towards the end of 2018 which could help to restrict exports. Production interruptions from late 2018 have helped distort the market in the early part of 2019. SIBUR-Kstovo was forced to stop benzene production in November for around ten days, whilst Ufaneftekhim reduced production over the month. In addition,

Gazprom neftekhim Salavat did not sell benzene to third-party consumers due to repair work in the pyrocondensate processing unit.

Russian Benzene Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Rosneft	150.0	113.3
Gazprom Neft	100.8	73.5
Lukoil	102.3	101.1
Magnitogorsk MK	56.1	51.9
Nizhnekamskneftekhim	222.7	191.8
Novolipetsk MK	9.1	30.2
Gazprom n Salavat	177.3	160.9
Kirishinefteorgsintez	70.9	59.1
Slavneft	72.3	66.7
Severstal	37.0	30.6
Bashneft	93.8	66.6
Ural Steel	9.2	10.7
Uralorgsintez	92.8	80.3
Zapsib	72.0	52.9
SIBUR	74.1	76.7
Total	1340.5	1166.4

Russian benzene export activity declined in 2018, dropping for both refinery and coal-based producers. As a result of higher domestic consumption benzene exports from Russia dropped from 130,800 tons in January to December 2017 to 56,000 tons in 2018. Rises in caprolactam production in 2018 provided the main stimulus to increased benzene merchant purchases on the Russian domestic market. Of the refineries Kirishinefteorgsintez still is able to export benzene, shipping 1,900 tons in January and aiming to increase to 3.000 tons in February. Kirishinefteorgsintez ships most of its benzene through the Liepaja terminal.

As Russia's largest merchant consumer of benzene Kuibyshevazot continues to import product to supplement purchases from domestic producers and has recently started importing from Karpatneftekhim in Ukraine. Kuibyshevazot is purchased a total of 164,000 tons of benzene in 2018 and purchases could rise to over 200,000 tons in 2019. From January to December 2018, the company increased import purchases of the product to 11,300 tons from 9,700 tons in 2017. Of these, 10,800 tons of petroleum benzene shipped were the Atyrau refinery in Kazakhstan. Shchekinoazot purchased 120 tons from the Atyrau refinery for the first time in January.

Russian Caprolactam Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Kuibyshevazot	192.8	179.5
Shchekinoazot	55.8	52.1
SDS Azot	112.8	101.3
Total	361.4	332.9

Russian caprolactam, Jan-Dec 2018

Russian caprolactam production totalled 361,400 tons in 2018 against 332,900 tons in 2017. Kuibyshevazot increased caprolactam production from 179,500 tons to 192,800 tons in January to December 2018, whilst increases were also recorded for Azot at Kemerovo and Shchekinoazot. Of the three producers Azot at Kemerovo exports nearly all of its caprolactam, Shchekinoazot around 84% and Kuibyshevazot the smallest at no more than 17%. Kuibyshevazot processes caprolactam into polyamide where production is rising and thus exports may fall further in 2019.

Russian Toluene Domestic Sales (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Novopiletsk MK	0.0	0.1
Slavneft-Yanos	13.2	14.9
Severstal	3.9	4.8
Lukoil-Perm	28.8	23.0
Gazprom Neft	67.2	81.2
Zapsib	3.3	12.1
Kinef, Kirishi	35.5	29.9
Gazprom n Salavat	0.1	1.9
Others	2.6	2.6
Total	154.7	170.5

Russian toluene & orthoxylene, Jan-Dec 2018

Sales of toluene on the Russian domestic merchant market totalled 154,700 tons in 2018 which is 14% less than in the same period in 2017. Gazprom Neft and Kirishinefteorgsintez were the two largest suppliers, with the main consumers distributed amongst the producers of fuels, paints and explosives.

Russian orthoxylene domestic sales dropped from 157,200 tons in 2017 to 143,300 tons in 2018. Kamteks-Khimprom reduced purchases of orthoxylene to 70,916 tons from 80.002 tons in January to December 2017. Gazprom neftekhim Salavat reduced purchases of orthoxylene from 10,253 tons in 2017 to 9,903 tons last year.

Russian Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Novokuibyshevsk Petrochemical	46.1	47.3
Kazanorgsintez	5.8	13.3
Ufaorgsintez	48.5	49.0
Borealis	9.4	4.1
Total	109.7	113.7

Russian phenol, Jan-Dec 2018

Phenol sales on the Russian merchant market totalled 109,700 tons in 2018 against 113,700 tons

in 2017. Kazanorgsintez reduced merchant sales in order to increase production of bisphenol A, although this was compensated by domestic shipments from the Novokuibyshevsk Petrochemical Plant and Ufaorgsintez. Novokuibyshevsk Petrochemical Company, which is owned by Rosneft, is the only phenol producer of the three in Russia that has no internal processing, and thus sells product to either to domestic or export markets.

Russian Phenol Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Ufaorgsintez	65.2	65.2
Kazanorgsintez	70.0	71.4
Novokuibyshevsk Petrochemical	68.8	70.7
Total	204.0	207.3

Russian phenol production dropped slightly in 2018 to 204,000 tons from 207,300 tons. For 2019 the Russian phenol market is expected to see important changes as the Titan Group plans to launch start-up operations on phenol-acetone production at Omsk Kaucuk at the end of May or mid-June 2019. The updated capacity will increase the production of phenol to 90,000 tpa and acetone to 56,000 tpa.

After the restart of the phenol and acetone plants at Omsk, Titan intends to concentrate on other projects such as processing of acetone into isopropanol. The project involves the creation of an isopropanol plant with a capacity of 30,000 tpa at Omsk Kaucuk. The third stage of the Titan's strategic programme is focused on the construction of a bisphenol A plant, with a capacity of 118,000 tpa, followed by the construction of a plant for epichlorohydrin. This production unit is intended to use a renewable resource waste glycerol raw material for further processing into epichlorohydrin. The combination of all these processes will provide an opportunity to create the production of liquid and solid epoxy resins with a capacity of 115,000 tpa and compositions based on them with a capacity of 20,000 tpa.

Kuibyshevazot-Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Polyamide-6	151.3	147.2
High Tenacity Tech Yarns	5.6	11.0
Caprolactam	210.1	194.5
Ammonia	1106	880.4
Urea	358.5	309.5
Ammonium Nitrate	625.4	615.7
Ammonium Sulphate	532.3	485.3

Kuibyshevazot production Jan-Dec 2018

Kuibyshevazot increased revenues by 18.4% in January to December 2018 to a total of 59.7 billion roubles. The company's net profit for 2018 amounted to 7.1 billion roubles. In 2017, the increase in energy costs, the main raw materials, equipment repair and restoration led to a decrease in net profit to 3 billion roubles. Over 2018 ammonia production increased by 25.6% to 1.106 million tons due to the commissioning of the Linde Azot Togliatti joint venture which accounted for 448,000 tons. Ammonium nitrate production rose 1.6% to 625,400 tons, urea by 15.2% to 356,500 tons, and ammonium sulphate increased to 530,300 tons from 485,300 tons. Caprolactam production rose from 194,500 tons to 210,100 tons, whilst polyamide-6 production rose from 147,200 tons to 151,300 tons.

Kuibyshevazot's subsidiary Kurskkhimvolokno, which manufactures polyamide technical threads recorded a profit of around 150 million roubles in 2018 against losses in the previous four years. During 2019, the company produced 24,500 tons of products worth 4.9 billion roubles. In the next two years, Kurskkhimvolokno plans to launch torsion-weaving equipment for the production of cord fabrics with a capacity of 1,600 tpa. Kurskkhimvolokno accounts for 70% of the Russian market of PA technical fabrics, it is the only producer of textured polyamide and complex yarns, as well as polyamide staple fibre.

Synthetic Rubber

Russian C4 Purchases (unit-kilo tons)		
Consumer	***Jan-Dec 18***	***Jan-Dec 17***
Omsk Kaucuk	52.0	51.0
Nizhnekamskneftekhim	144.0	185.5
SIBUR Togliatti	175.7	188.0
Sterlitamak Petrochemical Plant	0.0	1.5
Total	371.7	426.0

Russian C4s, Jan-Dec 2018

Merchant purchases of C4s on the Russian market dropped in 2018 to 371,700 tons from 426,000 tons in 2017. The major fall was recorded by Nizhnekamskneftekhim, which was able to produce more C4s from its own cracker, dropping from 185,500 tons to 144,000 tons. SIBUR Togliatti also reduced purchases on the merchant market, totalling 175,700 tons in 2018 against

188,000 tons in 2017. The largest suppliers of C4s to the Russian domestic market remain SIBUR-Kstovo, which shipped 90,700 tons in 2018 versus 96,100 tons in 2017, followed by Tomskneftekhim and Stavrolen. Import sources for 2018 were led by Azerbaijan shipping 23,100 tons against 7,900 tons in 2018=7 and Belarus which shipped 22,700 tons against 23,700 tons.

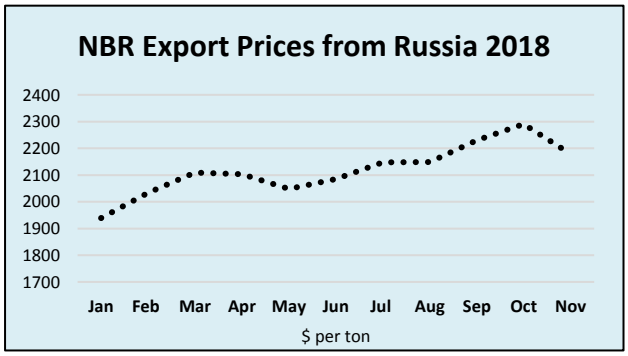
Russian synthetic rubber exports, Jan-Nov 2018

Export volumes for Russian synthetic rubber in the first eleven months in 2018 totalled 923,000 tons against 934,000 tons in the same period in 2017. Average product prices dropped in the first eleven months from $1786 per ton to $1690 per ton. By product category, isoprene rubber exports totalled 253,700 tons in January to December 2018 against 279,300 tons. Isoprene rubber prices fell to $1423 per ton in 2018 from $1625 in January to December 2017.

Russian Synthetic Rubber Exports (unit-kilo tons)		
Product	***Jan-Nov 18***	***Jan-Nov 17***
E-SBR	27.9	34.3
Block	28.2	32.6
SSBR	8.1	8.1
SBR	82.6	75.3
Polybutadiene	219.1	219.2
Butyl Rubber	116.6	120.1
HBR	123.8	121.7
NBR	29.5	23.6
Isoprene	253.7	279.3
Others	33.6	19.9
Total	923.0	934.0

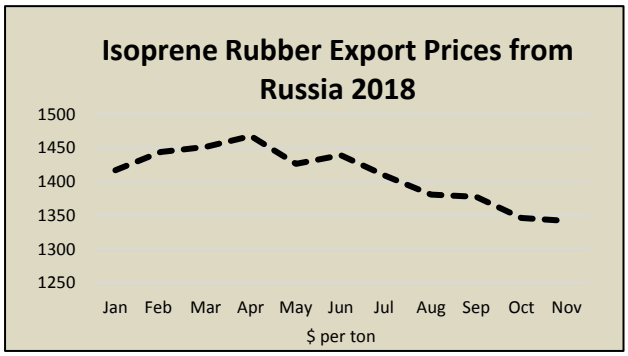
Export sales of butyl rubber from Russia dropped slightly from 120,100 tons to 116,600 tons January to November 2018, whilst exports of halogenated butyl rubber (HBR) rose to 121,700 tons against 123,800 tons. Export prices of butyl rubber averaged $1786 per ton in January to November 2018 and for halogenated butyl rubber at $2357 per ton from $2035 per ton in the same period in 2017.

Regarding export destinations, China was the largest recipient of Russian rubber shipments in the first eleven months in 2018, accounting for 10.2%, followed by Poland with 10.1% and India with 9.9%. Other leading markets included India, Hungary, Poland, and Mexico.



Krasnoyarsk Synthetic Rubber Plant-NBR

Regarding NBR at Krasnoyarsk, technology improvements under the jv between SIBUR and Sinopec have enabled the production of new grades which has opened up growth prospects for the company in the markets of China, Europe and Russia. Production capacity at Krasnoyarsk Synthetic Rubber comprises 42,500 tpa involving up to 85 grades of rubber. The plans of SIBUR for the development of the Krasnoyarsk Synthetic Rubber Plant include focus on the production of special grades of rubbers for the Russian and European markets.



SIBUR Togliatti-isoprene modernisation

In 2018, SIBUR completed at its Togliatti site a large-scale project for the technical re-equipment of the production of isoprene. 2.3 billion roubles were invested in this project where work focused on three installations, and updating of more than 130 units of column, heat exchange, pumping and tank equipment. Technical re-equipment has fundamentally changed the process of production management of isoprene which is now is fully automated. Isoprene production has become safer as the emergency protection system makes decisions and performs all necessary switchings when the technological parameters are out of the set limits independently and significantly faster than the operator could do. The final consolidation and transfer of signals into a single operator is scheduled for 2019.

SIBUR Togliatti released two environmentally friendly brands of styrene-butadiene rubber, which fully meet the European Union's requirements. The production of butyl rubber has developed a technology for obtaining a new brand BK-351, which will expand the market and increase the competitiveness of products.

SIBUR to expand polybutadiene capacity at Voronezh

SIBUR has decided to invest around 1.1 billion roubles into the modernisation and expansion of butadiene rubber (SKD-ND) capacity at Voronezhsintezkaucuk. The company intends to carry out a large-scale modernisation in order to improve the operating efficiency of the existing production and the stability of the quality of products. The project includes plans to increase capacity from 35,000 tpa to 48,000 tpa. The project is currently at the design stage and work is expected to be completed in 2021. Russian company NIPIGAZ will act as the general designer. Despite the surplus in synthetic rubber trade activity Russian imports of synthetic rubber in 2018 still totalled 39,500 tons with a book value of $93.5 million

Voronezhsintezkaucuk is currently implementing another major investment project comprising the construction of a second line for the production of 50,000 tpa of styrene-butadiene thermoplastic elastomers (TEPs), worth 4.5 billion roubles. This will raise total capacity for Voronezhsintezkaucuk to a total of 135,000 tpa. After the introduction of additional capacity for TEPs, SIBUR expects to be able to meet the full demand from the Russian market. The company also aims to continue to develop its presence in the European TEP market.

Methanol & related products

Russian Methanol Production (unit-kilo tons)

Producer	*Jan-Dec 18*	*Jan-Dec 17*
Shchekinoazot	592.0	523.7
Sibmetakhim	877.3	893.5
Metafrax	1169.5	1107.0
Akron	107.6	101.7
Azot, Novomoskovsk	295.0	239.8
Angarsk Petrochemical	3.7	2.8
Azot, Nevinnomyssk	120.0	124.4
Tomet	882.6	775.6
Ammoni	221.0	212.0
Totals	4268.6	3977.8

Russian methanol production, Jan-Dec 2018

Methanol production in Russia totalled 4.269 million tons in 2018 against 3.978 million tons in 2017. The largest proportional rise was recorded by Azot at Novomoskovsk which increased by 24% to 295,000 tons, followed by Shchekinoazot which increased production from 523,700 tons to 592,000 tons and Tomet which increased from 775,600 tons to 882,600 tons.

Russian methanol sales, Jan-Dec 2018

Demand for methanol on the Russian domestic market strengthened slightly in 2018, with domestic sales totalling 1.611 million tons s versus 1.245 million tons in the same period in 2017. Ammoni at Mendeleevsk increased domestic sales from 114,600 tons to 152,200 tons, Azot at Novomoskovsk increased from 96,000 tons to 135,000 tons and Tomet increased shipments from 484,000 tons to 540,200 tons. These increases overrode the fall in sales by Metafrax, dropping from 396,200 tons in the first ten months to 308,700 tons.

Russian Methanol Domestic Sales (unit-kilo tons)

Producer	*Jan-Dec 18*	*Jan-Dec 17*
Azot Nevinnomyssk	23.2	27.8
Azot Novomoskovsk	135.0	96.0
Metafrax	308.7	396.2
Sibmetakhim	372.5	346.8
Tomet	540.2	484.0
Shchekinoazot	70.1	72.0
Ammoni (Mendeleevsk)	152.0	114.6
Others	9.5	4.6
Total	1611.0	1542.2

Nizhnekamskneftekhim remains the largest individual buyer of merchant methanol on the Russian market, purchasing 246,900 tons against 244,600 tons in 2018. SIBUR Togliatti increased purchases from 126,800 tons to 147,700 tons, whilst Novokuibyshevsk Petrochemical Company reduced inward shipments from 67,800 tons to 42.900 tons.

Russian companies increased exports of MTBE by 55,000 tons in 2018, rising to 387,400 tons. Exports grew due to weakening demand in the Russian market, as gasoline producers increased the use of fuel components of their own production. After an absence from the market Nizhnekamskneftekhim started shipping its component abroad.

Metafrax, Jan-Dec 2018

Revenues for Metafrax increased in January to December 2018 to 25 billion roubles against 21 billion roubles in 2017. Metafrax increased methanol production in 2018 to 1.170 million tons against 1.107 million tons in 2017. Formaldehyde (55%) production totalled 263,000 tons versus 244,400 tons, whilst 37% strength formaldehyde production rose to 84,000 tons from 88,200 tons in 2017. For other products, the production

of urea-formaldehyde concentrate rose 9,000 tons to 199,000 tons and pentaerythritol production rose to 24,000 tons.

Russian Methanol Consumption (unit-kilo tons)		
Consumer	***Jan-Dec 18***	***Jan-Dec 17***
Nizhnekamskneftekhim	246.9	244.6
SIBUR Togliatti	147.7	126.8
Uralorgsintez	67.2	71.1
SIBUR-Khimprom	17.1	15.5
SIBUR Tobolsk	46.5	53.2
Ektos-Volga	58.4	56.5
Omsk Kaucuk	78.4	85.6
Novokuibyshevsk NPZ	42.9	67.8
Uralkhimplast	25.7	22.5
Slavneft-Yanos	17.5	17.1
Others	862.6	781.5
Total	1611.0	1542.2

Metafrax is close to complete commissioning a new plant for the production of dipentaerythritol which is extracted from pentaerythritol as a separate project. After the project is implemented, it will be possible to produce up to 1,000 tpa of dipentaerythritol at the plant. Dipentaerythritol is used in the production of synthetic lubricating oils, stabilizers of polyvinyl chloride, alkyd resins and fire-retardant coatings.

Metafrax has ordered 100 tank cars for transportation of methanol to add to the existing 400 units. The tank car model 15-6880 is equipped with a running gear with an axle load of 25 ton-force, has an increased carrying capacity of 73 tons and a boiler capacity of 88 m3. Due to such technical characteristics, an additional increase in loading into each car can be up to 2 tons more than existing wagons while increasing the efficiency of methanol transportation.

Thus, an additional 160 tons of cargo can be transported in one train of 80 cars manufactured by UWC. This means that it is possible to reduce the need for a fleet of tanks and reduce the cost of initial-final operations. The service life of the tank is 32 years compared to 24 years for counterparts.

Metafrax-Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Methanol	1169.5	1107.0
Formaldehyde 55%	263.0	244.4
Formaldehyde 37%	84.0	88.2
Urea-formaldehyde concentrate	199.0	189.4
Pentaerythritol	24.0	23.9

Metafrax and GEA-contract signed for paraformaldehyde plant

Metafrax and GEA signed a contract for the development of the project and the supply of equipment for the installation for the production of paraformaldehyde at Gubakha. The capacity of the unit will be 30,000 tpa, whilst the capital investment is estimated at 5.2 billion roubles. To undertake the project, Metafrax plans to attract its own and borrowed funds. Commissioning of the plant is scheduled for the second half of 2021. The investment project involves the construction of a plant for the production of formaldehyde with a capacity of 180,000 tpa.

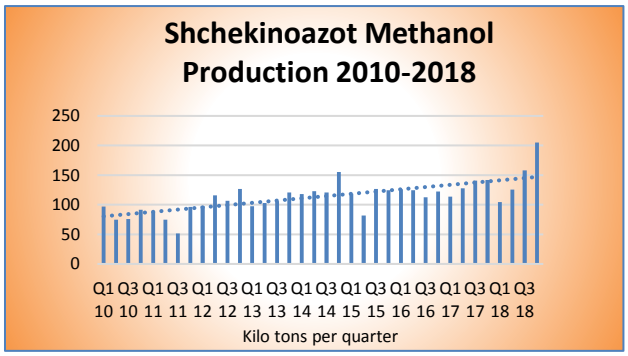
Akron Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Ammonia	2616.0	2595.0
Urea	1015.0	882.0
Methanol	107.6	101.7
Formaldehyde	174.0	161.0
Urea-formaldehyde resins	193.0	181.0
Calcium carbonate	473.0	514.0

The construction of the plant at Metafrax will allow the company to fully provide domestic consumers and reduce dependence on imports. Paraformaldehyde production will be integrated with the formaldehyde and pentaerythritol plants. To reduce the environmental burden on the environment, the technology provides for the installation of a catalytic oxidizer for the disposal of exhaust gases. Liquid waste from the installation will be the raw material for the existing production of pentaerythritol. The advantages of GEA technology for obtaining paraformaldehyde are a large unit capacity and high product quality. The technology allows to produce paraformaldehyde is with the content of the main substance in the range of 92-96%.

Shchekinoazot completes warranty run on methanol and ammonia complex

Methanol production for Shchekinoazot increased to 592,000 tons in 2018 against 523,700 tons in 2017 and forecasts an increase in 2019 based on a full year's operation of the new M-450 plant which started in September 20180 In December Shchekinoazot successfully conducted a warranty run at the commissioned combined methanol and ammonia plant which is based on Topsoe technology. The design capacity of the plant is 450,000 tpa of methanol and 135,000 tpa of ammonia and is the world's first project based on the Topsoe IMAP technology. The December confirmed the guaranteed production volumes for a given

consumption of natural gas. Topsoe's unique IMAP technology is used when methanol is the main product and ammonia is a concomitant product, and urea production is not required. The share of ammonia production varies from 25% to 35%.



The new plant facilities have been designed to minimize consumption of raw materials and energy resources, and to reduce the impact on the environment. Shchekinoazot is also constructing a new methanol plant with a capacity of 500,000 tpa, which should be introduced in 2021. This will increase total methanol capacity for the company to 1.4 million tpa.

Regarding logistics, Shchekinoazot and United Carriage Company Research and Production Corporation (NPK OVK) have signed a contract for the supply of 101 tank cars for the transport of bulk chemical cargoes. UWC will supply Shchekinoazot with 66 tank cars for transportation of methanol and 35 tank cars for transportation of ammonia. The rolling stock will be delivered to Shchekinoazot by the end of the first quarter of 2019.

The new rolling stock surpasses typical models on the market due to the increased load capacity of the car (73 tons and 60.2 tons) and increased boiler volume (88 and 92.7 cubic metres respectively). Overhaul mileage increased to 1 million km (or 8 years), which significantly reduces the cost of the life cycle of the car. Both models are manufactured at the TikhvinChemMash enterprise in Moscow. Shchekinoazot previously had acquired rolling stock from NPK UVK.

Evrokhim-Kingisepp ammonia project

Evrokhim intends to launch a new ammonia plant at Kingisepp in the Leningrad Region in June 2019. The production capacity will be about 2,700 tons per day or 1 million tpa of commercial ammonia. The new plant will be the largest ammonia producer in Russia having been constructed by the Maire Tecnimont Group.

Gazprombank-Shchekinoazot financing for M-500 methanol project

Shchekinoazot, the Russian bank and Gazprombank signed a syndicated loan agreement for the implementation of the M-500 project using the so-called project financing factory. The project is the third phase of a comprehensive programme for Shchekinoazot's methanol capacity to 1.4 million tpa by 2021. The total cost of the M-500 project is 22 billion roubles, which will be used to pay for construction and installation work and to purchase equipment produced in Russia. This is one of the first contracts of a syndicated loan under the mechanism of the project financing factory whereby benefits are gained both for both the project initiator and the participating bank.

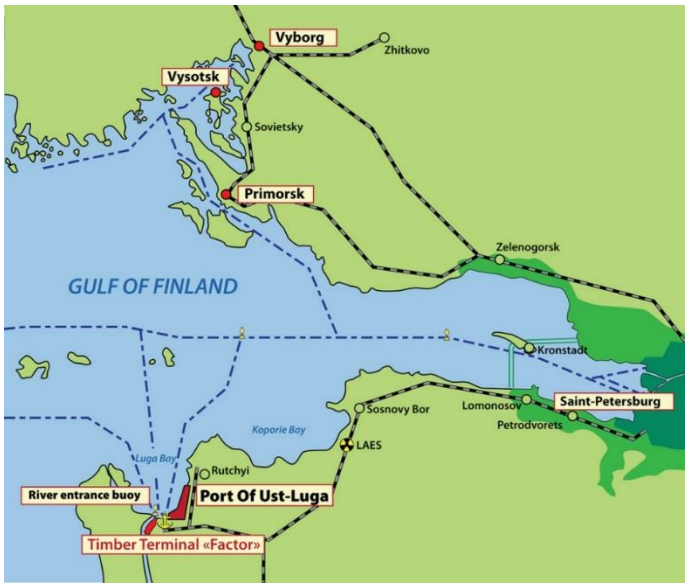
Gazprombank-Shchekinoazot financing for new ammonia-urea project

Gazprombank has entered into an agreement with Shchekinoazot for financing a new project for the construction of an ammonia and urea complex. The agreement provides for the construction of an ammonia and urea production complex with a capacity of 525,000 tpa and 700,000 tpa. Gazprombank intends to provide financing for a period of up to ten years on the principles of project financing. Gazprombank and Shchekinoazot are successfully implementing construction projects for methanol production plants with a capacity of 500,000 tpa, nitric acid and ammonium nitrate with a capacity of 270,000 tpa and 340,000 tpa respectively, as well as sulphuric acid with a capacity of 200,000 tpa and dimethyl ether with a capacity of 20,000 tpa.

Two methanol projects under assessment for Ust Luga

Ust Luga on the Baltic coast could become a major location for Russian methanol if the two projects under consideration by Baltic Gas Chemical and Ruskhimkom materialise to the construction and completion stages. In 2018 the Baltic Gas Chemical Company entered into agreements with Mitsubishi Heavy Industries Engineering (MHI) and Haldor Topsoe for the design, construction and operation of a methanol plant at Ust-Luga.

In the latter part of 2018 St Petersburg based company Ruskhimkom revealed plans to build a gas processing complex for methanol at Ust Luga with a capacity of 1.75 million tpa by 2023. The project involves the construction of a methanol production plant on the territory of the Alekseevskaya industrial zone, the construction of a 48-km-long product pipeline and a shipping terminal in the seaport of Ust-Luga. Total capital costs are estimated at €1 billion, whilst the construction could begin in 2020. At the end of last year, they concluded a contract for the design of the plant with LenNIIkhimmash.



To date, Ruskhimkom has agreed to acquire 225 hectares of land in the Kingisepp District for the project and has entered into a supply agreement with Gazprom Mezhregiongaz St. Petersburg for 1.7 billion cubic metres of gas per annum for a period up to 2032. Project documentation is under development, whilst the stage of concluding a license agreement is at the final stage. Critically, technical conditions have been obtained for connecting the plant to Gazprom's gas transmission system.

Ruskhimkom was formed specifically to implement the methanol project. The founder of the company is Indiga Investment Group, including shareholders Vitaly Yuzhilin (99%) and Natalia Lapshina.

The capacity of the Baltic Gas Chemical plant is 1.7 million tpa which is also intended for start-up in 2023. Although it is quite possible for both projects to fail, if both Baltic Gas Chemical and Ruskhimkom plants are constructed capacity at Ust Luga could total 3.450 million tpa by the start of 2024 which would have a major effect on Russian export capability.

For the Baltic Gas Chemical project Marubeni Corporation is expected to sell methanol in foreign markets. In addition to methanol production, it is also planned to launch a terminal for transhipment in the Baltic. The main snag in the Baltic Gas Chemical project is gas as its development in the port area is possible only after the launch of Nord Stream 2.

Organic chemicals

Russian N-Butanol Production (unit-kilo tons)		
	Jan-Dec 18	***Jan-Dec 17***
Angarsk Petrochemical Company	30.6	34.7
Azot, Nevinnomyssk	16.3	15.5
Gazprom neftekhim Salavat	69.2	52.9
SIBUR-Khimprom, Perm	39.7	38.8
Total	155.7	141.9
Russian Isobutanols Production (unit-kilo tons)		
	Jan-Dec 18	***Jan-Dec 17***
Angarsk Petrochemical Company	15.8	16.4
Gazprom neftekhim Salavat	41.1	26.7
SIBUR-Khimprom, Perm	53.0	41.7
Total	109.9	74.1

Russian Butanol Consumption (unit-kilo tons)		
Consumer	***Jan-Dec 18***	***Jan-Dec 17***
Akrilat	17.5	19.9
Dmitrievsky Chemical	13.1	14.5
Plant of Synthetic Alcohol	0.8	1.8
Volzhskiy Orgsintez	9.2	8.7
Roshalsky Plant of Plasticizers	3.0	1.4
Others	14.5	13.7
Total	58.1	59.9

Russian butanol production, Jan-Dec 2018

Russian normal butanol production amounted to 155,700 tons in 2018, versus 141,900 tons in 2017 whilst isobutanol production rose from 74,100 tons to 109,900 tons. SIBUR-Khimprom at Perm increased the production of isobutanol from 41,700 tons in 2017 to 53,000 tons in 2018 whilst Gazprom neftekhim Salavat increased from 26,700 tons to 41,100 tons. The Salavat plant also increased production of normal butanol from 52,900 tons to 69,200 tons, primarily to meet demand from the acrylates' division.

Both Russia's largest producers of oxo alcohols are focusing on development of internal processing, thus reducing availability for merchant sales either for the domestic or export markets. Moreover, SIBUR-Khimprom has started maximising the production of 2-ethylhexanol at its facilities, thus reducing the production of butanols. This is to provide the raw materials for the new dioctyl terephthalate project which is expected to be completed in mid-2019.

Russian butanol sales, Jan-Dec 2018

Russian sales of butanols on the domestic merchant market amounted to 56,600 tons in 2018 against 57,600 tons 2017. The share of n-butanol in the total supply was 86%, and isobutanol 14%. Akrilat

remained the largest consumer of butanols on the domestic market, taking 15,700 versus 16,600 tons in January to December 2017, whilst Dmitrievsky Chemical reduced inward shipments from 12,300 tons to 11,000 tons. Akrilat purchases most of its butanols from SIBUR-Khimprom, whilst Dmitrievsky Chemical Plant buys largely from Angarsk and Salavat. The problem facing consumers for 2019 and 2020 may possibly be one of supply on the domestic market as domestic producers focus more on captive consumption and internal processing.

Russian Phthalic Anhydride Production (unit-kilo tons)		
Producer	***Jan-Dec 18***	***Jan-Dec 17***
Gazprom n Salavat	13.1	10.2
Kamteks	86.8	92.1
Total	99.9	102.3

Russian phthalic anhydride production Jan-Dec 2018

Russian production of phthalic anhydride amounted to 99,900 tons in the period January to December 2018 against 102,300 tons in 2017. Kamteks-Khimprom increased production from 92,100 tons to 86,800 tons whilst Gazprom neftekhim Salavat increased production from 10,200 tons to 102,300 tons.

The Russian market for phthalic anhydride is undergoing changes regarding both import competition and future consumption patterns, which should affect Kamteks-Khimprom directly. Domestic consumption of phthalic anhydride is expected to fall this year following the launch of the new SIBUR plasticizer production plant, dioctyl terephthalate (DOTP), with a capacity of 100,000 tpa.

Russian & Eurasian Organic Chemical Exports (unit-kilo tons)		
Product	***Jan-Nov 18***	***Jan-Nov 17***
N-Butanol	39.8	16.1
Iso-butanol	31.2	17.6
2-EH	22.9	18.7
Pentaerythritol	10.4	10.0
Phenol	15.4	11.5
Ethylene Oxide	13.2	14.0
Formaldehyde	18.1	20.0
DEG	12.2	18.5
MEG	29.1	41.6
Acetone	22.1	35.5
Acetic Acid	27.1	33.7
VAM	29.0	31.7
Butyl Acetate	21.4	24.3
Phthalic Anhydride	62.3	57.1

Russian organic chemical trade, Jan-Nov 2018

Butanol exports from Russia increased in the first eleven months in 2018, although remain lower than the volumes recorded prior to the start-up of the Salavat acrylic acid complex in 2017. Normal butanol export shipments rose to 39,800 tons versus 16,100 tons in the first eleven months in 2017, whilst isobutanol volumes increased from 17,600 tons to 31,200 tons.

Exports of 2-ethylhexanol (2-EH) amounted to 22,900 tons in the first eleven months in 2018, up from 18,700 tons in 2017. Phthalic anhydride exports totalled 35,800 tons in January to September 2018, up from 30,900 tons, whilst butyl acetate shipments dropped to 11,900 tons from 23,500 tons. Pentaerythritol exports from Russian stayed the same as in 2017 at 6,500 tons.

Eurasian TDI Imports Jan-Sep 2018		
Country	***Jan-Nov 18***	***Jan-Nov 17***
Hungary	7.9	11.0
Germany	20.1	14.5
Spain	0.5	0
Italy	0.1	0.0
China	0.1	2.3
South Korea	1.9	6.3
Saudi Arabia	8.0	0.0
UK	0.3	0.0
US	4.2	5.4
Japan	1.6	1.0
Others	0.6	0.4
Total	45.2	40.9

Other products

Kuibyshevazot-engineering plastics plant in Germany

Kuibyshevazot plans to organize the production of engineering plastics in Germany. The business plan for the creation of the production of composites in Rudolstadt was approved by the company's board of directors. Investments in the project will amount to €2.9 million, and production capacity is 22,000 tpa of composite materials. Kuibyshevazot became an investor at the Rudolstadt site in 2011 after the purchase of Saxon-Thuringian Filamente GmbH (SFTG). The STFG currently produces some 4,000 tpa of specialty technical textile yarn, including for the automotive industry.

Russian TDI-MDI imports, Jan-Nov 2018

Russia imported 45,200 tons of TDI in the first eleven months in 2018, valued at $98.3 million. Around 25% of supplies came from Germany, followed by Hungary and Saudi Arabia. TDI costs totalled $133 million for the first eleven months, with prices softening in the second half of the year after high numbers recorded in the first half of 2018.

Eurasian Imports of MDI (unit-kilo tons)

Country	*Jan-Nov 18*	*Jan-Nov 17*
Belgium	19.9	21.0
Hungary	6.3	5.5
Germany	17.0	41.4
Spain	0.4	3.4
Italy	0.1	1.6
China	21.9	18.4
South Korea	1.8	4.1
Netherlands	32.7	32.6
Poland	0.1	0.1
Saudi Arabia	37.5	0.2
Turkey	0.4	0.2
Japan	1.9	2.0
Others	0.8	1.8
Total	140.7	132.3

MDI imports into the Eurasian Customs Union totalled 140,700 tons in the first eleven months in 2018, against 132,300 tons in the same period in 2017. Most product was delivered to Russia. The major change in supplies in 2018 came from the increase in deliveries from Saudi Arabia, rising to 37,500 tons against only 200 tons in the same period in the previous year.

The Netherlands accounted for 32,700 tons of MDI imports in the first eleven months in 2018 against only 32,600 tons in the same period in 2017. By contrast, Germany reduced deliveries to Russia from 41,400 tons to 17,000 tons.

Russian amino acid market 2018

The Russian market for amino acids is estimated to have risen by around 15% in 2018, whilst prices dropped about 20-35%. About 30,000 tons of methionine was imported last year, 10% less than in 2017. The largest supplier in 2018 was Belgium which accounted for over 75% of the total imports. Exports of Russian methionine produced at the Volzhsky Orgsintez plant amounted to more than 6,000 tons. At the end of 2018, the cost of imported methionine in Russia was at around €2.6 per kg.

Regarding lysine, around 74,000 tons was imported in 2018 which is 20% more than in 2017. The main supplier countries included Indonesia (over 50%), the Republic of Korea (more than 25%) and the USA (about 11%). The price of lysine in Russia at the end of 2018 was in the range of €1.6-1.7 per kg and dropped 30% over the full year.

Supplies of Chinese lysine in the Russian market were banned from 22 December 2018 after Rostekhnadzor announced the introduction of restrictions on the supply of Chinese-made lysine to Russia. In September 2018, Rostekhnadzor had already suspended the import of lysine from six Chinese enterprises due to the refusal of the Chinese side to conduct an inspection.

RusVinyl-caustic soda transportation

RusVinyl signed a two-year contract for the transportation of caustic soda with the railway operator UNICON 1520, which is part of the United Carriage Company (UWC). Railway operator UWC won a tender for the transportation of caustic produced at RusVinyl facilities in the Nizhny Novgorod region. The parties agreed that UNICON 1520 will provide the enterprise with a fleet of tank containers on railway platforms. Transportation geography includes the territory of Russia with access to ports through Finland and the Baltic countries.

Khimprom-hydrogen peroxide plant

Khimprom at Novocheboksarsk is investing about 5.6 billion roubles in the creation of production of hydrogen peroxide using anthraquinone technology. Production capacity will be 50,000 tpa. Last year a new calcium hypochlorite production was launched at Novocheboksarsk. The project to construct a plant for the production of hydrogen peroxide using anthraquinone technology was first agreed in May 2017, with Chematur Engineering AB acting as technology licensor but the project was delayed. Khimprom currently operates on the production of hydrogen peroxide using isopropyl technology. The company's share in the Russian market of hydrogen peroxide (excluding domestic consumption) is about 16%. After the launch of the new production, Khimprom expects it to grow to 80%.

Ukraine

Ukrainian polymer imports, Jan-Dec 2018

Polyethylene imports into Ukraine dropped 1% in January to December 2018 to 244,400 tons against 247,600 tons. HDPE imports dropped from 96,700 tons to 79,300 tons, LDPE imports rose 10% to 76,300 tons and LLDPE imports rose to 73,700 tons against 66,100 tons. Imports of other types of polyethylene, including EVA, amounted to 15,100 tons against 15,600 tons in 2017.

Overall polypropylene imports to the Ukrainian market totalled 132,400 tons last year, up by 8% over 2017. Overall shipments of homopolymer PP reached 100,600 tons last year versus 94,300 tons whilst imports of block copolymers amounted to 13,300 tons against 12,900 tons. imports of polypropylene random copolymers exceeded 16,000 tons in 2018, whereas this figure was 13,800 tons in 2017.

PVC imports into Ukraine dropped 33% in 2018 following the restart of the Karpatneftekhim plant. Volumes dropped from 98,500 tons to 66,100 tons. Imports from the US dropped to 38,600 tons versus 49,000 tons in 2017, whilst volumes from Europe rose to 26,200 tons against. Overall imports of

European PVC into Ukraine totalled 26,200 tons over the stated period compared to 32,800 tons. Regarding export activity, Karpatneftekhim shipped over 147,500 tons in 2018 against 51,900 tons in 2017.

Ukrainian Polymer Imports (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
PVC	66.1	98.5
LDPE	76.3	69.5
LLDPE	73.7	96.7
HDPE	79.3	81.1
Ethylene Vinyl Acetate	15.1	15.6
Homopolymer PP	100.6	94.3
Block copolymers PP	13.3	12.9
Random copolymers PP	16.0	13.8

Karpatneftekhim feedstock purchases 2018

Karpatneftekhim and Nouryon (formerly AkzoNobel Specialty Chemicals) signed a licensing agreement to use CiD technology in the production of PVC. This will allow the PVC producer to increase the productivity of reactor equipment by 40%, improve the quality of the finished product and the safety of the technological process. Karpatneftekhim imported 103,100 tons of LPGs in 2018 of which 99% was shipped from Russia, and the remainder from Belarus and Lithuania.

The main suppliers of LPG were Nizhnekamskneftekhim (40,400 tons), Omsk Kaucuk (40.400 tons), Rosneft (10,600 tons) and Tatneft (5,100 tons).

All Russian LPG, with the exception of Rosneft butane, was supplied through terminals for transhipment via Vitebsk in Belarus. Also, a small supply of liquefied Gas was sent to Karpatneftekhim from the Mazeikiu Orlen Lietuva refinery in Lithuania. Regarding other feedstock shipments, Karpatneftekhim purchased 510,000 tons of naphtha in January-December 2018. Karpatneftekhim stopped the production of HDPE on 12 January temporarily due to a fire on the olefin complex, although the PVC plant was unaffected.

Azot Grodno Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Methanol	83.9	83.9
Caprolactam	124.7	111.2
Polyamide primary	112.7	103.6
Polyamide filled	12.8	11.3
Ammonia	1093.9	1073.7
Urea	1036.4	1040.1
Fertilisers	783.2	773.0
Fibres	43.4	39.0

Belarus

Azot Grodno 2018

Grodno Azot increased the production of marketable products by 20% in January to December 2018, including large rises in the production of ammonium sulphate and caprolactam. Last year, Grodno Azot increased the production of primary polyamide by 8.8% to 112,680 tons. Production of fibres and chemical filaments increased by 11% to 43,360 tons, and the production of cord fabric decreased by 5.9%.

Belarussian Acrylonitrile Exports (unit-kilo tons)		
Product	***Jan-Nov 18***	***Jan-Nov 17***
Russia	2.5	1.8
Hungary	4.6	2.7
India	3.7	2.0
Iran	3.1	3.5
Netherlands	4.2	14.7
Romania	0.0	0.1
Turkey	24.1	17.1
UAE	0.0	0.3
Others	0.0	1.6
Total	42.1	43.7

Last year, the plant produced 83,900 tons of technical methanol, maintaining production at last year's level. Sulphuric acid production grew by 11.3% to 259,680 tons. Caprolactam production volumes increased by 12.1% to 124,680 tons.

Belarussian organic chemical trade, Jan-Nov 2018

Belarussian acrylonitrile exports totalled 42,100 tons in the period January to November 2018 against 43,712 tons in the same period in 2017. The largest destination for Belarussian exports was Turkey, accounting for 24,131 tons versus 17,116 tons in the previous year. Average prices for Belarussian acrylonitrile exports rose to $1760 per ton in the first eleven months this year against $1370 per ton in 2017.

At the end of 2018 Belarussian chemical holding group Belneftekhim signed a contract for acrylic fibre exports, from Naftan to China National Fiber, worth around $12 million. In volume terms, this amounts to up to 300 tons per month. Polymir produces around 5,000 tons per month of Nitron-S and Nitron-D, of which around 70% is exported to countries such as Iran, China and Turkey.

Belarussian Organic Chemical Exports (unit-kilo tons)		
Product	***Jan-Nov 18***	***Jan-Nov 17***
Acrylonitrile	42.1	42.3
Caprolactam	9.5	7.4
Phthalic anhydride	40.7	21.2
Methanol	20.7	21.1

Phthalic anhydride exports from Belarus rose from 21,200 tons in January to November 2017 to 42,100 tons in the same period in 2018, with average prices rising from $910 per ton to $918 per ton. Belarus exported 12,238 tons of phthalic anhydride to Russia in the first eleven months in 2018 against 9,127 tons. Russian consumers paid slightly more than the average price, importing Belarussian phthalic at $929 per ton. The second largest destination in the first quarter this year was India, taking 6,302 tons at $885 per ton.

Belarussian Methanol Market (unit-kilo tons)		
	Jan-Nov 18	***Jan-Nov 17***
Production	76.2	76.0
Exports	20.7	21.0
Imports	87.3	49.5
Balance	142.8	104.5

In other areas of chemical trade, methanol export shipments amounted to 20,667 tons in January to November 2018 against 21,115 tons in the same period in 2017. Average methanol export prices rose to $381 per ton in the first eleven months against $299 last year. Methanol imports into Belarus totalled 87,313 tons in the first eleven months, at $333 per ton, against 43,859 tons in the same period in 2017 at $286 per ton. Methanol consumption in the first eleven months totalled 142,800 tons against 104,500 tons in the first eleven months in 2017.

Belarussian PTA Imports (kilo tons)		
Country	**Jan-Nov 18**	***Jan-Nov 17***
Russia	1.2	6.7
Belgium	0.5	6.6
India	1.0	1.0
China	0.0	2.0
South Korea	5.3	30.5
Portugal	4.0	0.0
Poland	13.9	17.2
Turkey	0.2	1.0
Total	26.1	65.0

PTA imports into Belarus in the first eleven months dropped sharply against 2017, amounting to 26,000 tons from 65,100 tons in the same period in 2017. Ethylene glycol imports dropped to 56,998 tons from 69,270 tons in the first eleven months in 2017.

Belarussian MDI imports, Jan-Nov 2018

MDI imports into Belarus totalled 19,659 tons in January to November 2018 at an average price of $2,527 per ton against 19,058 tons at $2,616 per ton in the same period in 2017. Saudi Arabia increased shipments to Belarus to 3,512 tons in January to November 2018 against 1,006 tons, whilst Germany reduced shipments to 4,780 tons from 5,056 tons and Belgium reduced to 3,932 tons from 5,325 tons.

Belarussian MDI Imports (unit-kilo tons)		
Country	***Jan-Nov 18***	***Jan-Nov 17***
Russia	2.2	3.0
Belgium	3.9	5.3
Hungary	2.1	2.5
Germany	4.8	5.1
Saudi Arabia	3.5	1.0
Others	3.2	2.2
Total	19.6	19.1

Azerbaijan

Azerbaijan-chemical production 2019

The chemical enterprises of Azerbaijan in 2018 increased volume production compared with 2017 by 1.4%, rubber and plastic products by 14%and pharmaceutical products by 15.1%. The production of propylene rose by 55.9% to 56,200 tons, polyethylene by 3% to 96,000 tons, and ethylene by 3% to 98,900 tons. Declines were reported in the production of iodine by 6.7%, to 185.1 tons, isopropanol by 38.7% to 7,284.4 tons and methanol by 28% to 191,400 tons.

Azerbaijan Chemical Production (unit-kilo tons)		
Product	***Jan-Dec 18***	***Jan-Dec 17***
Ethylene	98.9	141.7
Polyethylene	96.0	137.1
Propylene	56.2	48.5
Isopropanol	7.3	28.1
C4s	30.2	23.2
Methanol	191.4	265.8

SOCAR Polymer,HDPE start-up

SOCAR Polymer commissioned HDPE production in February, where around 75% of the 120,000 tpa capacity is intended for the Turkish and European markets. SOCAR Polymer plants will produce 10 types of polypropylene and 4 types of HDPE.

In July 2018, SOCAR Polymer launched a polypropylene plant. The design capacity is 184,000 tpa Revenues from polypropylene and polyethylene plants are expected to amount to around $6.6 billion and a net profit of around 30%. Sumgait Chemical Industrial Park, where SOCAR Polymer is based, is located approximately 30km north of Baku.

Relevant Currencies

Czech crown. Kc. $1= 22.4. €1 = 25.4: Hungarian Forint. Ft. $1 = 279.2 €1 = 322.2: Polish zloty. zl. $1=3.70. €1 =4.28; Ukrainian hryvnia. $1 = 31.4 €1 = 26.9: Rus rouble. $1 = 66.3 €1= 76.6

Contents Issue No 339

KEY POINTERS FROM THIS MONTH'S ISSUE 1

CENTRAL & SOUTH-EAST EUROPE 2

PKN Orlen, Jan-Dec 2018 2
Polish PTA trade, Jan-Nov 2018 2
PKN Orlen, crude supply diversification 2
Unipetrol, Jan-Dec 2018 3
Czech petrochemical exports, Jan-Dec 2018 3
Czech petrochemical imports, Jan-Dec 2018 3
BorsodChem-MCHZ, expansion 3
BorsodChem-Kazincbarcika 4
BorsodChem-Casale nitric acid plant 4
PCC Rokita-€45 million loan 4

RUSSIA 5

Russian chemical production Jan-Dec 2018 5

RUSSIAN PETROCHEMICAL PROJECTS 5

ZapSibNeftekhim could start in Q2 2019 5
Amur Gas-Processing Plant proceeding to schedule 5
Irkutsk Oil Company & gas-chemical project outline 6

IRKUTSK OIL COMPANY-TOYO 6

Kazanorgsintez launch of new ethylene furnaces 6
Nizhnekamskneftekhim new cracker construction by Linde to start later in 2019 6

RUSSIAN PETROCHEMICAL PRODUCTION & SALES 7

Russian ethylene production, Jan-Dec 2018 7
Russian propylene production, Jan-Dec 2018 7
Russian propylene domestic sales 2018 7
Russian propylene exports Jan-Dec 2018 8
Russian styrene production & exports Jan-Dec 2018 8

BULK POLYMERS 8

Russian HDPE production, Jan-Dec 2018 8
Russian polypropylene production, Jan-Dec 2018 8
Russian PVC, Jan-Dec 2018 9

PX-PTA CHAIN 9

Russian paraxylene production & sales 2018 9
Russian PTA imports, Jan-Nov 2018 10
Polief PTA expansion and extended outage 2019 10
Titan-Polymer Pskov 10

AROMATICS 10

Russian benzene production, Jan-Dec 2018 10
Russian benzene market, February 2019 10
Russian caprolactam, Jan-Dec 2018 11
Russian toluene & orthoxylene, Jan-Dec 2018 11
Russian phenol, Jan-Dec 2018 11
Kuibyshevazot production Jan-Dec 2018 12

SYNTHETIC RUBBER 12

Russian C4s, Jan-Dec 2018 12

Russian synthetic rubber exports, Jan-Nov 2018 13
Krasnoyarsk Synthetic Rubber Plant-NBR 13
SIBUR Togliatti-isoprene modernisation 13
SIBUR to expand polybutadiene capacity at Voronezh 14

METHANOL & RELATED PRODUCTS 14

Russian methanol production, Jan-Dec 2018 14
Russian methanol sales, Jan-Dec 2018 14
Metafrax, Jan-Dec 2018 14
Metafrax and GEA-contract signed for paraformaldehyde plant 15
Shchekinoazot completes warranty run on methanol and ammonia complex 15
Evrokhim-Kingisepp ammonia project 16
Gazprombank-Shchekinoazot financing for M-500 methanol project 16
Gazprombank-Shchekinoazot financing for new ammonia-urea project 16
Two methanol projects under assessment for Ust Luga 16

ORGANIC CHEMICALS 17

Russian butanol production, Jan-Dec 2018 17
Russian butanol sales, Jan-Dec 2018 17
Russian phthalic anhydride production Jan-Dec 2018 18
Russian organic chemical trade, Jan-Nov 2018 18

OTHER PRODUCTS 18

Kuibyshevazot-engineering plastics plant in Germany 18
Russian TDI-MDI imports, Jan-Nov 2018 18
Russian amino acid market 2018 19
RusVinyl-caustic soda transportation 19
Khimprom-hydrogen peroxide plant 19

UKRAINE 19

Ukrainian polymer imports, Jan-Dec 2018 19
Karpatneftekhim feedstock purchases 2018 20

BELARUS 20

Azot Grodno 2018 20
Belarussian organic chemical trade, Jan-Nov 2018 20
Belarussian MDI imports, Jan-Nov 2018 21

AZERBAIJAN 21

Azerbaijan-chemical production 2019 21
SOCAR Polymer,HDPE start-up 21