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MONTHLY NEWS

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

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Czech Republic | Slovakia | Hungary | Poland | Bulgaria | Romania | Croatia | Slovenia | Yugoslavia | Baltic States | Russia | Belarus | Ukraine | Transcaucasus | Central Asia | Kazakhstan

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- **MOL SELECTS CHEVRON LUMMUS TO UNDERTAKE STRATEGY PLAN UNTIL 2030**
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- **ORLEN AND UNIPETROL REPORT STRONG RESULTS FOR 2017**
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RUSSIA

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CENTRAL & SOUTH-EAST EUROPE

PKN Orlen Q4 & 2017

PKN Orlen's fourth-quarter net profit in 2017 fell by 11% to Kc 1.59 billion (\$477.42 million) as higher oil prices affected refining margins. For the whole of 2017 the Orlen Group generated an EBITDA result of zł 10.4 billion, including a record result from the retail division over zł 2 billion. The group refined 33.2 million tons in 2017 from its refineries in Poland, the Czech Republic and Lithuania, against 30.3 million tons in 2016.

PKN Orlen Group Chemical Production (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
Monomers	877	680
Polymers	543	283
Aromatics	339	249
Fertilisers	1,088	1,158
Plastics	395	371
PTA	519	601

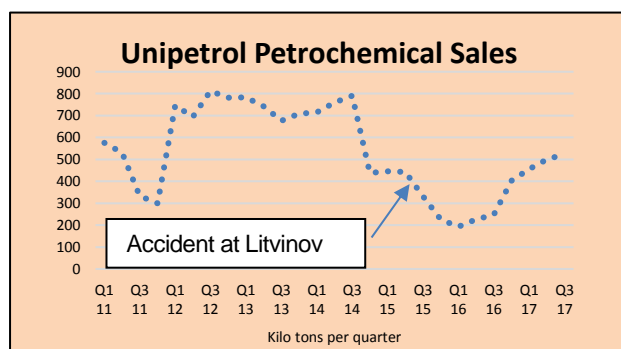
In Orlen's petrochemical division, monomer production increased from 680,000 tons in 2016 to 877,000 tons in 2017 whilst polymer production rose from 283,000 tons to 543,000 tons. Increases were attributed largely to the restart of the Litvinov cracker after more of a year's absence between August 2015 and October 2016.

In the PTA sector production at Wloclawek was down in the fourth quarter due to force majeure, with volumes dropping to 104,000 tons against 159,000 tons in the third quarter. PTA production for Orlen fell from 601,000 tons in 2016 to 519,000 tons in 2017. Due to lower production, total sales of PTA fell from 605,000 tons to 523,000 tons. More than 60% of Orlen's PTA sales are exported, the largest destination of which is Germany followed by smaller quantities to Belarus.

Investment outlays in the Orlen Group totalled zł 4.6 billion in 2017 of which zł 2.9 billion was allocated to the downstream segment (refinery, petrochemicals) and energy), and 0.8 billion zlotys for the upstream. In 2018, investment outlays in the Orlen group are to amount to zł 4.8 billion, with zł 3 billion in the downstream segment, and zł 0.8 billion in the upstream segment. Major petrochemical projects for the Orlen Group include the PE3 unit at Litvinov and the metathesis propylene plant at Plock.

MOL-Chevron Lummus-strategy for petrochemicals

Chevron Lummus Global has been selected by MOL to undertake a Master Plan Study to assist in its long-term strategy to gradually increase the share of non-motor fuel products to above 50% by 2030. This will be achieved through carefully selected investment projects primarily focused on the petrochemical and chemical value chains. MOL is currently constructing a synthetic rubber plant and is working on plans for new projects for propylene oxide and polyols. Chevron Lummus Global previously completed projects at MOL's Danube refinery, in addition to refineries at Rijeka in Croatia and Bratislava in Slovakia.



Unipetrol Q4 & 2017

Unipetrol increased its net profit by 9% to Kc 8.7 billion in 2017, whilst sales rose 39% to \$122.5 billion. For petrochemical products, it has grown even 86% to roughly two million tons, due to a significant increase in the use of ethylene. Almost a quarter of the volume of sales of the petrochemical products of the holding was carried out by Spolana, which closed last year with a net profit in 2017 of zł 433.5 million.

Czech Petrochemical Exports (unit-kilo tons)

Product	Jan-Dec 17	Jan-Dec 16
Ethylene	67.0	4.1
Propylene	25.3	6.2
Butadiene	5.3	3.3
Benzene	19.4	11.6
Ethylbenzene	127.3	24.8

In 2017 the group recognised compensation from insurance for the 2016 cracker fire valued at Kc 2,754 million in connection with steam cracker unit accident. In the first two quarters of 2016 the group identified compensation of Kc 3,934 million and Kc 3,918 million respectively. In the second quarter in 2017 the group succeeded in agreeing with insurer the final settlement amount of the claim relating to the FCC unit accident at Kralupy worth Kc 1,320 million.

Czech Petrochemical Imports (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
Ethylene	3.2	124.9
Propylene	45.4	133.2
Butadiene	38.2	54.0
Benzene	72.9	84.2
Ethylbenzene	20.0	56.5
Styrene	17.2	14.8

Unipetrol's refinery and petrochemical sector recorded an operating profit of Kc 13.5 billion, which was 21% more than in 2016. The volume of refinery products rose by 9% to 6.8 million tons.

Unipetrol raised its operating profit by almost half in 2017 to Kc 1.4 billion. Due primarily to the incident in December coupled with lower margins Unipetrol's net income in the last three months of 2017 fell by 82.3% to Kc 737 million. In 2017, the company invested in the purchase of new locomotives, the reconstruction of

the T700 heating plant in Litvínov, and the modernisation of Spolana. The construction of a new polyethylene unit PE3 is due to be completed at the end of this year.

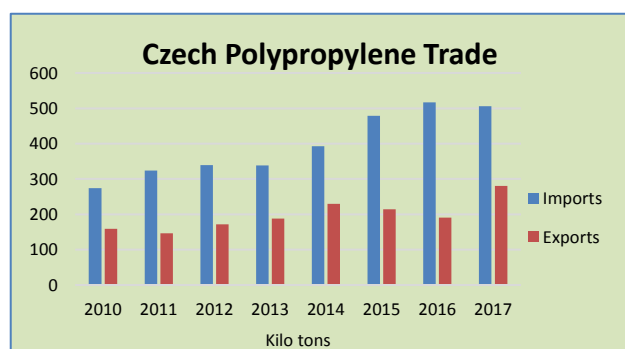
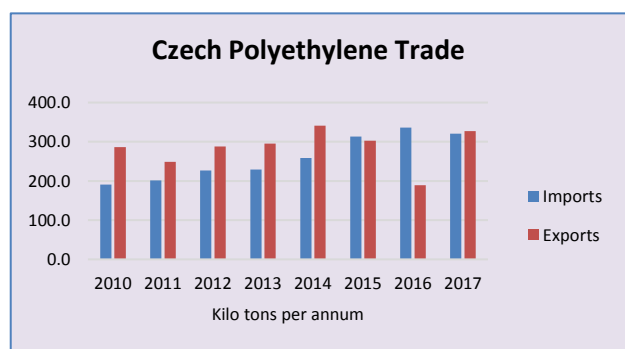
Czech Polyethylene Trade (unit-kilo tons)			
Exports	Jan-Dec 17	Jan-Dec 16	Jan-Dec 15
LDPE	80.1	66.6	66.0
HDPE	233.5	100.5	215.4
EVA	10.2	1.0	1.4
Other	3.5	20.7	19.7
Total	327.3	188.8	302.4
Imports	Jan-Dec 17	Jan-Dec 16	Jan-Dec 15
LDPE	168.5	159.8	156.7
HDPE	111.6	135.1	115.0
EVA	1.2	9.8	8.8
Other	38.9	31.2	33.1
Total	320.3	335.9	313.6

Czech polymer trade 2017

Czech polyethylene imports totalled 320,300 tons in 2017 against exports of 327,300 tons. Over the period 2010 to 2017 the surplus of exports over imports has gradually declined due to increased consumption levels. 2015 and 2016 were anomalous years due to the extended outage at the Litvinov cracker, and particularly in 2016 imports significantly outstripped exports totalling 335,300 tons against 188,800 tons. For 2018 the balance between imports and exports is expected to remain balanced. Production of Unipetrol's new polyethylene unit is scheduled to start production by the end of 2018 and thus the prospects for 2019 indicate a surplus of exports over imports. The new polyethylene unit is designed to replace the older one of the two units operated by Unipetrol at Záluží.

HDPE exports from the Czech Republic totalled 233,500 tons in 2017 against 100,500 tons in 2016, following the restart of the cracker. Imports of HDPE showed only a

small rise in 2016 when production activities were affected for most of the year.



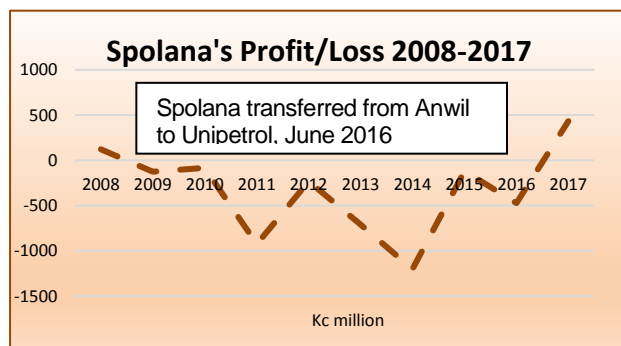
Polypropylene imports into the Czech Republic far outstrip export activity, which is part of the reason why Unipetrol is increasing its capacity for polypropylene production from 300,000 tpa to 350,000 tpa. Polypropylene is currently supplied by Unipetrol to European markets and this market is seen as offering good potential capacity will increase, but Unipetrol does not envisage changing the technology.

In 2017 imports of polypropylene totalled 506,000 tons against 517,000 tons in 2016. Following the restoration of cracker activity at Litvinov in 2016 exports of polypropylene rose to 280,000 tons in 2017 from 191,000 tons. Overall the country encounters a large deficit for PP.

Regarding Czech PVC trade, imports totalled 133,100 tons in 2017 against 124,400 tons in 2016 whilst exports rose from 77,100 tons to 96,500 tons. Over the period 2010 to 2017 PVC imports have gradually risen to outstrip exports as domestic demand has grown.

Spolana 2017

Spolana exceeded its expectations last year, posting sales of Kc 4.8 billion (up 28%) and increasing net profit climbed to Kc 433 million. From 2009 to 2016, the company recorded annual losses, the targets of which was Kc 1203 million in 2014. In 2017 Spolana sold 402,000 tons of chemical products (especially PVC and caprolactam) and the company has recently started production of granular ammonium sulphate for use in agriculture.



Spolana closed its amalgam electrolysis unit in November 2017 in compliance with environmental and statutory requirements regarding the use of mercury. Spolana now has to produce PVC using externally purchased intermediates. The company is currently finalising a feasibility study of a new membrane electrolysis unit and will decide over the next few months whether to proceed.

The total volume of investment in the modernisation and greening of Spolana's operation is expected to reach approximately Kc 3 billion by 2021. Besides the new electrolysis, Spolana also needs to invest in a new natural gas source to replace the old brown coal boilers. When Unipetrol bought Spolana for symbolic one million euros in June 2016, it was under fire by criticism of minority shareholders. However, the outlook appears far more promising for the Neratovice plant.

Czech chemical trade 2017

Chemical exports from the

Product	2016	2017
Benzene	90.4	81.2
2-EH	28.0	24.3
Butanols	11.8	11.3
Methanol	89.6	96.9
TDI	12.0	17.7
Ethylene Glycol	12.5	9.7
Propylene Glycol	4.1	4.4

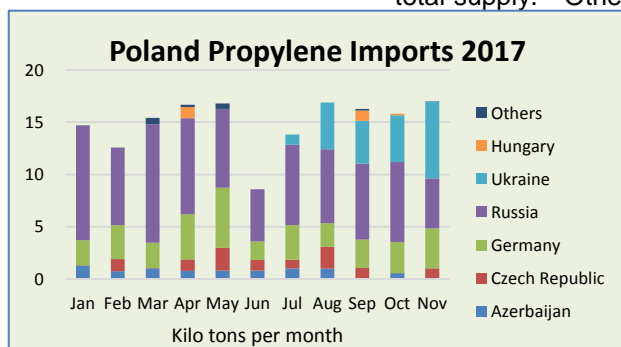
Czech Republic comprise ethylbenzene, caprolactam, plasticizers, plasticizer alcohols, etc, whilst imports cover products such as benzene, methanol, oxo alcohols, glycols and TDI. Methanol imports, usually supplied mainly from Germany and Russia, totalled 96,876 tons in 2017 against 89,648 tons in 2016. In 2017 benzene imports amounted to 81,154 tons of which most was sourced from Poland. Ethylbenzene was the largest export commodity in 2017, totalling 125,561 tons of which nearly all was supplied to Synthos in Poland.

Exports of phthalic anhydride from the Czech Republic totalled 16,400 tons in 2017 against 14,900 tons in 2016. Deza at Valasske Mezirici produces coal based aromatics in addition to phthalic anhydride and plasticizers. Although DOP exports made a revival in 2017, rising to 9,600 tons against zero in 2016, DINP is far more important these days rising to 35,900 tons in 2017 against 30,800 tons in 2016. In 2010 exports of DNP totalled only 800 tons against 24,000 tons of DOP.

	2016	2017
Caprolactam	40	40.8
Phthalic Anhydride	14.9	16.4
DOP	0	9.6
DINP	30.8	35.9

Polish imports of propylene Jan-Nov 2017

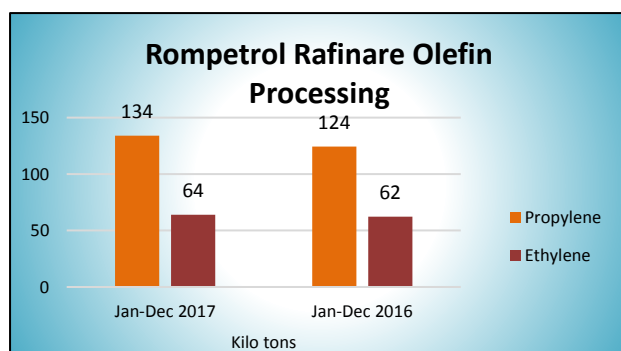
Imports of propylene into Poland totalled 164,401 tons in January to November 2017, of which Russia supplied 85,738 tons or over half of total supply. Other leading suppliers included Germany with 35,301 tons and Ukraine 21,720 tons. In the second half of 2017 the restart of the Ukrainian cracker at Kalush enabled Karpatneftekhim to export propylene to Poland.



Rompetrol Rafinare 2017

Rompetrol Rafinare increased revenues by 27.4% in 2017 to 11.2 billion lei (€2.4 billion). Due primarily to exchange rate fluctuations, the net profit, rose six times to 419.5 million lei. Propylene processing totalled 134,000 tons in

2017 against 124,000 tons in 2016, whilst ethylene rose to 64,000 tons.



Grace-PDH Polska

W. R. Grace & Co. has contracted its UNIPOL® PP Process Technology to PDH Polska for the new plant at Police. The polypropylene line is expected to begin operations in 2022. Grace's gas-phase UNIPOL® polypropylene process technology provides the most advanced and broadest range of homopolymers and copolymers in the industry. As the simplest of all PP process technologies, with fewer moving parts and less equipment than any alternative, its reliable, stable, and predictable operation leads to lower capital, operating, and maintenance costs.

Polish Chemical Production (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
Caustic Soda Liquid	350.9	307.7
Caustic Soda Solid	78.5	69.7
Ethylene	482.8	447.0
Propylene	340.2	337.7
Butadiene	56.0	54.7
Toluene	19.2	15.9
Phenol	43.9	40.0
Caprolactam	167.2	164.4
Acetic Acid	25.2	8.8
Polyethylene	324.1	316.6
Polystyrene	50.8	57.2
EPS	90.2	89.9
PVC	269.3	259.3
Polypropylene	253.4	241.4
Synthetic Rubber	224.5	221.7
Ammonia (Gaseous)	2779.0	2623.0
Ammonia (Liquid)	98.4	95.9
Pesticides	47.3	31.7
Nitric Acid	2372.0	2367.0
Nitrogen Fertilisers	2082.0	1970.1
Phosphate Fertilisers	463.8	470.5
Potassium Fertilisers	426.4	388.2

Grupa Azoty-loan from EIB

Grupa Azoty signed a long-term loan agreement in January with the European Investment Bank worth up to €145 million. The loan from the EIB is to support some of the company's investments, as well as to help in the research and development of Grupa Azoty. Due to the EIB agreement, Azoty will be able to finance the construction of a nitric acid installation in Puławy, as well as an investment in a plastics compounding plant. The major investment being considered by Azoty comprises the propylene and polypropylene installations which together with logistics facilities will cost about zł 5 billion (€1.2 billion).

Oltchim 2017

Oltchim achieved a net profit of 45.6 million lei in 2017 which represents a 75% increase over 2016 of 26.05 million lei. Revenues increased 28% from 754 million lei in 2016 to 969 million lei in 2017. A recovery of sales markets was seen in 2017, especially for the products obtained in the oxo-alcohol plant. Upgrades and capital repairs were carried out last year at the main installations, including membrane electrolysis and oxo-alcohols. Markets for chloralkali products improved in the fourth quarter.

Oltchim Sales Revenues (€ mil)		
	Jan-Dec 17	Jan-Dec 16
Petrochemicals	125.7	102.9
Chlorine division	43.4	35.8
Finished Products	2.2	4.6
Oxo alcohols	31.1	18.7
Other	3.4	2.3
Total	205.8	164.2

In 2017, Oltchim exports within the EU comprised 77% of total sales which was up from 73% in 2016. The value of the exports to the EU amounted to €163 million whereas imports of raw materials from the EU amounted to only €31 million.

MK Kikinda tender Feb 2018-no bids received

Serbia's economy ministry's tender for the privatisation of methanol producer MSK Kikinda for 9 February 2018 failed to attract any bids. The starting price was set at €38.5 million (\$45.3 million) received little interest. The company's revenue is estimated currently at around \$150 million per annum. In September 2017, the International Monetary Fund (IMF) urged state-owned gas monopoly Srbijagas to dispose of non-core assets by selling its stakes in MSK Kikinda, and HIP Azotara Pancevo.

MSK Exports (unit-kilo tons)		
Product	Jan-Nov 17	Jan-Nov 16
Methanol	116.9	104.7
Acetic Acid	84.1	61.5

MSK exported 116,900 ton of methanol in the first eleven months in 2017, against 104,700 tons in the same period in 2016. Acetic acid exports rose from 61,500 tons to 84,100 tons. The EU is the

company's main market.

RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
Caustic Soda	1,239.0	1,134.0
Soda Ash	3,489.0	3,050.9
Ethylene	2,860.0	2,823.0
Propylene	1,876.7	1,976.9
Benzene	1,359.0	1,240.8
Xylenes	493.4	568.5
Styrene	645.0	603.4
Phenol	207.3	222.2
Ammonia	17,100.0	16,100.4
Nitrogen Fertilisers	9,993.0	9,517.0
Phosphate Fertilisers	3,886.0	3,473.0
Potash Fertilisers	8,645.0	7,729.0
Plastics in Bulk	7,759.0	7,735.0
Polyethylene	1,980.0	1,950
Polystyrene	541.0	537.3
PVC	945.0	824.6
Polypropylene	1391.4	1334.0
Polyamide	159.0	155.5
Synthetic Rubber	1,572.0	1,488.7
Synthetic Fibres	171.0	138.1

Russian chemical production, Jan-Dec 2017

Chemical production in Russia rose in volume by 4.2% in 2017 over 2016, although profitability is expected to be lower for most commodity producers. The total production of polymers in Russia in 2017 amounted to 7.759 million tons in 2017, which was 2.3% up on 2016. Polyethylene production rose 1.5% to 1.98 million tons, whilst polypropylene production rose 1% to 1.451 million tons. Polystyrene production rose 0.7% to 541,000 tons, and PVC rose 15% to 945,000 tons. Polyamide production rose 2.2% to 159,000 tons. Production of synthetic rubber in Russia rose 2.7% in 2017 to 1.572 million tons.

Amongst the major fertiliser producers, Fosagro increased production by 12.5%, to 8.4 million tons, Uralkhim by 4% to 6.3 million tons, Akron by 16%, to 6.1 million tons. In 2018, Fosagro expects to increase production by 10% to more than 9 million tons. Despite the rise in production profitability was lower in 2017 against 2016 and 2015.

The chemical industry remains one of the strongest performing sectors of the Russian economy, but at the same time the lack of low tonnage production and the need to import represents a key policy failure.

Of the major investments ZapSibNeftekhim's new petrochemical complex at Tobolsk is progressing to

schedule whilst other state backed mega-projects face questions over logistics, feedstock supply, etc. Finance and borrowing represent the main challenges to projects being undertaken in the private sector or for those producers where the state does not provide direct support. Companies such as Kuibyshevazot, Metafrax and Shchekinoazot are successful enough to be able to implement strategic investments in new projects and capacity expansions, but many other companies are severely hampered by borrowing restrictions. Delays for some projects can increase the costs dramatically, and a number of investments have been abandoned due to a lack of funds.

Russian chemical trade, Jan-Dec 2017

Chemical and rubber exports constituted 3% of total Russian exports in 2017, whilst chemical product and



rubber accounted for 18% of total imports. Imports of chemical industry products in 2017 totalled \$36.9 billion against \$30.3 billion in 2016. Exports rose from \$14.8 billion to \$16.8 billion, thus the trade deficit in chemical products rose to \$20.1 billion in 2017. The deficit was much lower in 2015 and 2016 due to the falls in GDP.

Russia's chemical product exports largely comprise lower value commodities, whilst imports are predominantly made up of higher valued and specialised products. Exports of polymers were

largely unchanged in 2017, whilst in petrochemicals both propylene and benzene rose. Methanol and synthetic rubber represent two of the main export categories for Russia, both increasing volumes in 2017. However, the introduction of new acrylates production at Salavat has helped reduce the volume of butanol exports from Russia, as internal processing has increased.

Russian Chemical Product Imports by value (\$ million)		
Product Group	Jan-Dec 17	Jan-Dec 16
Organic & inorganic chemicals	5,030.7	4,159.8
Pharmaceuticals	10,507.4	8,762.4
Cosmetics	3,068.2	2,532.7
Soap and detergents	1,316.2	1,160.7
Polymers and Rubber	11,076.4	9,143.2
Others	5,409.6	5,190.9
Total	36,408.5	30,949.7

The trade deficit in chemical products is expected to continue whilst small tonnage chemistry remains unprofitable in Russia. Products such as quinone and pyridine were previously produced but were stopped due to losses against cheaper imports. Imports of polymers and rubber, in addition to pharmaceuticals, rose in 2017 by around 20% over the same period in 2016, largely due to higher raw material prices and a slightly stronger rouble which had made imports more affordable.

Russian petrochemical projects

ZapSibNeftekhim Construction Progress				
	Mar-17	Jun-17	Sep-17	Dec-17
Overall	50.0%	56.0%	65.0%	70.9%
Design	86.0%	92.0%	97.6%	98.6%
Construction	32.0%	38.0%	45.8%	54.0%
Industrial facilities	25.0%	50.0%	71.3%	77.3%
Metal structures	40.0%	55.0%	77.0%	86.0%
Materials & equipment	57.8%	66.0%	87.0%	91.3%
Logistics	10.0%	28.0%	40.0%	51.9%
Steam Cracker	44.0%	58.0%	67.4%	72.4%
Polyethylene	30.0%	43.0%	64.5%	70.5%
Polypropylene	33.0%	45.6%	69.1%	77.3%

ZapSibNeftekhim update Feb 2018

The overall progress in the construction of ZapSibNeftekhim at Tobolsk was rated at 70.9% by the end of December. This included the design stage which had achieved 98.6% of its plan, and construction and installation had attained a level of 54%. The supply of materials and equipment for the project was almost completed at the end of 2017 whilst the cracker construction had achieved around three quarters of the installation.

The polyethylene plant had achieved 70.5% of installation by the end of December, with the polypropylene plant achieving 77.3%. The installation of polyethylene unit had reached 70.5%, whilst for the polypropylene plant the first four process air subsystems for instrumentation and compressed air were transferred to begin pre-commissioning. The logistics platform for the complex was around half completed at the end of last year. The laying of underground and above-ground pipelines, installation of heating, ventilation and air conditioning equipment, metal structures is ongoing.

Nizhnekamskneftekhim-power plant

The construction of a new power plant for Nizhnekamskneftekhim is scheduled to commence in the first quarter of this year. In addition to meeting the demand for energy the new plant is designed to solve environmental issues.

The agreement on construction of the new plant on a turnkey basis in Tatarstan in December was signed by TAIF and Siemens. Siemens will supply two gas turbines SGT5-2000E and one steam turbine SST-600. The project will be implemented by Siemens in cooperation with Turkish construction company ENKA.

Configuration of the ZapSibNeftekhim project involves the construction of the steam cracker with a capacity of 1.5 million tpa of ethylene (Linde) and 500,000 tpa of propylene and 240,000 tpa of by-products (butadiene, butene-1, MTBE, pyro benzene). Also, the project includes the construction of a polyethylene complex with a total capacity of 1.5 million tpa (INEOS), and a polypropylene unit with a capacity of 500,000 tpa (LyondellBasell).

Nizhnekamskneftekhim-ethylene project

The construction of the new ethylene complex at Nizhnekamskneftekhim is scheduled to start in the second half of 2018 and the commissioning to take place in the middle of 2022. Thirty-six hectares have been allocated for

the complex where high-performance pyrolysis ovens will be installed. Simultaneously with the furnaces, an overpass is built that will connect the pipelines to the main production line.

The ethylene complex will use naphtha from the neighbouring refineries belonging to Tatneft, requiring around 1.77 million tpa. In addition to ethylene, the complex is being designed to produce propylene, benzene, butadiene and other products. The main partner of TAIF Group in the construction of the ethylene complex is Linde. After introducing the second 600,000 tpa cracker by 2025, ethylene capacity at Nizhnekamskneftekhim will rise to 1.8 million tpa. The authorities of Tatarstan will create a working group on cooperation with the Chinese national corporation Sinomach to consider its involvement in the construction of the new ethylene complex for Nizhnekamskneftekhim.

Kazanorgsintez-cracker investments 2018

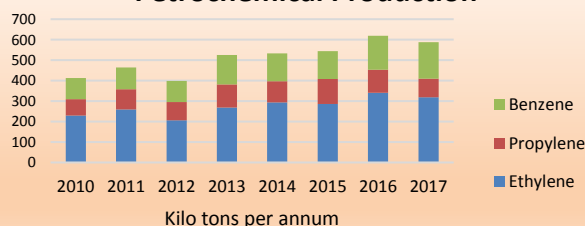
Kazanorgsintez has scheduled an update of three pyrolysis ovens in 2018. The contract for their supply was signed with Technip in 2016. Technip will be responsible for engineering and supply of three pyrolysis ovens, operating by the licensed technology SMK. The project support will be provided by Technip in the Netherlands. The sources of project funding for Kazanorgsintez are loans and own funds, with costs estimated at €25 million.

Undertaking these projects will eventually lead for the expansion of the ethylene capacity to 1 million tpa. Moreover, it could facilitate the production of benzene which would allow Kazanorgsintez to reduce costs in the production of cumene through to polycarbonate. The pyrolysis ovens commissioning will allow to increase production capacity of ethylene for Kazanorgsintez to meet the demands of the polyethylene capacity.

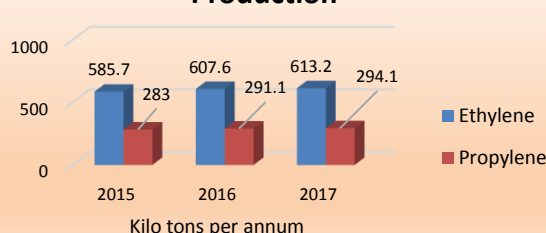
Russian petrochemical company performance**Gazprom neftekhim Salavat 2017**

Gazprom neftekhim Salavat processed 6.5 million tons of oil for 2017, whilst at the same time the share of gas condensate in the GNS commodity basket increased by 8% to 4.7 million tons. Gazprom neftekhim Salavat switched over in full in 2017 to raw materials supplied by Gazprom. This included an increase in feedstocks from the Astrakhan GPP, whilst the company replaced oil from West Siberia fields with lighter oil from the Tsarichanskoye field belonging to Gazprom Neft.

In 2017 Gazprom neftekhim Salavat reduced the consumption of ethane from Gazprom dobycha Orenburg whilst at the same time increased the share of naphtha as a feedstock for petrochemical production. The reason that the Salavat complex used more naphtha last year was due to the benefits of the tax manoeuvre implemented by the Russian government which provides better tax incentives than for other feedstocks such as NGL or ethane. The share of ethane produced at Orenburg in total Russian production is around 80%, and most of the remainder being produced in Tatarstan. Due to reduced usage of ethane at Salavat, Gazprom dobycha Orenburg was able to ship more ethane to Kazanorgsintez last year.

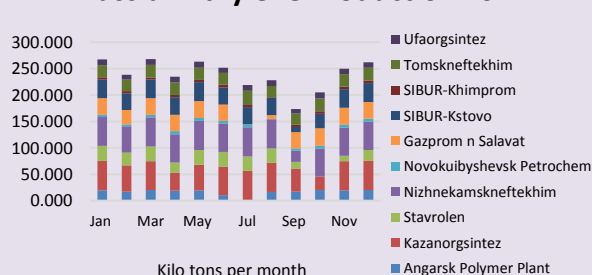
Gazprom neftekhim Salavat Petrochemical Production**Nizhnekamskneftekhim 2017**

For 2017 Nizhnekamskneftekhim (NKNK) increased revenues by 5% over 2016 to 162 billion roubles, of which exports comprised 50%. Ethylene output at Nizhnekamskneftekhim totalled 613,200 tons in 2017 against 607,000 tons in 2016. From January to December 2017 5% more than in 2016. A total of 83% of synthetic rubber sales were shipped to large foreign customers under long-term agreements. The company plans for 2018 to work on the new olefin ethylene production project, as well as a number of environmental projects.

Nizhnekamskneftekhim Olefin Production**Kazanorgsintez-ethane supply 2018**

Gazprom dobycha Orenburg will send an additional amount of ethane to Kazanorgsintez in 2018 due to Gazprom neftekhim Salavat ceasing purchases from 1 January. In 2016 and 2017, the processing of the ethane fraction at Salavat from Orenburg was halved and there are no plans to use ethane at all in 2018. Gazprom neftekhim Salavat has increased consumption of gasoline fractions and liquefied hydrocarbon gases. If the situation on the market changes, Gazprom neftekhim Salavat could restart ethane purchases.

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Russian Ethylene Production 2017

Kazanorgsintez is the beneficiary of Salavat's shift to other feedstocks and can expect to receive an average of 4-5 tons of ethane per hour in 2018. In 2016 the company received around 365,000 tons of ethane from Orenburg which rose to just under

400,000 tons in 2017. This year Kazanorgsintez could receive up to 440,000 tons which still leaves a shortfall, but still represents an improvement. Tatneft supplied 187,000 tons of ethane from the Minnibayevo gas processing plant to Kazanorgsintez in 2017 for ethylene production

Russian Ethylene Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Angarsk Polymer Plant	200.2	122.1
Kazanorgsintez	586.5	531.6
Stavrolen	253.3	303.5
Nizhnekamskneftekhim	613.2	607.6
Novokuibyshevsk Petrochemical	56.9	62.7
Gazprom n Salavat	318.0	340.0
SIBUR-Kstovo	377.5	369.0
SIBUR-Khimprom	45.9	70.9
Tomskneftekhim	278.5	235.3
Ufaorgsintez	125.3	125.7
Total	2855.2	2768.5

Petrochemical feedstocks, Jan-Dec 2017

Ethylene production in Russia totalled 2.855 million tons in 2017 against 2.769 million tons in 2016. Russian petrochemical companies purchased 1.32 million tons of naphtha on the open market in 2017, which is 6% more than in 2016. Propane deliveries to the petrochemical industry rose 43% in 2017 to 221,800 tons, with Kazanorgsintez acting as the main buyer. Other buyers included SIBUR-Kstovo, Togliattikavuk and Sintez-Kavuk.

Russian propylene exports, Jan-Dec 2017

Propylene exports from Russia amounted to 14,500 tons in December, 16% more than in November. Lukoil-NNOS increased shipments of monomer by 47% to 7,900 tons after suffering an emergency shutdown of one of the catalytic cracking units in November. SIBUR-Kstovo reduced propylene exports by 18% in December to 6,500 tons. This was due to the growing demand for captive monomer use inside SIBUR. For the whole of 2017 Russian propylene exports totalled 179,500 tons which was 9% up on 2016.

Russian Propylene Exports (unit-kilo tons)		
Company	Jan-Dec 17	Jan-Dec 16
Lukoil-NNOS	86.6	68.9
SIBUR-Kstovo	63.0	53.9
Omsk Kavuk	2.0	4.2
Angarsk Polymer Plant	0.0	1.9
Stavrolen	7.0	15.7
Total	158.7	144.5

In December the Ryazan plant exported 7,900 tons of propane-propylene fractions, 43% more than in November. The entire volume was delivered to Poland. At the same time shipments to the domestic market decreased to 6,700 tons. For the whole of 2017

Russian exports of propane-propylene fractions totalled 73,700 tons which is 27% more than in 2016.

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	Jan-Dec 17	Jan-Dec 16
Angarsk Polymer Plant	73.3	42.2
SIBUR-Kstovo	93.0	102.0
LUKOIL-NNOS	192.9	196.7
Others	12.9	22.4
Total	371.1	352.3

Russian propylene sales Jan-Dec 2017

Russian domestic consumers purchased 166,500 of propane-propylene fractions which was 8% down on 2016. The Ryazan refinery shipped 88,900 tons which was 22% less than in 2016. At the same time, export from the plant increased by 46%.

Russian styrene production & exports Jan-Dec 2017

Russian styrene production totalled 645,400 tons in 2017 against 625,700 tons in 2016. The two leading producers were Nizhnekamskneftekhim and Gazprom neftekhim Salavat.

Russian Styrene Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Nizhnekamskneftekhim	277.7	301.5
Angarsk Polymer Plant	36.8	23.3
SIBUR-Khimprom	107.2	125.8
Gazprom n Salavat	171.0	177.7
Plastik, Uzlovaya	52.7	54.4
Total	645.4	625.7

Russian styrene exports amounted to 14,600 tons in December 20% down on November. Angarsk Plant of Polymers increased the export of the product 2.6 times to 1,200 tons, mainly due the rise in prices in the Asian market.

In addition, in December SIBUR-Khimprom exported 1,900 tons of styrene, which is 6.1 times more than in November. Styrene produced by the Perm plant was shipped to Turkey (1,700 tons). At the same time, the supply of the product from SIBUR-Khimprom to the domestic market decreased by 32%. In 2017 Russian styrene exports totalled 120,200 tons, which is 9% less than in 2016.

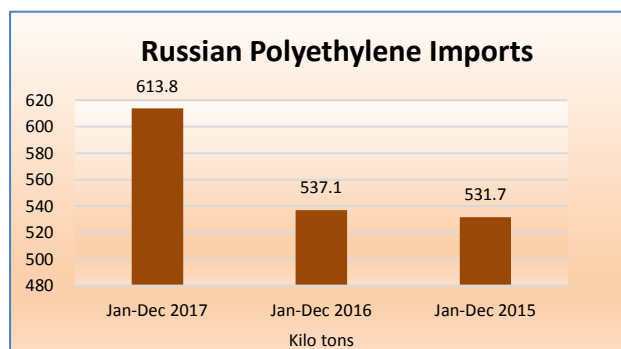
Bulk Polymers

Russian HDPE Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Kazanorgsintez	507.7	486.2
Stavrolen	232.2	271.2
Nizhnekamskneftekhim	65.6	135.6
Gazprom neftekhim Salavat	92.8	108.4
Total	898.3	1001.4

against 135,600 tons in the same period in 2016 having focused more on LLDPE production.

Russian polyethylene production, Jan-Dec 2017

Russian polyethylene production totalled 1.98 million tons in 2017 against 1.950 million tons in 2016. HDPE production in Russia fell by 10% in 2017 to 898,000 tons against 1.001 million tons in 2016. Kazanorgsintez increased production of HDPE by 4% to 507,700 tons. Stavrolen reduced production by 14% to 232,600 tons, whilst Gazprom neftekhim Salavat reduced production of polyethylene by 15% to 92,200 tons. Nizhnekamskneftekhim has produced only 65,600 tons in



In other areas of polyethylene Russia produced 661,300 tons of LDPE in 2017, 4% up, whilst Nizhnekamskneftekhim produced 141,200 tons of LLDPE against 73,700 tons in 2016.

Russian polyethylene imports, Jan-Dec 2017

Imports of polyethylene into Russia totalled 613,800 tons in 2017, 12% higher than in 2016 when volumes totalled 537,100 tons. HDPE imports rose from 153,600 tons to 261,300 tons following extended maintenance periods combined with lower production at

Nizhnekamskneftekhim.

Due to increased focus on LLDPE production at Nizhnekamskneftekhim, LLDPE imports into Russia dropped from 219,300 tons in 2016 to 175,800 tons in 2017. LDPE imports dropped to 90,500 tons from 93,000 tons, whilst EVA imports grew by 16% to 37,300 tons. Other imports of polyethylene imports rose to 48,900 tons from 39,000 tons in 2016.

Russian Polypropylene Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Ufaorgsintez	124.5	123.1
Stavrolen	92.3	112.4
Moscow NPZ	107.1	129.4
Nizhnekamskneftekhim	210.2	216.7
Polyom	205.3	202.8
Tomskneftekhim	141.5	129.9
SIBUR Tobolsk	510.5	463.5
Total	1391.4	1334.0

Russian polypropylene, Jan-Dec 2017

Russian polypropylene production rose by 2% in 2017 to 1.451 million tons. SIBUR-Tobolsk increased production by 10% over 2016 to 510,500 tons, helped by the lack of an extended shutdown which had been necessary in 2016. Nizhnekamskneftekhim reduced production by 3% to 210,200 tons, whilst Polyom at Omsk increased operating rates by 1% to 205,300 tons.

Tomskneftekhim produced 141,500 tons of polypropylene in 2017 against 129,900 tons in 2016, whilst Ufaorgsintez increased production to 124,500 tons against 123,100 tons. Stavrolen reduced production by 10% to 101,000 tons, whilst the major fall in of polypropylene was recorded by Neftekhimya at the Kapotnya refinery which dropped 17% to 107,100 tons.

Russian Polypropylene Imports (unit-kilo tons)		
	Jan-Dec 17	Jan-Dec 16
Homopolymers	55.1	72.4
Block	43.0	30.9
Random	33.6	34.8
Other	39.3	29.2
Total	171.0	167.3

polypropylene polymers amounted to 39,300 tons against 29,200 tons in 2016.

Imports of polypropylene into Russia amounted to 171,000 tons in 2017, 2% up on 2016. Imports of propylene homopolymers decreased by 24% to 55,100 tons against 36,900 tons, random copolymers fell by 3.5% to 33,600 tons, whilst imports of propylene block copolymers increased to 43,000 tons against 30,800 tons. External supplies of other

Russian PVC Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Bashkir Soda	243.0	248.7
Kaustik	87.0	88.5
RusVinyl	312.7	305
Sayanskkhimplast	265.5	142.8
Total	908.2	785

Russian PVC, Jan-Dec 2017

Russian production of PVC increased by 15% in 2017 over 2016 to 908,200 tons. RusVinyl produced 312,700 tons of PVC, which is 2% higher than in 2016. Sayanskkhimplast produced 263,500 tons of resin in 2017 against 142,800 tons in 2016 when the plant experienced ethylene shortages for five months and could not produce. Bashkir Soda produced 243,000 tons of PVC in 2017, against 248,700 tons in 2016. The fall in production at Sterlitamak was due to problems with the supply of ethylene in August. Kaustik at Volgograd produced 87,000 tons of PVC in 2017

against 88,500 tons in 2016.

Imports of PVC into Russia totalled 50,000 tons in 2017 against 124,120 tons in 2016. Imports of Chinese resin totalled 45,800 tons in 2017, compared to 95,800 tons in 2016. Weaker domestic demand and high capacity utilisation of local producers led to a major reduction in dependence on PVC imports.

Paraxylene-PET Chain

Russian Paraxylene Domestic Sales (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Gazprom Neft	82.0	61.6
Ufaneftekhimi	101.7	107.5
Total	183.6	169.0

Russian paraxylene, Jan-Dec 2017

Paraxylene sales on the Russian domestic market increased to 183,600 tons in 2017 from 169,000 tons in 2016. Ufaneftekhimi reduced sales from 107,500 tons to 101,700 tons whilst Gazprom Neft from the Omsk refinery increased sales from 61,600 tons to 82,000 tons. Kirishinefteorgsintez has not sold paraxylene on the domestic market in the past couple of years, whilst Polief at

Blagoveshchensk is the only current consumer.

Russian Paraxylene Exports (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Gazprom Neft	31.7	71.3
Kirishinefteorgsintez	57.2	50.9
Ufaneftekhimi	0.0	13.9
Total	88.9	136.2

Paraxylene exports fell from 136,200 tons in 2016 to 88,900 tons in 2017, with Gazprom Neft reducing shipments from 71,300 tons to 31,700 tons. Kirishinefteorgsintez increased export shipments from 50,900 tons in 2016 to 57,200 tons in 2017, whilst Ufaneftekhimi did not export in 2017 after shipping 13,900 tons in the previous year.

Etana PET & PTA projects, Chinese finance approved

Chinese banks have allocated around one billion dollars for the construction of the first stage of production of the Etana PET project in the May district of Kabardino-Balkaria. In January 2016, Chinese companies CPTDC and China Kunlun signed a preliminary contract with the government of Kabardino-Balkaria for the construction of a PET complex in the May district. The total capacity of 1.5 million tpa comprises construction of a plant in three stages.

Russian PTA Imports (unit-kilo tons)		
Country	Jan-Nov 17	Jan-Nov 16
Belgium	31.0	30.1
India	35.0	2.1
China	76.6	32.0
South Korea	31.6	28.8
Poland	0.0	10.7
Thailand	32.6	0.3
Turkey	1.0	0.0
Total	207.9	104.0

The decision to finance the project, channelling the funds through the Russian bank VEB, was taken in January 2018. Construction for Etana can most likely start this year, the first stage of which likely to take up to two years to complete. Accordingly, the industrial cluster that is being created around the complex will consist of five parts one of which consists of packaging.

Ivanovo Polyester Complex, delays and doubts

Whilst the prospects for Etana appear promising, the Ivanovo polyester project is facing further delays. Following general contractor problems in 2017 financial delays have now been encountered resulting in a postponement of construction at least

until 2019. In November 2017 a new contract for the working design, construction, etc was concluded with Czech design and construction company UNIS (Czech Republic), but it remains unclear whether the funds will be sufficient to undertake the project.

Despite the importance of the project to the Ivanovo area, its textile industry and the Russian economy, the longer the project is delayed the more likely that construction costs will rise. The contract for the supply of technology and know-how was concluded in December 2016 between Ivanovo Polyester (IPK) and Uhde Inventa-Fischer GmbH.

Russian MEG, Jan-Dec 2017

Russian producers reduced the supply of MEG in December to the domestic market by 2.5% by rail to 11,100 tons. The main volumes were shipped from SIBUR-Neftekhim 9,200 tons of MEG (83% of the total volume), or 15% more. Nizhnekamskneftekhim reduced deliveries to the domestic market by 47% to 1,700 tons, Kazanorgsintez shipped 55 tons of MEG which was 2% less and small trading companies sold 158 tons of product which was 15% more than in November.

Russian MEG Domestic Sales (unit-kilo tons)		
Company	Jan-Dec 17	Jan-Dec 16
SIBUR-Neftekhim	96.8	82.9
Nizhnekamskneftekhim	36.9	16.8
Others	5.0	18.9
Total	138.8	118.6

Regarding consumers Polief purchased 7,300 tons in December, 3% down on November, BaltTechProm 1,800 tons five times more. Small trading companies purchased 2,000 tons of product (18%), or 19% less than in November. In 2017, Russian companies supplied 138,800

tons of MEG by rail to the domestic market amounting to 3% more than in 2016.

Aromatics

Russian Benzene Consumers (unit-kilo tons)		
Consumer	Jan-Dec 17	Jan-Dec 16
Kuibyshevazot	142.5	133.0
Azot Kemerovo	99.9	93.4
Shchekinoazot	58.2	53.2
Kazanorgsintez	50.3	71.1
Zapsib	41.3	49.7
SIBUR-Khimprom	80.0	91.6
Promsintez	12.9	13.7
Uralorgsintez	72.8	65.5
Others	106.4	159.4
Exports	141.0	57.6
Total	805.2	788.0

Russian benzene domestic sales, Jan-Dec 2017

Russian plants sold 59,200 tons of benzene on the domestic market in December 9% more than in November. Domestic sales totalled 805,200 tons in 2017 against 788,000 tons in 2016. Caprolactam producers were the main consumers, followed by styrene and phenol producers. Kuibyshevazot purchased 142,500 tons of benzene in 2017 against 133,000 tons in 2016, whilst SDS Azot at Kemerovo bought 99,900 tons against 93,400 tons in 2016.

Russian benzene production, Jan-Dec 2017

Russia produced 1.292 million tons of benzene in 2017 which is 6% more than in 2016. Benzene production in Russia amounted to 110,700 tons in December, 3% more than in November. SIBUR-Kstovo and Uralorgsintez increased production by 24% and 13% to 8,700 tons and 8,300 tons respectively. In addition, the West Siberian MK produced 6,500 tons of benzene, 14% more than in November. For other

producers Slavneft-YANOS in December 2017 reduced production by 36% to 4,810 tons whilst Gazprom neftekhim Salavat reduced the production of benzene by 8% to 16,900 tons.

Russian Crude Benzene Exports (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Altay-Koks	12.7	2.9
Koks	12.1	12.7
Magnitogorsk MK	15.1	18.7
Moskoks	6.8	9.2
Nizhniy Tagil	3.5	3.4
Novolipetsk MK	1.2	1.9
Ural Steel	4.1	7.2
Total	55.5	56.1

Russian benzene trade, Jan-Dec 2017

Benzene exports from Russia rose 27% in December over November, due mainly to the increased capacity utilisation at SIBUR-Kstovo. Russian companies exported a total of 151,100 tons of benzene in 2017 against 70,100 tons in 2016. The main increase came from the petrochemical plants and refineries such as Stavrolen, SIBUR-Kstovo, Slavneft, etc

Rail shipments of crude coal benzene from Russia abroad decreased last year dropped slightly to 55,900

tons. This was mainly due to long stops for repairs at plants such as Ural Steel (Novotroitsk, Orenburg region) and the Magnitogorsk Metallurgical Combine. Despite the reduction in export shipments, the geography of supplies of this product last year expanded for crude benzene supplies. In addition to Finland, Poland and Latvia, crude benzene began to flow to the Czech Republic and Ukraine.

Imports of benzene into Russia increased 16% in December to 1,200 tons all of which went to Kuibyshevazot. From the Ukrainian plant Zaporozhkoks., 942 tons of product were shipped to Kuibyshevazot in December or 46% more than in November. For the twelve months in 2017, Russian plants imported 12,300 tons of benzene which was 24% down on 2016.

Russian Orthoxylene Domestic Sales (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Gazprom Neft	79.7	45.3
Ufaneftekhim	52.0	52.7
Kirishinefteorgsintez	25.6	32.5
Total	157.2	130.4

Russian orthoxylene sales, Jan-June 2017

For the whole of 2017 orthoxylene sales on the domestic market totalled 158,630 tons which was 17% up on 2016. Orthoxylene sales on the domestic market in December dropped 21% versus November to 11,030 tons. Gazprom Neft supplied 5,450 tons in December, Kirishinefteorgsintez supplied 3,320 tons and Ufaneftekhim 2,270 tons.

Kamteks-Khimprom reduced purchases of orthoxylene in December by 29% to 5,400 tons whilst Gazprom neftekhim Salavat increased purchases by 74% to 1,820 tons (17%). Dmitrievsky Chemical Plant reduced purchases by 14% to 260 tons. At the same time, Russian manufacturers of paint and varnish materials reduced the volume of orthoxylene purchased in December by 45% compared to November to 1,510 tons (14% of total Russian consumption). Manufacturers of fuel, agrochemistry, pharmaceutical and other products purchased 2,040 tons (18%).

Russian Phenol Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Ufaorgsintez	65.2	74.0
Kazanorgsintez	71.4	66.9
Novokuibyshevsk PC	70.7	81.1
Total	207.3	221.9

Russian phenol production, Jan-Dec 2017

Phenol production rose in December by 27% to 18,800 tons, including 6,400 tons produced by Ufaorgsintez, Novokuibyshevsk Petrochemical 5,900 tons and Kazanorgsintez to 6,600 tons.

Overall for 2017 Russian phenol production totalled 207,300 tons against 221,900 tons in 2016. Production at Ufaorgsintez reduced by 12% to 65,200 tons whilst Novokuibyshevsk Petrochemical Company reduced

production by 8% to 70,700 tons. Kazanorgsintez produced 71,400 tons against 66,900 tons in 2016.

Domestic sales of phenol amounted to 12,000 tons in December, 30% more than in November. Novokuibyshevsk Petrochemical and Ufaorgsintez each supplied 5,500 tons. Around 85% of consumption, or 10,300 tons, was purchased by the producers of phenol-formaldehyde resins in December. Other consumers included Kuibyshevazot with 120 tons, Nizhnekamskneftekhim 596 tons and Sterlitamak Petrochemical Plant 975 tons.

For the whole of 2017 Novokuibyshevsk Petrochemical supplied 47,300 tons of phenol to the domestic market, slightly more than in 2016. Ufaorgsintez reduced the maximum amount of phenol supplies by 15%

Russian Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Novokuibyshevsk Petrochem	47.3	45.0
Kazanorgsintez	13.3	13.0
Ufaorgsintez	49.0	65.6
Borealis	4.1	3.878
Total	113.7	127.5

to 65,300 tons, whilst Kazanorgsintez reduced sales by 10% to 11,800 tons. The main share of consumption was dominated by producers of phenol-formaldehyde resins, accounting for 75% of shipments or 101,200 tons. Kuibyshevazot reduced phenol purchases by 35%, to 19,200 tons, whilst Nizhnekamskneftekhim increased phenol purchases by 20% to 5,000 tons. Sterlitamak Petrochemical reduced the volume of purchases of commodity phenol by 6% to 7,700 tons.

Rosneft plans to launch a modernized production of cumene at Ufaorgsintez by the end of the year, and start-up operations should begin in the third quarter. The commissioning of the facility is to be completed by 31 December 2017. At present the company is conducting a tender for the selection of a contractor for commissioning works.

The capacity of the plant for the production of cumene is 170,000 tpa. The licensor of the project is the North American company Badger Licensing. Project documentation was developed by the State Unitary

Enterprise Bashgiproneftekhim, as a general contractor for construction and installation works, Globalstroy-engineering was selected.

Kuibyshevazot-Production (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
Polyamide-6	147.2	143.0
High Tenacity Tech Yarns	11	12.6
Caprolactam	194	197.0
Ammonia	880.4	652.4
Urea	309.5	339.0
Ammonium Nitrate	615.7	612.3
Ammonium Sulphate	485.3	502.5

Kuibyshevazot, Jan-Dec 2017

Kuibyshevazot increased its revenue in 2017 by 13.5% to 43 billion roubles. whilst net profit fell by 20.5%. The rise in revenue was attributed to the increase in production volumes of 6.7%, due in part to the launch of the joint venture Linde Togliatti Azot. At the same time, the increase in energy costs, basic raw materials, repair and restoration of equipment led to a decrease in net profit to 3 billion roubles.

In 2017, Kuibyshevazot increased its production of ammonia by 35% to 880,400 tons, whilst ammonium nitrate production increased by 0.6% to 615,700 tons. Urea decreased by 9% to 309,500 tons and ammonium sulphate production dropped to 485,300. Polyamide production rose 2.7% to 147,200 tons whilst caprolactam production decreased by 1.3% to 194,500 tons. Technical and cord yarn production dropped by to 11,000 tons. In 2017 a significant amount of work was done to build new and technical re-equipment of existing production facilities. For these purposes, 6 billion roubles. 2.2 billion roubles were spent on capital repairs.

Russian Caprolactam Exports (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Kuibyshevazot	44.8	48.2
SDS Azot	115.3	102.3
Shchekinoazot	56.5	56.1
Total	216.7	206.5

Russian caprolactam market, Jan-Dec 2017

Russian caprolactam exports totalled 216,7200 tons in 2017 against 206,500 tons in 2016. SDS Azot at Kemerovo shipped 115,300 tons versus 102,300 tons, whilst Shchekinoazot shipped 56,500 tons against 56,100 tons. Kuibyshevazot continued to

reduce export activity as part of its long-term programme to increase domestic processing of caprolactam.

Russian C4 Purchases (unit-kilo tons)		
Consumer	Jan-Dec 17	Jan-Dec 16
Omsk Kaucuk	51.0	60.6
Nizhnekamskneftekhim	185.5	159.7
SIBUR Togliatti	188.0	161.2
Sterlitamak Petrochemical Plant	0.0	2.4
Total	424.4	383.8

Russian C4 Supplies (unit-kilo tons)		
Supplier	Jan-Dec 17	Jan-Dec 16
Angarsk Polymer	26.7	22.5
Kazanorgsintez	39.6	38.7
Stavrolen	61.1	72.8
SIBUR-Kstovo	96.1	83.4
Tomskneftekhim	83.1	62.8
Ufaorgsintez	29.5	26.0
Naftan (Belarus)	23.7	41.5
Azerkhimya	27.6	23.2
Karpatneftekhim	16.5	0.0
Others	38.6	11.9
Total	424.0	383.8

Azot at Kemerovo has received equipment worth over 80 million roubles from Kemerovohimnash intended for construction of a hydrogen pressure swing adsorption plant for manufacture of caprolactam. Shchekinoazot is close to completion of its investment programme for the past year on caprolactam plant modernisation. However, in the production of cyclohexanone the company still faces bottlenecks that require additional work, ensuring an increase in the circulation of cyclohexane. Primarily, this reconstruction of internal devices stripper cyclohexane. To increase the capacity of caprolactam Shchekinoazot will undertake the reconstruction of hydroxylamine separation.

Synthetic Rubber

Russian C4 sales, 2017

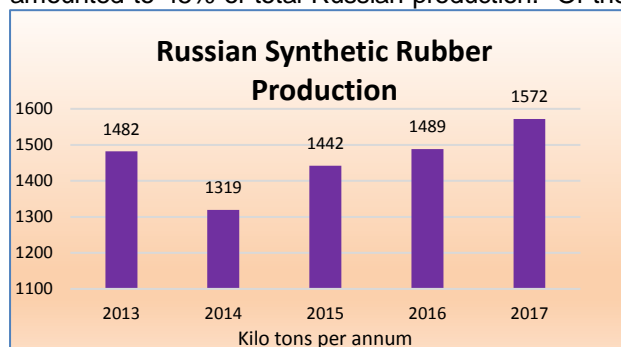
C4 sales on the Russian domestic sales amounted to 30,900 tons in December, 6% up on November. ember, Stavrolen increased the shipment of C4s

by 39% to 5,000 tons following planned repairs. At the same time Angarsk Plant of Polymers dropped sales by 25% to 2,400 tons.

Russian petrochemical companies supplied 340,300 tons of C4s to the merchant buyers which was 5% more than in 2016. C4 imports totalled 89,400 tons in 2017, including supplies from Azerbaijan, Belarus and Ukraine. SIBUR-Kstovo was the largest supplier to the domestic market, shipping 96,100 tons. SIBUR Togliatti was the largest buyer of C4s in 2017, increasing from 161,200 tons in 2016 to 188,000 tons.

Nizhnekamskneftekhim rubber production 2017 & isobutylene expansion

Nizhnekamskneftekhim increased production of synthetic rubber by 5% in 2017 to 704,000 tons, which amounted to 45% of total Russian production. Of the total production by Nizhnekamskneftekhim 83% of output was shipped under long-term agreements to foreign customers comprising mainly tyre manufacturers such as Pirelli, Continental, Bridgestone, Pirelli, Michelin and Goodyear.



Nizhnekamskneftekhim is completing work on a project that will produce an additional 160,000 tpa of isobutylene. Start-up works are being carried out in the constructed shop which will produce isobutylene for isoprene production. As of mid-January, testing of pipelines, electric motors for pumping and compressor equipment was

completed, and insulation work were carried out. In the workshop, circulating water and nitrogen was taken.

Russian Tyre Production (unit-mil pieces)		
Product	Jan-Dec 17	Jan-Dec 16
Car Tyres	44.4	41.0
Lorry tyres	7.7	7.5
Agricultural tyres	1.8	1.8
Total	53.9	50.2

Seven compressors for contact gas and propane cold were ordered in the Czech Republic. Isobutylene is produced by Nizhnekamskneftekhim from the isobutane fraction. With the commissioning of the production of isobutylene, NKNK will be able to increase production of MTBE.

capacity of 100,000 tpa. The project worth 4.5 billion roubles was implemented as part of the strategy to expand the company's rubber production.

In September 2017, NKNK launched a new plant for the production of highly concentrated formaldehyde with a

SIBUR Togliatti-new tank containers

SIBUR Togliatti has installed a filling station isoprene in tank containers which will increase the competitiveness of products, transport security and expand the sales market. In addition to using isoprene on the Togliatti site for the production of isoprene and butyl rubber, it is also supplied to the international market as a stand-alone product. Previously, it was sent to foreign consumers in railway tanks. The advantage of tank containers can be transported without re-entry of cargo when changing transport, which ensures the safety and security of cargo transportation. The main driver for switching to tank containers is

Russian Synthetic Rubber Exports (unit-kilo tons)		
Category	Jan-Nov 17	Jan-Nov 16
E-SBR	34.3	22.1
Block	32.6	32.9
SSBR	8.1	7.6
SBR	75.3	66.5
Polybutadiene	219.2	216.1
Butyl Rubber	120.1	117.3
HBR	121.7	109.5
NBR	23.6	27.6
Isoprene Rubber	279.3	251.6
Others	19.9	40.8
Total	934.0	892.0

the need to supply isoprene to India in the near future, where SIBUR is engaged in a joint venture with Reliance for the production of butyl rubber.

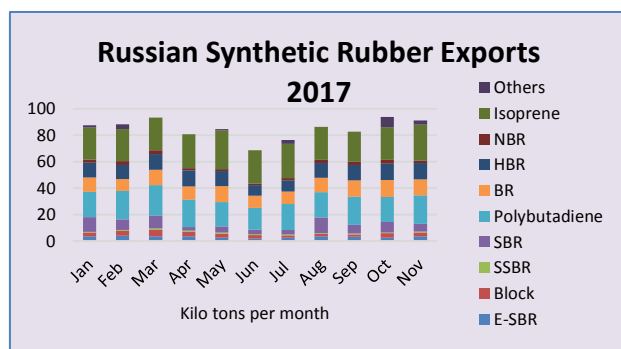
Russian synthetic rubber exports, Jan-Nov 2017

Synthetic rubber exports from Russia rose slightly in January to November 2017 to 934,000 tons against 892,000 tons in 2016. Average prices per ton rose to \$1709 per ton from \$1314 in 2016. By product category, isoprene rubber exports saw the largest rise in volume. Export sales of halogenated butyl rubber also increased, whilst butyl rubber shipments fell. Regarding export destinations, China and Poland were the two largest markets for Russian rubber shipments.

Nizhnekamskneftekhim forecasts lower prices for synthetic rubber grades in 2018, although the company expects volumes to remain stable. The continuing high level of natural rubber reserves in the world suggests that exports cannot expect the price of natural rubber to increase in 2018. Based on these expectations and projections of prices for butadiene, prices for isoprene and butadiene rubber in the international market in 2018 could be lower on average lower than in 2017.

For instance, the prices for halobutyl rubber will continue to be under pressure from the increasing supply on the world market. This is related to the launch of a new plant in the Middle East and the anticipated launch of another plant in Asia. Taking these factors into account a slight drop in prices for conventional

butyl rubber is possible. Nizhnekamskneftekhim exports around 90% of its rubber production, its share in the world market of isoprene rubber is about half.



KZSK-Silicon project bankrupt

Kazan Plant of Synthetic Rubber (KZSK) has closed a number of production units following the bankruptcy of the subsidiary KZSK-Silicon. The silicon project is particularly important as it was being developed to create the only chlorosilane plant in the CIS. The debts of KZSK-Silicon totalled 4.272 billion roubles, comprising 3.7 billion roubles to banks, etc, and the remaining amount from penalties and fines.

Russian Chemical Commodity Exports				
Product	Jan-Dec 17	Jan-Dec 17	Jan-Dec 16	Jan-Dec 16
	Kilo tons	USD Mil	Kilo tons	USD Mil
Ammonia	3,168	724	3,659	828
Methanol	1,684	455	1,497	251
Nitrogen Fertilisers	12,826	2,337	12,773	2,171
Potash Fertilisers	11,033	2,129	9,486	1,856
Mixed Fertilisers	10,482	2,748	9,242	2,608
Synthetic Rubber	1,022	1,746	984	1,293

The main reason for this project failing was due to the rising costs; the original estimate for construction was 7 billion roubles and this rose to 9.8 billion roubles by 2016 due to the weakening of the rouble. Vnesheconombank extended a loan of 3.7 billion roubles to the project but refused to give new loans. In the meantime, subcontractors were demanding payment, one of which Metar

Engineering appealed to the Arbitration Court of the Republic of Tatarstan in 2017 to recognize KZSK-Silicon bankrupt. By January 2018 the court decided to introduce bankruptcy proceedings against the company.

Russian Methanol Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Shchekinoazot	523.7	485.1
Sibmetakhim	890.8	779.8
Metafrax	1107.0	1058.0
Akron	101.7	80.5
Azot, Novomoskovsk	239.8	316.4
Angarsk Petrochemical	2.8	0.8
Azot, Nevinnomyssk	124.4	123.4
Tomet	775.6	681.0
Ammoni	212.0	136.1
Totals	3977.8	3661.1

Methanol & related products

Russian methanol production, Jan-Dec 2017

Russian methanol production amounted to 371,800 tons in December, 6% higher than in November. Tomet demonstrated the largest rise in December of 23% to 75,300 tons. Other producers included Ammoni (18,500 tons), Sibmetakhim (84,700 tons, Azot Novomoskovsk (21,000 tons), and Metafrax (104,000 tons). Shchekinoazot and Akron in December stabilized the capacity utilisation, producing 47,200 tons and 9,300 tons respectively.

tons of methanol in 2017 (5% of the total

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Azot Nevinnomyssk	27.8	31.2
Azot Novomoskovsk	96.0	91.9
Metafrax	396.2	401.7
Sibmetakhim	346.8	320.6
Tomet	484.0	404.6
Shchekinoazot	72.0	86.9
Ammoni (Mendeleevsk)	114.6	87.8
Others	4.6	39.5
Total	1542.2	1464.2

Production of methanol in Russia in 2017 totalled 3.98 million tons, 10% up on 2016. Ammoni produced 212,000 tons (54%), Sibmetakhim 84,700 tons (22%), Tomet 75,300 tons (19%), Shchekinoazot 47,200 tons (12%), Metafrax 104,000 tons (26%), Azot Novomoskovsk 21,000 tons (5%), and Angarsk Petrochemical 2,800 tons (0.7%). The only domestic producer, which reduced methanol output by the end of the year, was Azot at Novomoskovsk which dropped 15% to 239,800 tons.

Sales of methanol on the domestic market in December rose 13% to 157,500 tons. Domestic merchant sales of methanol increased to 1.5 million tons in 2017 from 1.45 million tons in the same period in 2016. Leaders in terms of volumes of methanol sold included Tomet, Metafrax and Sibmetakhim accounting for 80% of all methanol sold in Russia in 2017.

Russian Methanol Consumption (unit-kilo tons)		
Consumer	Jan-Dec 17	Jan-Dec 16
Nizhnekamskneftekhim	244.6	262.2
SIBUR Togliatti	126.8	110.3
Uralorgsintez	71.1	69.7
SIBUR-Khimprom	15.5	24.6
Tobolsk-Neftekhim	53.2	43.1
Ektos-Volga	56.5	55.6
Omsk Kaucuk	85.6	71.7
Novokuibyshevsk NPZ	67.8	47.7
Uralkhimplast	22.5	20.1
Slavneft-Yanos	17.1	16.5
Others	781.5	742.8
Total	1542.2	1464.2

producing synthetic rubber where methanol is used in the production process for isoprene.

Russian methanol exports amounted to 158,100 tons in December against 152,400 tons in November. Sibmetakhim accounted for 30% of exports or 46,700 tons, Metafrax (21%, or 33,600 tons), Shchekinoazot (22% or 35,100 tons), Tomet (14%, or 22,200 tons), Azot (12%, or 18,200 tons) and Ammoni (1%, or 1,200 tons). Akron supplied 1,200 tons from the Novgorod plant. Shchekinoazot increased exports in comparison with November by 45%. Finland accounted for 49% of the total product exported from Russia in December, that is 77,300 tons. At the same time, the volumes of purchases of Russian methanol by Finnish consumers decreased by 11%. Poland took 14%, or 22,200 tons), Romania (5%, or 7,800 tons) and Slovakia (9%, or 13,800 tons). For the whole of 2017 Russian methanol exports totalled 1.694 million tons against 1.497 million tons in 2016.

Sibmetakhim 2017

Sibmetakhim, which is part of the Vostokgazprom Group of Companies, modernised the methanol plant in 2017. This involved replacing the cooling devices for process gases in the synthesis, compression and rectification sections, whilst the raw material heater was replaced in the process furnace and the railway drainage overpass was modernised. Modernisation of the methanol unit allowed Sibmetakhim to achieve a year-round production of 2,800 tons of product per day. In 2017 Sibmetakhim produced 891,000 tons which is 14% higher than in 2016. Last year Sibmetakhim achieved full utilisation for its plants for formaldehyde and urea-formaldehyde concentrate.

Akron Production 2017 (unit-kilo tons)		
	2017	2016
Ammonia	2,595	2 201
<i>including domestic consumption</i>	<i>2 044</i>	<i>1 895</i>
Urea*	882	762
<i>including domestic consumption</i>	<i>429</i>	<i>482</i>
Products of organic synthesis	445	386
<i>internal consumption</i>	<i>221</i>	<i>199</i>
Methanol	102	80
<i>including domestic consumption</i>	<i>82</i>	<i>71</i>
Formaldehyde	162	143
<i>including domestic consumption</i>	<i>138</i>	<i>127</i>
Urea-formaldehyde resins	181	162
<i>including domestic consumption</i>	<i>2</i>	<i>1</i>

The largest supplier to the domestic market was Tomet, shipping 484,900 tons to domestic consumers against 406,400 tons in 2016. Sibmetakhim increased sales by 8% in 2017 to 347,200 tons, whilst Metafrax increased deliveries by 0.5% to 396,000 tons. Amongst other producers Ammoni sold 114,500 tons in 2017 against 97,500 tons in 2016 and Shchekinoazot reduced shipments in 2017 by 18% to 72,000 tons.

Nizhnekamskneftekhim is the largest individual buyer of merchant methanol on the Russian market, taking 244,600 tons in 2017 against 262,200 tons in 2016, followed by SIBUR Togliatti which bought 126,800 tons in 2017. Both Nizhnekamskneftekhim and SIBUR Togliatti produce MTBE, which is the main domestic application for Russian methanol, whilst also

Shchekinoazot 2018

Shchekinoazot aims to bring online four new units in 2018, the largest of which is the complex for methanol and ammonia production and namely the M-450/A-135 project.

For the methanol and ammonia complex, nearly 99% of all pipelines have already been assembled at the production site, and tests are being carried out. Already 40% of these works have been completed. By the end of April, according to the schedule, all tests will have been completed and primary surveys of equipment operating under pressure. The company hopes to start the loading of catalysts in May.

Shchekinoazot has undergone some changes since 2001-2002 when chemical production volumes totalled only around 400,000 tpa, which have since risen to around 600,000 tpa including methanol and caprolactam. With the commissioning of M-450 and A-135 complex and other production units, production will rise to in excess of 1 million tpa.

One of the projects to be completed in 2018 is the production of sulphuric acid with a capacity of 200,000 tpa. The Chinese licensing company is both the developer of the project, and the equipment supplier, and is currently installing on

the construction site. In addition to the M-450/A-135 project, Shchekinoazot is planning to finish the construction of a dimethyl ether installation this year under a joint venture with Petro Carbo Chem. The production of dimethyl ether of high perfumery quality is not produced in Russia.

Metafrax-AKM complex

Metafrax intends to begin installation of foundations and metal structures for the construction of the AKM complex (ammonia-urea-melamine) at Gubakha in the summer of 2018. Preparation of the site for construction was carried out throughout 2017, covering an area of more than 20 hectares. Currently, work is under way on laying underground communications.

The total investment in the construction of the complex at the current time is estimated at €950 million. Metafrax plans to sign loan agreements to attract €280 million and 27 billion roubles in the near future and plans to start the AKM complex in 2021. The design capacity of the plants includes 562,000 tpa of urea, 298,000 tpa of ammonia and 40,000 tpa of melamine.

Organic chemicals

Russian Butanols Market Jan-Dec 2017

- Production up 1%
- Exports down 2.9 times
- Domestic merchant sales drop 20%

Russian butanols production, Jan-Dec 2017

In total Russian butanols production amounted to 226,600 tons which is 1% more than in 2016. Russian butanols production in December rose 15% over November to 26,950 tons. The share of n-butanol in the gross volume of butanols production in December 2017 was 60%, and isobutanol 40%.

In December, Gazprom neftekhim Salavat increased production by 4% to 9,580 tons whilst SIBUR-Khimprom increased production by 18% to 10,170 tons (38%). Angarsk Petrochemical increased production in December by 40% to 5,680 tons, whilst Azot Nevinnomyssk increased production by 3% to 1,530 tons.

Russian Butanol Domestic Sales (unit-kilo tons)

Producer	Jan-Dec 17	Jan-Dec 16
Gazprom n Salavat	8.5	24.0
SIBUR-Khimprom	31.5	36.8
Angarsk Petrochemical	15.2	1.8
Azot Nevinnomyssk	2.4	4.5
Others	2.3	5.3
Totals	59.9	62.0

Russian butanol sales, Jan-Dec 2017

Butanol sales on the domestic market amounted to 6,460 tons in December, 9% higher than in November. The share of n-butanol in the gross sales volume in December 2017 was 70%, and isobutanol 30%. SIBUR-Khimprom supplied 3,890 tons, whilst Angarsk Petrochemical supplied 2,090 tons. At the same time, Gazprom neftekhim Salavat increased shipments by only 3% to 480 tons as availability tightened. Azot at Nevinnomyssk in November and December did not ship alcohols to the domestic market.

Russian Butanol Consumption (unit-kilo tons)

Consumer	Jan-Dec 17	Jan-Dec 16
Akrlat	19.9	25.3
Dimitrievsky Chemical	14.5	22.4
Plant of Synthetic Alcohol	1.8	1.2
Volzhskiy Orgsintez	8.7	6.3
Roshalsky Plant of Plasticizers	1.4	1.5
Others	13.7	15.2
Total	59.9	62.0

Akrlat reduced purchases by 2.2 times to 1,000 tons in December. Dimitrievsky Chemical Plant, on the contrary, increased purchases by more than 60% to 1,350 tons, whilst Volzhskiy Orgsintez increased purchases by 41% to 1,170 tons.

Domestic sales of butanols in the Russian market totalled 68,460 tons in 2017, 4% less than in 2016. Availability was made difficult for the main consumers due to the Salavat start-up, and both Akrlat and Dimitrievsky Chemical Plant reduced purchases on the merchant market.

Acryl Salavat 2017

The plant for production of acrylates at Salavat, commissioned in 2017m produced 57,200 tons of acrylic acid, 14,500 tons of ice acrylic acid and 68,700 tons of butyl acrylate. The complex operates acrylic acid production capacity of 80,000 tpa, which is processed into butyl acrylate (80,000 tpa) and glacial acrylic acid

(35,000 tpa). Propylene is supplied from the Monomer plant at Salavat. Investments in the project amounted to about 39 billion roubles.

Isopropanol project-Omsk approved

The Federal Development Fund (FRP) will provide Omsk Kaucuk (included in GC Titan) a loan to build a plant for the production of isopropanol. The capacity of the future production unit is expected to be designed to produce 30,000 tpa. The cost of the project is estimated at 1 billion roubles of which 500 million will be provided by the FRP. Isopropanol can be used in the liquid-phase hydrogenation of acetone. It is also used as a solvent for essential oils, waxes, ethers, alkaloids and synthetic resins.

The acrylate complex, managed by Acryl Salavat is one of the ten major sub-divisions of Gazprom neftekhim Salavat's investment programme. In December 2012, the company signed an EPC contract with Mitsubishi Heavy Industries, Ltd. (Japan), the Sojitz Corporation (Japan) and Renaissance Construction (Turkey) for the construction of the complex.

Russian pentaerythritol, Jan-Dec 2017

In December 2017 Metafrax produced 2,100 tons of pentaerythritol, 5% more than in November. Production of pentaerythritol at Metafrax, the sole producer in Russia, amounted to 23.700 tons which is 4% more than in 2016.

Russian phthalic anhydride, Jan-Dec 2017

Phthalic production in Russia amounted to 9,250 tons in December, of which 8,150 tons was produced by

Russian Phthalic Anhydride Production (unit-kilo tons)		
Producer	Jan-Dec 17	Jan-Dec 16
Gazprom neftekhim Salavat	10.2	9.0
Kamteks	92.1	75.3
Total	102.3	84.3

Kamteks-Khimprom and 1,100 tons by Gazprom neftekhim Salavat. Phthalic anhydride production in Russia amounted to 102,330 tons in 2017, 21% more than in 2016.

Phthalic exports rose 45% in June to 5,160 tons over May. India took 39% of supplies, followed by Turkey (11%), Tunisia (10%), Finland (9%), Poland (7%) and

Uzbekistan (5%). In the first half of the year 2017, phthalic anhydride shipments from Russia abroad amounted to 21,210 tons which is 14% more than the same period in 2016.

Russian Organic Chemical Exports		
Product	Jan-Nov 17	Jan-Nov 16
N-Butanol	16.1	61.4
Iso-butanol	17.6	24.7
2-EH	18.7	31.1
Pentaerythritol	10.0	8.2
Phenol	5.3	7.3
Ethylene Oxide	14.0	15.0
Formaldehyde	20.0	27.6
Acetone	35.5	25.2
Acetic Acid	33.7	26.7
VAM	31.7	29.6
Butyl Acetate	24.3	8.9
Butyl Acrylate	38.2	8.9
Phthalic Anhydride	57.1	43.9

SIBUR-DOTP project

Uralkhimash (part of OMZ) concluded an agreement with SIBUR-Khimprom in late 2017 for the manufacture of reactor and capacitor equipment for the new dioctyl terephthalate (DOTP) project. Uralkhimash will manufacture four R-102 reactors and a C-100 tank. The equipment is intended for operation as part of the new DOTP plant at the SIBUR-Khimprom site.

The construction of the DOTP production unit with a capacity of 100,000 tpa began at the end of last year. According to SIBUR, the deficit of the Russian market of basic plasticizers is estimated at about 60,000 tpa. The implementation of the project will largely replace the import of similar products and begin to supply plasticizers to export markets.

Other products

MDI/TDI Imports for Eurasian Customs Region (unit-kilo tons)

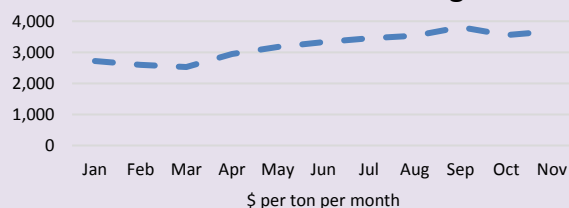
	Jan-Nov 17	Jan-Nov 16
MDI	132.6	121.0
TDI	40.9	39.1

Russian TDI Imports, Jan-Nov 17

Imports of TDI into the Eurasian Customs Union totalled 40,922 tons in the period January to November 2017 against 39,100 tons in the same period in 2016. Last year the two largest suppliers comprised Germany and Hungary, with smaller volumes being supplied from South Korea and the US. Global TDI prices rose in 2017. The combined value of TDI and MDI imports into the Eurasian Customs Union, most of which goes to Russia,

is estimated at around \$500 million per annum.

TDI Imports-Average Price Per Ton 2017 Eurasian Customs Region



Technical gases-Tomskneftekhim

Construction of the plant for the production of technical gases by Cryogenmash-Gas at Tomskneftekhim (part of SIBUR) is in the final stage which will allow the region to completely meet the need for technical gases. The new plant will supply products to various enterprises, but the main goal is to meet the needs of Tomskneftekhim. Tomskneftekhim has increased capacities in the past couple of years for polypropylene from 130,000 tpa to 140,000 tpa, and LDPE from 245,000 tpa to 270,000 tpa.

Khimprom Percarbonate

Khimprom (Novocheboksarsk) reorganizes its subsidiary Percarbonate into a separate company. According to the company's plans, 10% of the shares of Percarbonate are subject to exchange for 10% in the authorized capital of OOO Percarbonate. The total value of the block of shares will be 127 million roubles. The reorganisation will not affect the company's activities or its relations with Khimprom.

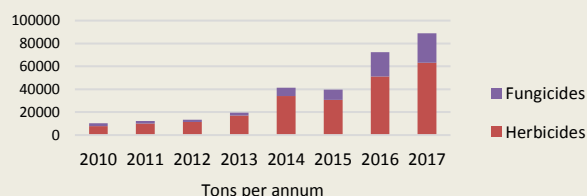
KurskKhimvolokno 2017

KurskKhimvolokno increased production of chemical fibres, yarns and fabrics by 9.5% in 2017. The company produced 22,000 tons of chemical filaments and fabrics due to the launch in 2017 of three new production lines. Modernisation has increased the competitiveness of the enterprise in the world and domestic markets. Among the consumers of the products of the Kursk enterprise to Iran, Spain, Czech Republic, and Turkey.

Russian plant protection agents

Russian production of plant protection agents has increased over the past few years displacing imports from the domestic market, although foreign products continue to play a key role. Production has risen sharply

Russian Production of Plant Protection Agents



since 2014, since the weakening of the rouble, and domestic companies continue to see opportunities for new facilities. For example, Soyuzagrohimi has started constructing a new plant for crop protection chemicals in the Alabuga special economic zone in Tatarstan.

The capacity of the plant is intended to produce 5,700 tpa which is targeted for mid-2019. Kaustik at Volgograd has recently completed a new plant in July with a production capacity of 2,135 tpa. The plant includes nine types of preparations of

chemical plant protection products. Further projects and expansion plans can be expected in the next couple of years.

Ukraine

Ukrainian Polymer Imports (unit-kilo tons)

Product	Jan-Dec 17	Jan-Dec 16
PVC	98.5	121.2
LDPE	61.4	68.6
LLDPE	66.1	59.0
HDPE	96.7	126.2
Ethylene Vinyl Acetate	15.6	14.1
PP	123.1	119.6

Ukrainian PVC imports, Jan-Dec 2017

Imports of PVC into Ukraine totalled 98,500 tons in 2017, 11% down against 2016 when volumes amounted to 110,600 tons. The resumption of Karpatneftekhim was the main factor behind the lower imports. For the full year of 2017, North American resin imports amounted to 49,800 tons against 57,700 tons in 2016. Imports of European PVC fell to 32,400 tons against 42,000 tons, whilst Russian sources amounted to 13,800 tons against 10,200 tons.

At the same time as imports have fallen, exports have been resumed since the restart of Karpatneftekhim. In 2017 Ukraine exported 51,900 tons of PVC, of which 23,000 tons were delivered to Turkey and 22,200 tons to India.

Ukrainian PVC Imports (unit-kilo tons)

From	Jan-Dec 17	Jan-Dec 16
US	49.8	57.7
China	0.0	0.0
Europe	32.4	42.0
Russia	10.2	13.8
Others	6.1	7.7
Total	98.5	121.2

Ukrainian polypropylene imports, Jan-Dec 2017

In 2017 the total import volume of polypropylene into Ukraine rose by 1% to 123,100 tons from 119,600 tons in 2016. Homopolymer imports rose 4% to 94,400 tons in January to December 2017 whilst imports of block copolymers rose to 12,900 tons from 12,500 tons. Imports of stat-copolymers rose to 13,700 tons to 13,600 tons. Other imports of propylene copolymers rose to 2,500 tons from 2,100 tons.

Ukrainian Polypropylene Imports (unit-kilo tons)

Product	Jan-Dec 17	Jan-Dec 16
Homo	94.4	91.2
Block	12.9	12.6
Random	13.7	16.4
Other	2.5	2.1
Total	123.1	122.7

In 2017 imports of polyethylene into Ukraine decreased by 7% to 247,600 tons against 266,600 tons in the same period in 2016. HDPE imports declined from 126,300 tons to 96,700 tons, whilst LDPE imports rose 2% to 69,100 tons. By contrast LLDPE imports rose from 59,300 tons to 66,100 tons, and other polyethylene categories rose from 13,200 tons to 15,600 tons. Imports were affected in 2017 by the restart of the Karpatneftekhim plant at Kalush.

Ukrainian benzene market, Jan-Dec 2017

Benzene exports from Ukraine dropped 33% in December against November to 8,100 tons. Karpatneftekhim exported 7,400 tons, 20% up, whilst the Kremenchug refinery did not ship in December against 5,600 tons in November. In addition, 748 tons of raw materials were shipped to Russia from Zaporzhkoks, 6% more than in November. In 2017, Ukrainian plants doubled exports of benzene to 49,600 tons.



Ukrainian imports of phthalic anhydride/DOP

In December imports of phthalic anhydride to Ukraine amounted to 317 tons. Lakokraska at Lida supplied 209 tons, followed by Deza with 66 tons, Almosa 22 tons and Kamteks-Khimprom 20 tons. Phthalic anhydride was purchased in December by Polikem (151 tons, or 48% of total imports) and TD LK-Ukraine (146 tons, or 46%). For the whole of 2017 Ukraine imported 4,310 tons of phthalic anhydride, 6% more than in 2016.

Ukrainian Imports of Phthalic Anhydride & DOP (unit-kilo tons)

Product	Jan-Dec 17	Jan-Dec 16
Phthalic Anhydride	4.3	4.5
DOP	4.3	4.1

DOP imports into Ukraine rose in December to 457 tons against 374 tons in November. In December Deza supplied 54% of imports, and Boryszew (46%). DOP imports into Ukraine totalled 4,270 tons in 2017 which is 5% less than in 2016.

Azot Grodno Production (unit-kilo tons)

Product	Jan-Dec 17	Jan-Dec 16
Methanol	83.9	70.3
Caprolactam	111.2	108.6
Polyamide primary	103.6	102.9
Polyamide filled	11.3	11.2
Ammonia	1073.7	1079.1
Urea	1040.1	1032.1
Fertilisers	773.0	772.8
Fibres	39.0	37.5

Ukrainian methanol imports, Jan-Dec 2017

Ukraine imported 3,400 tons of methanol in December against 4,400 tons in November. Grodno Azot, reduced supply to Ukrainian consumers in December by 57% and Russian suppliers by 17%. Imports of Russian methanol to Ukraine was distributed among Metafrax, Shchekinoazot and Tomet in the ratio of 43%, 14%, and 43% respectively. Methanol imports into Ukraine totalled 34,234 tons in 2017.

Belarus

Belarussian chemical production, Jan-Dec 2017

Methanol production at Grodno totalled 83,900 tons in 2017 against 70,300 tons in 2016. Naftan produced 8,300 tons of

Azot Grodno-new complex

Azot at Grodno intends to construct a new complex including capacities of 1.225 million tpa, hydrogen 200 million cubic metres per annum and costing around \$1.3 billion. An agreement has already been reached to provide a preferential Chinese credit line, and an offer has been received from one of the European banks.

The general contractor for the construction of the complex will be selected this year. The production will be put into operation in 2024. The payback of the complex will be about ten years. The construction of a nitrogen complex will not only double the capacity for the production of urea but will also provide the opportunity to simultaneously satisfy the domestic market and have a margin from high export prices.

benzene in December 9% less than in November. Grodno Azot increased production of caprolactam 1.5 times in June to 11,500 tons bringing the total for the first half of 2017 to 58,300 tons against 56,500 tons in January to June 2016. In June due maintenance Naftan reduced propylene production by 2.1 times to 1,900 tons, and ethylene by 2.3 times to 2,800 tons.

The total volume of production of LDPE in Belarus amounted to 62,300 tons in 2017, against 92,400 tons in 2016. The main reason for the decline was the fire at the end of June 2017 at one of the ethylene plants, which resulted in a two-fold reduction in olefin production.

Omsk Carbon Mogilev carbon black plant

Commissioning of the carbon plant at the site Omsk Carbon Mogilev plant is scheduled from April to June 2018 to perform trials and commissioning of the first stage. This will be followed with the subsequent commissioning of production in commercial operation. Plant capacity of the new plant is 200,000 tpa. The structure of Omsk Carbon Group includes operating plants in Omsk and Volgograd, a construction plant in the Republic of Belarus, foreign logistics centres in Germany, Romania, Turkey, and Canada.

Belarussian organic chemical trade, Jan-Nov 2017

Belarussian acrylonitrile exports totalled 43,700 tons in the first eleven months in 2017 against 30,500 tons in the same period in 2016. The two largest destinations for Belarussian exports were the Netherlands with 10,400 tons and Turkey with 6,100 tons.

In other areas of chemical trade, methanol shipments fell from 29,400 tons in January to November 2016 to 21,100 tons in the same period in 2017. Caprolactam

Belarussian Acrylonitrile Exports (unit-kilo tons)		
Product	Jan-Nov 17	Jan-Nov 16
Russia	1.8	2.6
Hungary	2.7	4.0
India	2.0	0.0
Iran	3.5	3.4
Netherlands	14.7	4.0
Romania	0.1	0.3
Turkey	17.1	16.1
UAE	0.3	0.0
Portugal	1.6	0.0
Total	43.7	30.5

exports amounted to 7,400 tons versus 6,500 tons whilst phthalic anhydride shipments dropped to 21,100 tons from 29,400 tons.

Regarding imports, PTA and MEG are two of the main chemical products required by Belarus for usage in the production of polyester/PET. Imports of PTA in the first eleven months totalled 65,000 tons against 49,800 tons in the same period in 2016. The main supplier of PTA to Belarus in January to November 2017 was South Korea with 30,500 tons against 23,000 tons in the same period last year. MEG imports into Belarus amounted to 69,270 tons in the first eleven months in 2017, of which Russia supplied 99%.

Belarussian PTA Imports (kilo tons)		
Country	Jan-Nov 17	Jan-Nov 16
Belgium	6.587	0
Poland	17.2	21.3
Russia	6.7	3.4
South Korea	30.5	23.1
Portugal	0.0	1.0
Thailand	0.0	1.1
Turkey	1.0	0.0
Others	2.978	0
Total	65.0	49.8

Belarussian polymer imports, Jan-Nov 2017

Imports of polyethylene to Belarus decreased by 5% in the first eleven months of last year compared to the same period of 2016 and totalled 112,400 tons against 118,100 tons a year earlier. HDPE imports rose 7% to 45,800 tons, LDPE rose from 27,100 tons to 33,500 tons and LLDPE dropped from 49,100 tons to 33,100 tons.

Imports of polypropylene to Belarus increased by 1% to 2016 and amounted to 87,000 tons. Homopolymer imports amounted to 58,400 tons in January to November 2017 against 58,000 tons in the same period in 2016. The total volume of imports of copolymers of propylene totalled 28,600 tons against 28,200 tons.

Belarussian Polymer Imports (unit-kilo tons)

Product	Jan-Nov 17	Jan-Nov 16
PVC	31.3	27.8
Polypropylene	87.0	97.1
LDPE	33.8	27.1
LLDPE	33.1	49.1
HDPE	45.8	45.4

PVC imports into Belarus totalled 31,300 tons in the first eleven months in 2017 which is 39% up on 2016 or against 22,500 tons. For January-November 2017 the Russian share in the Belarussian market was about 83%. The second place in the volume of supplies is occupied by manufacturers from Germany with a share of about 13%.

Mogilevkhimvolokno-new polyester fibre equipment

Mogilevkhimvolokno plans to launch production of polyester fibre by direct moulding in July 2018. The production of polyester fibre by direct moulding is envisaged in the first phase of the investment programme. The new equipment with the capacity of 50,000 tpa will allow to obtain new assortments of synthetic fibre. The first stage includes plans to construct a solid phase pre-polymerization plant with a capacity of 30,000 tpa and to organise the production of technical polyester yarns of various types with a total capacity of 16,500 tpa. The cost of these plants is estimated at €47 million.

Belarussian PET Trade (unit-kilo tons)

	Jan-Nov 2017	Jan-Nov 16
Exports	49.8	55.7
Imports	21.2	14.0

The second stage of the project is planned for 2018-2020 which includes the modernisation of the existing PET production facility with the transfer to the use of PTA as instead of DMT. The total cost of the second stage of production is estimated at €85 million. Mogilevkhimvolokno has capacities for producing 138,250 tpa of DMT, 105,000 tpa of textile PET and 80,000 tpa of food PET. The capacity of polyester fibres is 67,000 tpa according to equipment

12,000 tpa.

Central Asia/Caucasus**Kazakh polymer imports, Jan-Dec 2017**

In 2017, imports of polyethylene to Kazakhstan increased by 24% compared to the same period of 2016 and amounted to 121,400 tons versus 97,800 tons in 2016. HDPE imports rose 26% to 92,700 tons, whilst LDPE rose 15% to 21,600 tons and LLDPE rose from 5,600 tons to 7,200 tons.

Kazakh Polymer Imports (unit-kilo tons)		
Product	Jan-Dec 17	Jan-Dec 16
HDPE	92.7	73.3
LDPE	21.6	17.1
LLDPE	7.2	4.2
PVC	51.0	54.5
Polypropylene	30.9	31.0

Imports of unmixed PVC to Kazakhstan dropped 3% in January-December 2017 June compared to the same period in 2016 and amounted to 51,000 tons against 52,600 tons in 2016. China supplied around 92% of imports in 2017, followed by another 4,000 tons from Russia.

SOCAR Polymer-polypropylene project to start in 2018

SOCAR Polymer Polypropylene Project Jan-2018	
Category	Project Status
Total	97.2%
Detailed engineering	99.9%
Equipment purchases	99.6%
Production & delivery	99.6%
Construction	93.4%

SOCAR Polymer, created by SOCAR for the construction of polyolefins, will launch a polypropylene plant in the second quarter of 2018. The facility is located on the territory of the Sumgait Chemical Industrial Park. In April, it is planned to start commissioning.

From October to mid-November 2018 production at the plant will be stopped. The interruption in the work will be conditioned by the planned shutdown of the plant Azerkimiya, which provides the enterprise with raw materials. In 2018, the plant plans to produce about 70,000 tons of polypropylene and to reach 180,000 tons in 2019.

Relevant Currencies

Czech crown. Kč. \$1=20.4. €1 = 25.4; Hungarian Forint. Ft. \$1 = 250.2. €1 = 311.2; Polish zloty. zł. \$1=3.35. €1 = 4.16 Ukrainian hryvnia. \$1 = 27.14 €1 = 33.7; Rus rouble. \$1 = 56.3 €1 = 69.9

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