

# CIREC

## MONTHLY NEWS

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

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### Key points from this month's issue

#### Central European petrochemical markets

- McDermott International has been awarded a technology contract by MOL Petrochemicals for the technology licence and engineering for an Olefins Conversion Technology (OCT) unit at Tiszaújváros
- Propylene production in the Central European countries of Czech Republic, Hungary, Poland and Slovakia totalled 257,100 tons in the first quarter in 2019 against 223,600 tons, whilst polypropylene production rose to 322,100 tons against 283,700 tons in the first quarter in 2018

#### Russian chemical production

- Russia's output of chemical products rose by 3.3% in the first four months of 2019 over the same period in 2018
- Russian ethylene production totalled 1.054 million tons in the first four months in 2019 against 1.030 million tons in the same period in 2017. Russian plants produced 832,100 tons of propylene in the first four months in 2019 versus 805,100 tons in the same period in 2018
- Russia produced 259,200 tons of styrene in the first four months in 2019 which is 3% more than in the same period in 2018
- Methanol production in Russia totalled 1.568 million tons in the first four months in 2019 against 1.419 million tons in same period in 2018.

#### Russian chemical trade

- Russian exports of chemicals and chemical industry products totalled 12.654 million tons against imports of 3.631 million tons, but in value terms the positions were reversed with exports valued at \$5.677 million and imports valued at \$10.079 million
- Russia imported 10,900 tons of TDI in the first three months in 2019 against 12,200 tons in the same period. Around 25% of supplies came from Germany, followed by Hungary, the US and Saudi Arabia
- Russian PTA imports totalled 105,300 tons in the first three months in 2019 against 53,700 tons in the same period in 2018

#### Russian & regional chemical projects

- SIBUR and China Petroleum & Chemical Corporation (Sinopec) agreed in June 2019 on the main conditions for the creation of a joint venture for the Amur Gas Chemical Complex
- SIBUR has completed the construction of ZapSibNeftekhim and the complex is currently it is being commissioned. Full start-up is projected for the third and fourth quarters this year
- SIBUR is carrying out preparatory work at the site for the maleic anhydride plant at Tobolsk, which is expected to be ready to start construction in the third quarter of 2019
- Russian group SAFMAR has signed agreements with Maire Tecnimont and Novaya Gavan terminal, which comprises the design and construction of a methanol plant at the port of Ust-Luga
- Gazprom is assessing prospects for gas processing and olefins complex in Bashkortostan
- Omsk Kaucuk aims to complete phenol-acetone modernisation in the next couple of months

## CENTRAL & SOUTH-EAST EUROPE

### Central European olefin and polyolefin supply Q1 2019

Propylene production in the Central European countries of Czech Republic, Hungary, Poland and Slovakia totalled 257,100 tons in the first quarter in 2019 against 223,600 tons in the same period last year and 248,700 tons in the preceding fourth quarter. Polypropylene production in Central Europe rose to 322,100

**Central European Olefin & Polyolefin Production (unit-kilo tons)**

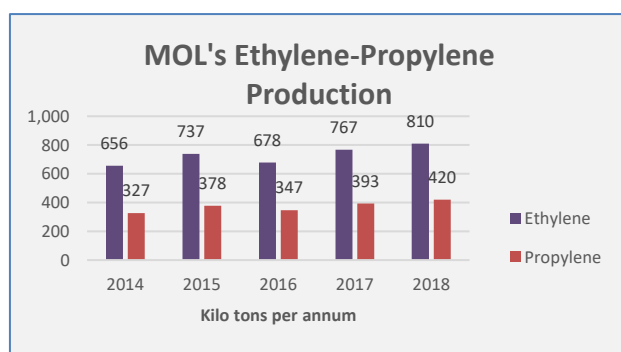
Product	Q1 18	Q2 18	Q3 18	Q4 18	Q1 19
Ethylene	394.4	387.6	411.4	417.4	413.6
Propylene	223.6	236	237	248.7	257.1
Polyethylene	394.4	387.6	411.4	417.4	413.6
Polypropylene	283.7	309	312.3	303	322.1

tons in the first quarter against only 283,700 tons in the first quarter in 2018, whilst polyethylene production rose from 394,400 tons to 413,600 tons. In Romania, Rompetrol's production of polymers in Q1 2019 amounted to 29,000 tons, down 32% from Q1 2018 against 43,000 tons.

Propylene production in Poland is expected to rise this year due to the introduction of the metathesis plant at Plock which is in the early phases of operation. As a consequence of the new plant Basell Orlen Polyolefins (BOP) is increasing the capacity for polypropylene production at Plock by 20%. PKN Orlen has asked for compensation from the project contractor Elektrobudowa for delays in the construction of the metathesis installation. In Slovakia, Slovnaft reduced polypropylene production by 3.7% in 2018 to 250,000 tons whilst polyethylene production increased by 15.6% to 180,000 tons of polyethylene following expansion.

### MOL-McDermott contract for propylene

McDermott International has been awarded a large-scale technology contract by MOL Petrochemicals for



the basic engineering, technology licence, catalyst and front-end engineering design (FEED) for an Olefins Conversion Technology (OCT) unit at Tiszaújváros. This unit will have a production capacity of 100,000 tpa of polymer grade propylene from steam cracker and refinery feedstocks, utilising Lummus' proprietary OCT, and CDHydro® deisobutenizer. The unit will also produce an isobutene-rich stream. OCT is recognised as the most economical route for utilising C4 and C5 feeds from a steam cracker or refinery to increase propylene production in a petrochemicals complex.

MOL's propylene oxide and polyol project represents the largest investment programme in the group's in MOL's history, with production expected to start in 2021. MOL's main partners for these investments include Evonik and Thyssen-Krupp. The project will pay off quickly economically according to MOL, enabling a sharp rise in EBITDA by around \$600 million already by 2023-2024.

### Central European oil supply June 2019

Regarding current crude supply, deliveries from Russia to Central Europe are in the process of being restored following the contamination issue. In the Czech Republic, supplies of clean crude oil via the Druzhba pipeline were partially restored to the Orlen-owned refinery at Litvinov. The problems of crude oil supplies through the Przyjaźń pipeline, which started on 26 April did not affect the level of crude oil processing at Unipetrol's refineries.

In Hungary, MOL removed 100,000 tons of tainted Russian crude from the Druzhba in May and put it into storage. The crude will be treated and mixed with clean oil to make it usable in future. The crude needed to be removed to accelerate the start of deliveries of clean oil through the pipeline. MOL has devised a system of how to use the contaminated oil over a period of time whilst in Poland Lotos at Gdansk has been relying on Baltic Sea seaborne crude supplies until deliveries from Russia via the Druzhba pipeline have been restored. Although the contamination problem on the Druzhba pipeline may be resolved in the next few months, Central European buyers are likely to be more circumspect about Russian oil supply in future and almost certainly be seeking some form of discount from suppliers such as Rosneft and Lukoil.

Lotos Petrochemical Feedstock Production (unit-kilo tons)		
Product	Q1 19	Q1 18
Naphtha	106.1	154.7
Xylenes	31.2	20.0

#### Lotos production and Orlen-Lotos merger

Lotos increased production of mixed xylenes at Gdansk in the first quarter to 31,200 tons against 20,000 tons in the same period last year. Naphtha production conversely dropped from 154,700 tons to 106,100 tons.

The procedure for the Lotos-Orlen merger draws closer, which could become particularly complicated in passing the tests set by the European Commission. Overall, refining capacity is under pressure from oversupply and changing factors in demand and thus pressure is on Lotos to establish new directions. Orlen states that there are many potential benefits from integration of the two companies, one of which includes using the surplus oil produced by Grupa Lotos for producing petrochemical products in the production plant at Plock.

Previously Lotos tried to enter petrochemicals with Azoty in 2013 through conducting a preliminary feasibility study for investments at Gdansk where LPG and gas was available. However, the next phase of the study completed in 2015 indicated that this investment did not meet the assumed business objectives and the project was abandoned.

Poland Propylene Glycol Imports Q1 2019		
Country	€ mil	Ktons
Germany	3.4	5.3
Belgium	1.1	1.4
Others	1.9	2.7
Total	6.4	9.4

#### PKN Orlen-propylene and propylene glycol

Through its subsidiary Orlen Południe in southern Poland, Orlen intends to construct a new biorefinery at Trzebinia where ecologically clean propylene glycol will be produced. The plant, which is expected to cost zł 400 million, is aimed at covering around three-quarters of the demand for "green" propylene glycol in the country. Orlen Południe's contract for the construction of a modern biorefinery at Trzebinia includes a new installation to produce 30,000 tpa of propylene glycol. A consortium of companies comprising Technik Polska and Biproraf is responsible for the construction of the biorefinery which is expected to be completed by the end of 2021. The new investment represents the first installation in Poland for the production of organic propylene glycol.

Polish Chemical Production (unit-kilo tons)		
Product	Jan-Apr 19	Jan-Apr 18
Caustic Soda Liquid	111.8	95.7
Caustic Soda Solid	17.7	58.9
Ethylene	179.7	135.7
Propylene	142.6	127.8
Butadiene	22.2	14.7
Toluene	4.3	299.4
Phenol	16.8	16.1
Caprolactam	59.0	58.2
Acetic Acid	2.5	6.6
Polyethylene	133.1	134.9
Polystyrene	22.2	21.7
EPS	33.9	19.7
PVC	94.9	95.4
Polypropylene	116.3	98.7
Synthetic Rubber	95.3	92.6
Ammonia (Gaseous)	946.0	953.0
Ammonia (Liquid)	34.6	53.2
Pesticides	16.8	18.4
Nitric Acid	844.0	834.0
Nitrogen Fertilisers	758.0	705.0
Phosphate Fertilisers	168.7	138.5
Potassium Fertilisers	148.7	134.7

Its production will enable the use of glycerine produced in Trzebinia, which is obtained in the production of biodiesel from the raw material, which is mainly rapeseed oil. Demand for propylene glycol is assessed as rising in Poland. One of the main consumers is Boryszew ERG which uses propylene glycol, enriched with an innovative package of corrosion inhibitors, dedicated to metals and stopping in the construction of aircraft and accessories changing rheological properties, i.e. thickeners and surfactants.

#### MOL, hydrogen & rubber-bitumen investments

MOL has signed a memorandum of understanding with Slovakian company InoBat for the development of hydrogen energy projects in Central and East Europe. The partners plan to invest in projects to source and supply hydrogen as well as in developing and testing hydrogen-rich liquid fuel, with the establishment of a production plant including a fuel recycling facility.

The foundation stone of a new rubber bitumen plant has been laid at Zalaegerszeg in western Hungary in the area of the Zala Refinery. MOL is providing around 75% of the Ft 3 billion investment from its own resources, and 25% is financed through the Hungarian government's Enterprise Investment Support Programme. The rubber bitumen plant is expected to start production next year, with a capacity of 20 000 tpa. MOL's rubber bitumen can be used to build more durable asphalt roads with higher load capacity and less maintenance costs.

Polish PTA Exports (unit-kilo tons)		
Country	Q1 2019	Q1 2018
Belarus	6.8	4.2
Lithuania	1.0	0.0
Germany	87.6	80.0
Others	1.8	2.0
Total	62.8	54.5

PKN Orlen is working on a new method of recovery of metal ions from wastewater generated in the PTA production process. The PTA plant at Wloclawek possesses a production capacity of 600,000 tpa and was opened in 2011.

Polish Methanol Imports (Q1 2019)		
Country	Ktons	€ million
Belarus	2.5	0.8
Lithuania	1.8	0.6
Germany	2.1	0.7
Russia	96.7	27.2
Slovakia	1.0	0.4
Venezuela	10.8	3.0
Others	0.1	0.1
Total	115.0	32.8

Czech Petrochemical Exports (unit-kilo tons)		
Product	Jan-Apr 19	Jan-Apr 18
Ethylene	34.4	32.0
Propylene	1.9	7.4
Butadiene	2.0	0.2
Benzene	24.2	10.4
Toluene	5.0	5.9
Ethylbenzene	53.5	46.9

12,800 tons in the first four months in 2019 against 17,800 tons in January to April 2018. Benzene imports

Czech Petrochemical Imports (unit-kilo tons)		
Product	Jan-Apr 19	Jan-Apr 18
Ethylene	1.2	0.2
Propylene	12.8	17.6
Butadiene	8.6	11.1
Benzene	31.0	29.1
Ethylbenzene	0.0	1.1
Styrene	9.2	3.3

Czech MDI Imports (unit-kilo tons)		
Country	Jan-Apr 19	Jan-Apr 18
China	0.3	0.7
Belgium	2.3	1.5
Germany	3.4	2.3
Italy	0.1	0.0
Hungary	1.7	3.1
Netherlands	0.3	0.4
Others	0.2	1.7
Total	8.2	9.6

the organic and silicate segments the improved results were influenced by development activities carried out during the last year including the takeover of the Spanish company Proplan.

### Polish PTA exports, Jan-Mar 2019

Polish PTA exports totalled 98,060 tons in the first quarter this year against 85,900 tons in the same period in 2018. Exports to Germany in the first three months amounted to 87,600 tons against 80,000 tons followed by Belarus with 6,800 tons and Lithuania with 992 tons. PTA export revenues totalled €74.080 million in the first quarter this year.

PKN Orlen is working on a new method of recovery of metal ions from wastewater generated in the PTA production process. The PTA plant at Wloclawek possesses a production capacity of 600,000 tpa and was opened in 2011.

### Polish methanol imports, Jan-Mar 2019

Polish methanol imports totalled 115,000 tons in the first quarter this year, down by 10% against the same period last year. Costs for the first quarter amounted to €32.8 million. Russia supplied 96,700 tons for €27.2 million, followed by Venezuela with 10,800 tons for €3 million.

### Czech petrochemical exports, Jan-Apr 2019

Ethylene exports from Unipetrol totalled 34,400 tons in the first four months in 2019 against 32,000 tons in the same period in 2018. Propylene exports from Unipetrol dropped to 1,900 tons from 7,400 tons, whilst ethylbenzene exports from the Czech Republic totalled 46,900 tons against 53,500 tons. In other product areas, exports of phthalic anhydride from the Czech Republic totalled 5,085 tons in the first four months in 2019 against 6,000 tons in the same period in 2018. Exports of DINP amounted to 13,643 tons versus 13,575 tons.

### Czech petrochemical imports, Jan-Apr 2019

Propylene imports into the Czech Republic totalled 12,800 tons in the first four months in 2019 against 17,800 tons in January to April 2018. Benzene imports into the Czech Republic rose to 31,000 tons in the first four months in 2019 from 29,100 tons in the same period in 2018. Almost all of the benzene imported into the Czech Republic was supplied from Poland.

TDI imports into the Czech Republic totalled 3,100 tons in the first four months in 2019 against 5,000 tons in January to April 2018. MDI imports also dropped from 9,600 tons to 8,200 tons. Methanol imports totalled 27,415 tons in 2019 versus 30,423 tons.

### Ciech Soda-sodium bicarbonate production starts in Germany

Ciech has started a new production line sodium bicarbonate in Germany, which will help the company to enter the new pharmaceutical market. Sodium bicarbonate for the pharmaceutical industry requires high quality requirements and is also a high-margin commodity. This project is part of the Ciech Group's strategy which aims to develop more value-added production and to create an effective chemical holding.

In the first quarter the Ciech Group benefited from a better economic situation on the European soda ash market than last year, whilst in



## RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	Jan-Apr 19	Jan-Apr 18
Caustic Soda	428.0	425.7
Soda Ash	1,135.0	1,185.0
Ethylene	1,055.8	1,027.0
Propylene	832.1	805.1
Benzene	486.4	505.1
Xylenes	206.5	215.1
Styrene	259.2	242.7
Phenol	77.8	64.2
Ammonia	6,300.0	6,200.0
Nitrogen Fertilisers	4,048.0	3,763.0
Phosphate Fertilisers	1,401.0	1,376.0
Potash Fertilisers	2,860.0	2,844.0
Plastics in Bulk	2,784.0	2,745.0
Polyethylene	759.0	741.0
Polystyrene	179.4	180.2
PVC	356.9	336.4
Polypropylene	494.1	532.0
Polyamide	52.7	57.3
Synthetic Rubber	532.0	571.0
Synthetic Fibres	54.7	55.3

### Russian chemical production Jan-Apr 2019

Russia's output of chemical products rose by 3.3% in the first four months of 2019 over the same period in 2018. Russian fertiliser plants increased production in January-April 2019 by 5% to 8.306 million tons. Ethylene production rose from 1.027 million tons to 1.056 million tons, whilst propylene production rose from 805,100 tons to 832,100 tons.

Caustic soda production in April amounted to 103,000 tons (100% of the basic substance) versus 114,000 tons in March. Imports of caustic totalled about 428,000 tons in the first four months of 2019, compared to 425,700 tons in the same period in 2018.

Benzene production amounted to 486,400 tons in the first four months of 2019, down by 2% from the same period. Production of polymers dropped 5.5% or 705,000 tons to 2.784 million tons.

### Russian chemical trade, Q1 2019

The following table illustrates the export and import flows of Russian chemical industry products for the first quarter in 2019. Exports totalled 12.654 million tons against imports of 3.631 million tons, but in value terms the positions were reversed with exports valued at \$5.677 billion and imports valued at \$10.079 billion. Due to the orientation towards commodity chemicals, average prices for Russian exports amounted to \$456 per ton in the first quarter this year whilst Russian import costs averaged at \$2775 per ton.

Russian Chemical Trade Q1 2019				
(unit-kilo tons)				
Category Group	Exports ktons	Exports \$ mil	Imports ktons	Imports \$ mil
Inorganic	1933.0	929.0	1428.0	950.0
Organic	1449.0	836.0	376.0	1060.0
Pharmaceuticals	8.6	168.0	36.4	2440.0
Fertilisers	7363.0	1920.0	57.2	34.8
Cosmetics	35.4	170.0	84.3	765.0
Soap and detergents	97.7	98.4	129.0	343.0
Paints & lacquers	53.5	63.1	118.0	390.0
Protein substances, enzymes	6.6	9.8	54.8	147.0
Explosives	25.5	17.7	1.1	4.9
Photo chemicals	0.1	2.6	4.2	61.1
Other Chemicals	184.0	201.0	294.0	834.0
Plastics	1142.0	632.0	804.0	2080.0
Syn & Nat Rubber	356.0	720.0	244.0	969.0
Total	12654.4	5767.6	3631.0	10078.8

\$2.440 billion in the first quarter against \$0.168 billion of exports. The only sector where Russia shows a surplus in value is fertilisers.

Russian organic chemical exports totalled 1.449 million tons in the first quarter in 2019 versus imports of 376,000 tons. Revenues from exports totalled \$836 million, whilst revenues from imports amounted to \$1060 million. Average prices for Russian exports of organic chemicals amounted to \$576 per ton in the first quarter this year whilst Russian import costs averaged at \$2819 per ton. Although belonging to the same category group of organic chemicals, the commodity exports from Russia are generally much lower in value than the imports into the country where there are often no domestic alternatives. The development of new production facilities in Russia may be seen in some context as import substitution, which is the government's mantra and business guideline, this is not the primary concern for Russian producers.

## Russian Petrochemical Project & Company Performance

### Gazprom-olefin investments in Bashkortostan

Gazprom is assessing development plans for a natural gas processing and petrochemical complex in Bashkortostan with the subsequent production of olefins and polyolefins at more than 300 billion roubles.

Gazprom Bashkortostan Proposals	
Product	Annual capacity
Gas processing plant	2.5 million cubic metres
Polyethylene	416,000 tons
Polypropylene	617,000 tons

According to the feasibility study of the project, the capacity of the gas processing complex, which is planned to be constructed at the base of Gazprom neftekhim Salavat could be designed at 2.5 billion cubic metres of gas per annum, for polyethylene and polypropylene 416,000 tpa and 617,000 tpa respectively.

In 2018, Gazprom neftekhim Salavat and the Chinese company Wison Engineering started examining prospects for a new project for the production of olefins and polyolefins at Salavat. The Chinese company is ready to provide technical support to the project at the pre-FEED stage, to participate in the design of the complex, the selection of technology, the development of the basic project and the economic rationale for investments, and to interact with the design institute of Gazprom neftekhim Salavat. Subsequently, the Chinese side stated that it presented the GNS technology for producing olefins from methanol (MTO).

### Amur Gas Processing Plant, June update

Regarding construction at the Amur Gas Processing Plant (GPP) at Svobodny in the Amur Oblast equipment has been installed on cryogenic installations for ethane and NGL separation, nitrogen removal and nitrogen-helium mixture. The progress of work at the construction site of the Amur Gas Processing Plant had achieved 35% of the schedule by the end of May 2019. The construction of the Amur GPP is being undertaken 15 kilometres from Svobodny in the Amur Region, on the banks of the Zeya River.

Amur GPP-Petrochemical Feedstock Capacities
<ul style="list-style-type: none"> <li>LPGs-1.6 million tpa</li> </ul>
<ul style="list-style-type: none"> <li>Ethane-2.6 million tpa</li> </ul>

The first stage of the plant (two technological lines) is scheduled to be commissioned by April 2021, and plant is expected to reach its design capacity by the start of 2025. The complex includes capacities of up to 2.6 million tpa of ethane, 1.6 million tpa of liquefied hydrocarbon gases, up to 60 million cubic metres of helium and up to 38 billion cubic metres of marketable gas.



The logistics of the construction and installation process include movement of equipment along the Zeya and Amur rivers after being delivered through the Russian pacific ports and also using the river port of the Chinese city Heihe which borders Blagoveshchensk in the Amur Oblast.

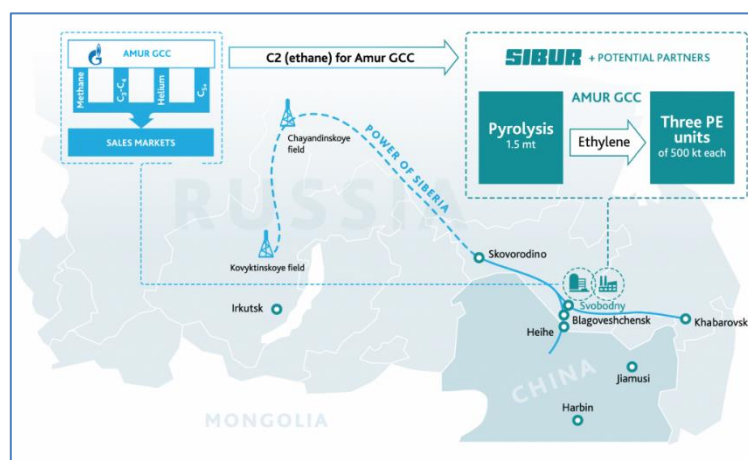
The procedure for supplying equipment to the Svobodny is of significance to the Amur Gas Chemical Plant project which can use many of the same routes if the project receives the go-ahead later this year. Currently a floating crane with a lifting capacity of 500 tons is being installed in the Heihe river port in order to transport bulky cargo, including equipment for the gas processing plant, and to

increase the cargo turnover between China and Russia. Regarding gas supply, Gazprom plans to begin production at its Chayanda gas field in Yakutia by 15 July and may be able to begin delivering gas from the field to the Power of Siberia gas pipeline August.

### Amur Gas Chemical Complex, 40% offered to Sinopec in jv with SIBUR

SIBUR and China Petroleum & Chemical Corporation (Sinopec) agreed in June 2019 on the main conditions for the creation of a joint venture for the Amur Gas Chemical Complex, although the project is yet to receive the go-ahead. Certain provisions of the agreement are binding but provides for a delayed entry into force of the agreements. The joint venture will be created only if SIBUR decides to make the final investment decision

on the gas chemical complex construction project. Under this scenario, Sinopec will receive 40% in the joint venture and thus would provide a foothold into the Chinese market for the products coming from the complex. The cost of the Amur Gas Chemical Complex (AGCC) is tentatively estimated at about \$7.7 billion, which is lower than the ZapSibNeftekhim complex at Tobolsk where SIBUR has been the sole investor.



SIBUR is designing two versions of the AGCC, including an expanded one with additional raw material base in the form of LPG and the initial version with ethane. SIBUR is negotiating with Gazprom on the possibility of increasing the supply of liquefied petroleum gas from the Amur GPP.

SIBUR intends to decide on which of the scenarios would be optimal for AGCC, and a decision could be given in the third quarter. Project calculations depend to some extent

on the situation regarding the excise tax on liquefied petroleum gas (LPG).

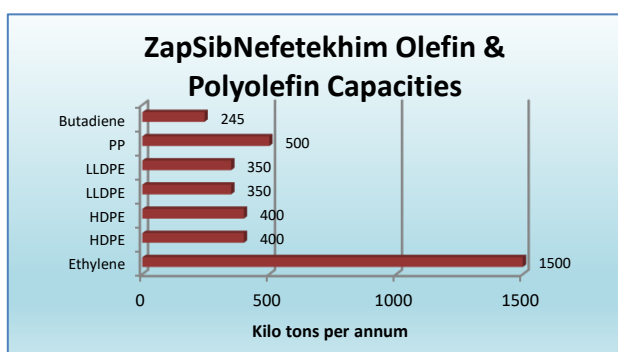
### SIBUR has completed the construction of ZapSibNeftekhim

SIBUR reports that it has completed the construction of ZapSibNeftekhim at Tobolsk and the olefin and polyolefin complex is currently being commissioned. Full start-up is projected for the third and fourth quarters this year. The ZapSibNeftekhim project involves

#### SIBUR-Sinopec polyethylene agreement

SIBUR International GmbH (the export division of SIBUR) and Sinopec Chemical Commercial Holding have concluded an agreement on the distribution of polyethylene in China, which will be produced at the ZapSibNeftekhim petrochemical complex.

the construction of a pyrolysis unit with a capacity of 1.5 million tpa of ethylene, 500,000 tpa of propylene and 100,000 tpa of butane-butylene fraction. Polyolefin plants, with an aggregate capacity of 2 million tpa, will concentrate on the production of various grades of polyethylene and polypropylene. Investments in ZapSibNeftekhim announced in the amount of up to \$9.5 billion.

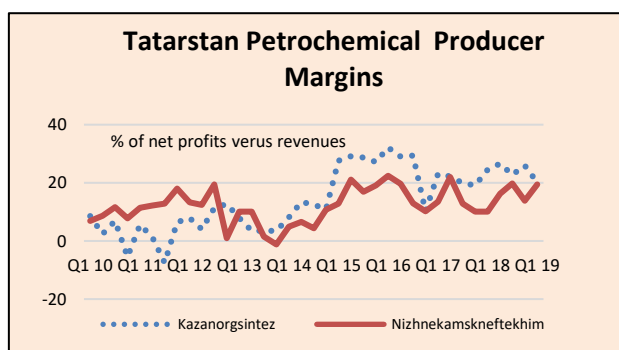


Under the contract with Technip, a credit line of €412 million was attracted from a consortium of European banks under the guarantee of the French export credit agency Coface. In addition, SIBUR raised \$160 million for the ZapSibNeftekhim project from a credit line opened by Vnesheconombank. The total amount of possible financing is \$400 million. The company also opened a credit line of €1.676 billion at a consortium of German and international banks led by Deutsche Bank for installations, for which Linde and ThyssenKrupp

Industrial Solutions are responsible.

### Nizhnekamskneftekhim, Q1 2019

Nizhnekamskneftekhim increased its revenue by 10% in the first quarter in 2019 to 45.7 billion roubles. At the same time, the cost of sales stayed around the same at 31.82 billion roubles. As a result, gross profit increased by 41% to 13.87 billion roubles and the net profit amounted to 8.9 billion roubles against 4.2 billion roubles. Whilst Nizhnekamskneftekhim produces large quantities of plastics and organic chemicals, the synthetic rubber division remains the most important source of revenues for the company. The investment strategy of the company involves the increase in capacity for synthetic rubber production combined with improving the overall position on raw materials. The largest investment includes the construction of new capacity for olefins and polyolefins, which is just stating, and the implementation of measures connected with the energy saving programme and the environmental programme.



### Kazanorgsintez Q1 2019

Kazanorgsintez increased sales of LDPE by 4.7% in the first quarter to 4.3 billion roubles whilst revenues from the sale of HDPE increased by 10.9% to 10.7 billion roubles. Revenues for Kazanorgsintez from the sale of polycarbonates for the first quarter of 2019 decreased by 30% due to lower prices. This contrasts with the 30.8% rise in revenues for polycarbonate sales in the whole of 2018. HDPE revenues rose 12.8% in 2018 over 2017.

Revenues from total sales amounted to 19.915 billion roubles in 2019 against 19.957 billion in the same period in 2018. The company's net profit fell by 16.6% to 4 billion roubles due to increased production costs. Exports in the first quarter increased for Kazanorgsintez by 18.3% by 4.4 billion roubles, meaning that exports as a share of total sales increased by 3% up to 22%.

In 2019, ethylene production facilities are being reconstructed at Kazanorgsintez with the aim of increasing the capacity and allowing the replacement of ethane with propane at the ethylene plant. Other ongoing projects include modernising the production facilities for cumene and the phenol fine, together with bisphenol A. and establishing warehouses for the storage of propylene and butylene-butadiene fraction. Last year, Kazanorgsintez completed the construction of four pyrolysis furnaces at the ethylene plant and replaced obsolete furnaces which may help the company to become more mobile in terms of raw materials.

Russian Ethylene Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Angarsk Polymer Plant	74.1	76.8
Kazanorgsintez	217.0	204.2
Stavrolen	109.6	112.1
Nizhnekamskneftekhim	216.2	212.0
Novokuibyshevsk Petrochemical	22.8	17.7
Gazprom n Salavat	126.3	126.4
SIBUR-Kstovo	136.8	126.3
SIBUR-Khimprom	18.2	17.0
Tomskneftekhim	91.6	95.1
Ufaorgsintez	41.5	42.1
Total	1054.1	1029.7

### Russian petrochemical production & sales

#### Russian ethylene production, Jan-Apr 2019

Russian ethylene production totalled 1.054 million tons in the first four months in 2019 against 1.030 million tons in the same period in 2017. The major changes took place at Kazan where production rose from 204,200 tons to 217,000 tons, and Nizhnekamskneftekhim where production rose from 212,000 tons to 216,200 tons. These rises helped to reduce the impact of slightly lower production at other plants at Ufa, Tomsk, Budyennovsk and Angarsk. For 2019, ethylene production is forecast to exceed 3 million tons for the first time assuming SIBUR starts its ZapSibNeftekhim complex at Tobolsk in the near future.

From 20 June to August, scheduled maintenance work on the pyrolysis unit will be carried out at the Angarsk Polymer Plant. During this shutdown, the company will not ship benzene, propylene and C4s to the market. Also, the volume of ethylene supplies through the Sayanskhiplast product pipeline will be reduced. The Angarsk Polymer Plant is a subsidiary of Rosneft. The production capacities at Angarsk comprise 300,000 tpa of ethylene, 139,600 tpa of propylene and 120,000 tpa of benzene.

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

Russian Propylene Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Angarsk Polymer Plant	41.1	43.0
Kazanorgsintez	17.2	13.6
Lukoil-NNOS	98.1	95.1
Stavrolen	43.2	45.3
Nizhnekamskneftekhim	109.1	109.3
Novokuibyshevsk	56.5	13.8
Omsk Kaucuk	14.7	21.5
Polyom	61.5	59.7
Gazprom n Salavat	57.0	55.0
SIBUR Kstovo	60.0	55.3
SIBUR-Khimprom	22.6	23.9
Tomskneftekhim	49.1	50.9
SIBUR Tobolsk	137.7	161.8
Ufaorgsintez	64.2	56.9
Total	832.1	805.1

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, Jan-Apr 2019

Russian plants produced 832,100 tons of propylene in the first four months in 2019 versus 805,100 tons in the same period in 2018. SIBUR Tobolsk reduced production from 161,800 tons in January to April 2018 to 137,700 tons in the same period in 2018, whilst SIBUR-Kstovo increased production from 55,300 tons to 60,000 tons.

<b>Russian Propylene Exports (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Lukoil-NNOS	20.0	37.0
SIBUR-Kstovo	6.1	4.6
Stavrolen	5.9	4.7
Total	32.0	46.4

### Russian propylene sales & exports Jan-Apr 2019

Russian propylene exports amounted to 32,000 tons in the first four months in 2019 against 46,400 tons in the same period in 2018. Lukoil-NNOS reduced exports from 37,000 tons in January to April 2018 to 20,000 tons this year, whilst

SIBUR-Kstovo increased exports from 4,600 tons to 6,100 tons. Stavrolen at Budyennovsk exported 5,900 tons against 4,700 tons.

Propylene sales on the Russian domestic market totalled 146,400 tons in the first four months in 2019 versus 146,600 tons in the same period in 2018. Lukoil-NNOS at Kstovo shipped 70,000 tons whilst SIBUR-Kstovo increased sales from 44,500 tons to 46,500 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.

<b>Russian Styrene Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Nizhnekamskneftekhim	98.7	98.9
Angarsk Polymer Plant	13.7	13.3
SIBUR-Khimprom	49.4	38.9
Gazprom n Salavat	81.2	69.0
Plastik, Uzlovaya	16.2	22.5
Total	259.2	242.7

Saratovorgsintez purchased 63,200 tons of propylene in the first four months in 2019 against 64,500 tons in January to April 2018. SIBUR Tobolsk increased merchant purchases to 32,800 tons from 25,800 tons, whilst SIBUR-Khimprom at Perm reduced inward shipments to 21,900 tons from 24,000 tons.

### Russian styrene production & exports Jan-Apr 2019

Russia produced 259,200 tons of styrene in the first four months in 2019 which is 3% more than in the same period in 2018. Gazprom neftekhim Salavat increased styrene production by 9% to 81,200 tons, followed by SIBUR-Khimprom at Perm where production increased from 38,900 tons to 48,400 tons.

<b>Russian Styrene Domestic Sales (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Angarsk Polymer Plant	5.8	4.1
Plastik	0.1	9.0
Gazprom n Salavat	16.0	13.5
SIBUR-Khimprom	15.0	5.9
Nizhnekamskneftekhim	0.5	3.8
Total	37.3	36.3

Styrene sales on the Russian domestic merchant market totalled 48,100 tons in January to April 2019 against 32,300 tons in the same period in 2018, with Gazprom neftekhim Salavat increasing shipments from 13,500 tons to 16,000 tons and SIBUR-Khimprom increasing shipments from 5,900 tons to 15,000 tons. SIBUR-Khimprom uses styrene for the production of expandable polystyrene. Main Russian consumers for merchant styrene include Styrovit and rubber producers such as Voronezhskintezkaucuk.

Khimprom increasing shipments from 5,900 tons to 15,000 tons.

<b>Russian Styrene Exports (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Angarsk Polymer Plant	5.4	0.0
Plastik Uzlovaya	0.0	1.6
Gazprom neftekhim Salavat	42.2	31.9
SIBUR-Khimprom	0.5	0.0
Total	48.1	33.5

### Russian styrene exports, Jan-Apr 2019

Styrene exports from Russia increased to 48,100 tons in the first four months in 2019 against 33,500 tons in the same period in 2018. Gazprom neftekhim Salavat shipped 42,200 tons in the first four months against

31,900 tons, whilst Angarsk Polymer Plant shipped 5,400 tons this year against no activity last year. The main destination for styrene exported from Salavat is Finland, followed by Norway and Turkey. The increase in production at Salavat in the first four months this year enabled a rise in both exports and domestic sales.

## Bulk Polymers

## Russian HDPE production, Jan-Apr 2019

Russian producers reduced the production of HDPE by 2% in January-April 2019 to 319,200 tons. Kazanorgsintez increased capacity utilisation by 5.7% in four months of 2019 up to 179,000 tons, whilst Stavrolen reduced production by 3% to 99,500 tons of HDPE. This year Nizhnekamskneftekhim produced exclusively linear polyethylene grades. In 2019, Nizhnekamskneftekhim plans to sell 10,000 tons of a new grade of PE6146KM polyethylene which is used in applications for isolating gas and oil pipelines.

Russian HDPE Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Kazanorgsintez	179.0	172.9
Stavrolen	99.5	101.3
Nizhnekamskneftekhim	0.0	5.0
Gazprom n Salavat	40.7	37.0
Total	319.2	316.2

HDPE imports into Russia amounted to 105,900 tons in the first four months of 2019, whereas a year earlier this figure was 80,800 tons. April imports of HDPE into Russia decreased to 29,200 tons from 32,500 tons in March. This year Uzbekistan has been the largest supplier, shipping 47,200 tons to the Russian market, the largest share of which went to the Rostov and Moscow regions. The second largest supplier in January to April this year was Turkmenistan, which shipped 11,100 tons from its new gas chemical complex at Kiyanly which was

launched last year. Russian HDPE exports totalled 56,600 tons in the first four months in 2019, of which the main destinations included Kazakhstan, Belarus and China.

## Russian polypropylene production, Jan-Apr 2019

Russian polypropylene production dropped by 4.5% in January-April 2019 against the same period last year to 474,000 tons. The production of propylene polymer in April amounted to 128,000 tons against 133,300 tons in March. In January-April, 157,100 tons of polypropylene was produced at SIBUR Tobolsk which is 9% less than last year.

Russian Polypropylene Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Ufaorgsintez	44.8	44.9
Stavrolen	33.8	41.0
Neftekhimya	48.7	45.2
Nizhnekamskneftekhim	68.8	69.6
Polyom	71.5	73.2
Tomskneftekhim	49.4	49.0
SIBUR Tobolsk	157.1	173.3
Total	474.1	496.2

Polyom reduced the production of polypropylene by 2% to 71,500 tons and Nizhnekamskneftekhim produced 68,800 tons of polypropylene against 69,900 tons in January to April 2018. Tomskneftekhim and Ufaorgsintez produced 49,400 and 44,800 tons of polypropylene respectively. Stavrolen produced 33,800 tons of polypropylene, which is 17,600 tons less than in

January to April 2018 whilst Moscow based Neftekhimya increased production by 8% to 48,700 tons. Nizhnekamskneftekhim is working on new copolymers of propylene with butene and ternary copolymers, as well as the development of new injection moulding polypropylene grades.

Russian PVC Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Mar 18
Bashkir Soda	91. 1	89.1
Kaustik	21. 5	31. 4
RusVinyl	115.9	105.5
Sayanskkhimplast	108.0	96.2
Total	336.5	322.2

Russian exports of polypropylene totalled 67,200 tons in the first four months in 2019 against imports of 69,900 tons. SIBUR accounted for around 40% of exports from its SIBUR-Tobolsk plant. Import costs amounted to \$116 million against export revenues of \$87 million.

## Russian PVC, Jan-Apr 2019

In the first four months of the year, 343,400 tons of PVC were produced in Russia which was 7% up on the same period in 2018. RusVinyl produced 116,100 tons of PVC in the first four

months, which is 10% higher than in the same period in 2018. In April, the plant produced 26,700 tons of resin, of which 2,500 tons were emulsion brands.

Sayanskkhimplast produced 108,000 tons of PVC in the first four months against 96,200 tons in 2018. In April, the company produced 27,200 tons of resin against 28,000 tons in March. Bashkir Soda increased the production of PVC by 2.2% in the first four months to 91,100 tons. In April, the company produced 22,200 tons of suspension PVC versus 24,500 tons in March. Kaustik at Volgograd produced 28,000 tons

of PVC which is 10.2% lower than in the same period last year. In April, the company produced 6,900 tons of resin, and in March 7,100 tons.

Regarding trade, Russia exported 67,800 tons of PVC in the first four months against imports of 36,900 tons. RusVinyl accounted for around half of the export shipments, whilst half of Russian exports went to India. Germany provided 63% of imports in January to April 2019. Import costs totalled \$43.4 million against export revenues of \$54.3 million.

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### PX-PTA chain

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#### Russian paraxylene production & sales 2018

Russian Paraxylene Production (unit-kilo tons)		
Producer	Q1 19	Q1 18
Gazprom Neft	35.0	44.1
Kirishinefteorgsintez	12.0	8.0
Ufaneftekhimi	28.0	37.0
<b>Total</b>	<b>75.0</b>	<b>89.6</b>

Russian paraxylene production amounted to 75,000 tons in the first quarter in 2019 against 89,600 tons in the same period in 2018. The largest drop was recorded by Gazprom Neft which produced 35,000 tons versus 44,100 tons. Gazprom Neft at the Omsk refinery produced 137,000 tons of paraxylene in 2018 against 138,300 tons in 2017.

Paraxylene sales on the Russian domestic market amounted to 39,700 tons in the first four months in 2019 versus 58,800 tons in the same period in 2018. Ufaneftekhimi reduced sales from 42,100 tons to 39,700 tons in the same period in 2018, whilst Gazprom Neft at Omsk reduced shipments from 16,700 tons to zero tons. Regarding future supply, Taneco 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 Paraxylene Domestic Sales (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Gazprom Neft	0.0	16.7
Ufaneftekhimi	39.7	42.1
<b>Total</b>	<b>39.7</b>	<b>58.8</b>

Russian PTA Imports (unit-kilo tons)		
Country	Jan-Mar 19	Jan-Mar 18
Belgium	8.0	1.6
India	1.0	4.8
China	75.0	26.2
South Korea	18.4	13.1
Poland	0.0	0.0
Thailand	3.0	8.0
<b>Total</b>	<b>105.3</b>	<b>53.7</b>

Paraxylene exports totalled 43,000 tons in the first four months in 2019 against 46,500 tons in the same period last year. The largest rise was seen in deliveries to the Kotka port in Finland at the Oiltanking terminal. Deliveries to Belarus increased from 6,900 tons to 8,200 tons.

#### Russian PTA imports, Jan-Mar 2019

Russian PTA imports totalled 105,300 tons in the first three months in 2019 against 53,700 tons in the same period in 2018. China supplied 75,000 tons in January to March 2019 against 26,200 tons in the same period in 2018, whilst South Korea increased shipments from 13,100 to 18,400 tons. Thailand reduced exports to 3,000 tons from 8,000 tons.

Imports costs for PTA into the Russian market increased to \$93.8 million in the first three months in 2019 against \$40.1 million in the same period in 2018. Russian main importers Alko-Naphtha at Kaliningrad and the Senezh PET plant near Moscow purchased 71,900 tons and 17,400 tons in the first quarter in 2019 respectively.

#### Alko Naphtha MEG imports from Saudi Arabia, Jan-Mar 2019

PET producer Alko-Naphtha at Kaliningrad imported 14,200 tons of MEG in the first quarter against 12,300 tons in the same period in 2018. All MEG imported into Kaliningrad in the past few years has been sourced from Saudi Arabia. In 2018 Alko Naphtha imported 53,400 tons in total against 50,200 tons in the same period in 2018. Kaliningrad's geographical position makes it easier to import MEG, as with many other products, but

as MEG supply has tightened in Russia in the past two years Alko-Naphtha has been forced to purchase more from Saudi Arabia. Exports of MEG from Russia totalled 78,900 tons in 2018 against 125,000 tons in 2017 and 110,000 tons in 2016. In the first quarter in 2019 exports amounted to only 7,600 tons.

Russian Benzene Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Rosneft	48.8	56.4
Gazprom Neft	27.5	41.6
Lukoil	26.1	39.8
Magnitogorsk MK	18.0	18.2
Nizhnekamskneftekhim	95.0	76.9
Novolipetsk MK	3.8	2.6
Gazprom n Salavat	62.5	55.3
Kirishinefteorgsintez	27.8	25.2
Slavneft	21.0	23.3
Severstal	12.5	12.3
Bashneft	30.4	33.3
Ural Steel	3.3	2.6
Uralorgsintez	25.6	28.9
Zapsib	25.9	25.6
SIBUR	26.7	27.9
Total	454.9	469.8

Russian Benzene Consumers (unit-kilo tons)		
Consumer	Jan-Apr 19	Jan-Apr 18
Kuibyshevazot	66.1	77.2
Azot Kemerovo	43.9	50.3
Shchekinoazot	22.3	23.5
Kazanorgsintez	24.0	27.7
Khimprom	0.1	2.2
IS laboratories	0.0	2.5
Omsk Kaucuk	3.5	11.7
Chelyabinsk MK	0.0	2.5
Nizhnekamskneftekhim	0.0	12.5
Novolipetssk	0.6	15.8
Samarorgsintez	17.1	6.8
Zapsib	22.0	15.9
SIBUR-Khimprom	32.9	22.7
Gazprom Neftekhim Salavat	0.0	0.0
Promsintez	2.7	2.4
Tumazi Carbon Plant	0.0	0.2
Ufaorgsintez	4.8	0.0
Uralorgsintez	24.8	12.8
Zavod im Ya M Sverdlova	0.8	0.3
Export	12.9	27.7
Total	278.6	314.6

Russian Caprolactam Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Kuibyshevazot	66.5	71.7
Shchekinoazot	16.5	17.4
SDS Azot	40.4	45.3
Total	123.4	134.3

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.

## Aromatics

### Russian benzene production, Jan-Apr 2019

Benzene production in Russia totalled 454.900 tons in the first four months in 2019 against 469,800 tons in the same period in 2018. Rosneft plants at Angarsk, Ryazan and Novokuibyshevsk reduced production to 46,400 tons versus 54,600 tons in the same period in 2018, whilst the largest individual producer in Russia Nizhnekamskneftekhim increased production from 76,900 tons to 95,000 tons after expansion in 2017. Gazprom neftekhim Salavat also increased production in January to April 2019, rising to 62,500 tons against 55,300 tons in the same period in the previous year.

### Russian benzene market, Jan-Apr 2019

Sales of benzene on the Russian domestic market dropped in the first four months to 278,600 tons from 314,800 tons in the same period last year, the fall due partly to lower caprolactam production. In the second half of May, scheduled repairs at the aromatics complex were completed at Rosneft's Ryazan refinery and the first batch of benzene of 319 tons was shipped on 22 May to Kuibyshevazot. Repair at the Ryazan plant began on 1 April. The Ryazan refinery shipped 10,500 tons to the domestic market in the first four months against 12,900 tons in the same period last year. Other producers reducing deliveries included Stavrolen falling from 16,100 tons to 7,400 tons whilst Gazprom Neft reduced from 40,400 tons to 27,900 tons and Angarsk Polymer Plant reduced from 19,600 tons to 16,800 tons.

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 reduced total purchases of benzene in the first four months in 2019 to 66,100 tons from 77,200 tons in the same period in 2018, whilst other caprolactam producers also reduced shipments. Nizhnekamskneftekhim has been idle on the market to date due its own increased production, whilst SIBUR-Khimprom at Perm increased purchases from 22,700 tons to 32,900 tons.

### Russian caprolactam, Jan-Apr 2019

Russian caprolactam production totalled 123,400 tons in the first four months in 2019 against 134,300 tons in the same period in 2018. Kuibyshevazot reduced caprolactam production from 71,700 tons to 66,500 tons in January to April 2019, whilst increases were also recorded for Azot at Kemerovo and Shchekinoazot. Of the three producers Azot at



Russian Phenol Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Ufaorgsintez	25.3	18.7
Kazanorgsintez	25.7	24.6
Novokuibyshevsk Petrochemical	26.9	20.9
Total	77.8	64.2

Russian Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Novokuibyshevsk Petrochemical	19.6	15.5
Kazanorgsintez	1.6	2.9
Ufaorgsintez	20.2	15.1
Borealis	0.4	0.0
Total	41.7	33.4

the same period in 2018. All three producers increased operating rates. 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.

Kuibyshevazot Sales Revenues by %		
Product	Q1 19	Q1 18
Caprolactam	7.9	9.9
Polyamide	27.2	30.8
Ammonia	13.0	12.7
Urea	7.8	8.0
Ammonium nitrate	12.3	11.9
Others	31.9	26.7
Total	100	100

#### Kuibyshevazot production Q1 2019

Kuibyshevazot increased its net profit by 36% in the first quarter of 2019. The company received revenue in the amount of 14.8 billion roubles, which is 4.6% higher than the same period last year. Gross profit of the company amounted to 3.6 billion roubles, profit from sales increased by 2.7% to 2 billion roubles. Net profit amounted to 1.77 billion roubles. Ammonia production increased by 0.4%, ammonium nitrate by 3.8%, and urea by 4.8%. For ammonium sulphate, caprolactam and polyamide, there was a decrease in output relative to last year, although the production of cord fabric increased by 24%.

In partnership with the Maire Tecnimont Group, Kuibyshevazot continues on the construction of a new urea unit. This year a loan agreement was signed with VEB RF and Gazprombank on a project for the construction of a sulphuric acid and oleum plant with a capacity of 500,000 tpa valued at 6.3 billion roubles. In Germany, Kuibyshevazot intends to launch the production of compounds by the middle of 2020 where investments amount to about €3 million. The enterprise plans to launch an installation for the production of engineering plastics with a capacity of 22,000 tpa. The current production of PA-6 filament yarns is also supported by upgrading existing facilities in accordance with the growing quality requirements in the field of technical textiles.

### Synthetic Rubber

#### Russian rubber market Q1 2019

Russian rubber consumption in the domestic market fell in the first quarter in 2019 to 189,100 tons from 216,500 tons in the same period in 2018. Production of synthetic rubber fell by roughly the same amount, although both exports and imports (including natural and synthetic) increased.

Russian Synthetic & Natural Rubber Market (unit-kilo tons)		
	Jan-Mar 19	Jan-Mar 18
Production	408.0	435.0
Exports	270.8	266.0
Imports	51.9	47.5
Supply/Demand Balance	189.1	216.5

The main reason for the fall in consumption was the fall in tyre production where car tyre manufacturing reduced usage from 107,100 tons in January to March 2018 to 91,800 tons. All sectors of tyre manufacture, including

car, lorry and agricultural recorded falls in output volume in the first quarter in 2019.

### Russian synthetic rubber exports, Jan-Mar 2019

Export volumes for Russian synthetic rubber in the first three months in 2019 totalled 270,800 tons against 266,000 tons in the same period in 2017. Average product prices for synthetic rubber rose in the first three months from \$1603 per ton to \$1618 per ton. By product category, isoprene rubber exports totalled 78,400 tons in January to March 2019 against 73,300 tons. Isoprene rubber prices fell to \$1332 per ton in the first quarter in 2019 from \$1625 in January to March 2018.

Russian Synthetic Rubber Exports (unit-kilo tons)		
Product	Jan-Mar 18	Jan-Mar 19
E-SBR	7.4	13.6
Block	6.6	9.4
SSBR	1.7	3.3
SBR	23.9	22.0
Polybutadiene	62.1	62.3
Butyl Rubber	33.2	33.3
HBR	34.8	37.0
NBR	8.5	10.0
Isoprene	78.4	73.3
Others	14.3	1.8
Total	270.8	266.0

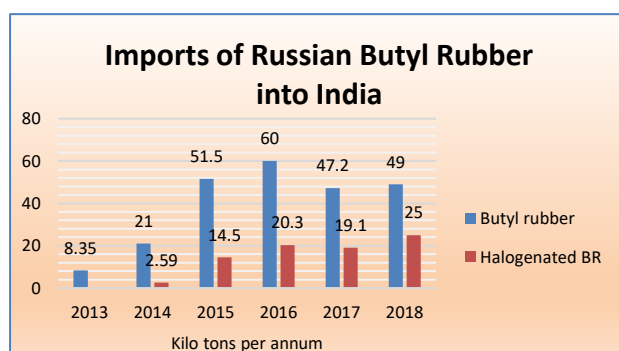
Export sales of butyl rubber from Russia dropped slightly from 33,300 tons to 33,200 tons January to March 2019, whilst exports of halogenated butyl rubber (HBR) dropped to 34,800 tons against 37,000 tons. Export prices of butyl rubber averaged \$1541 per ton in January to March 2019 and for halogenated butyl rubber at \$2480 per ton from \$2109 per ton in the same period in 2018. Regarding export destinations, China was the largest recipient of Russian rubber shipments in the first three months in 2019, accounting for 10.2%, followed by Poland with 10.1% and India with 9.9%. Other leading markets included India, Hungary, Poland, and Mexico.

### SIBUR-Reliance butyl rubber plant start-up

SIBUR and Reliance Industries expect to open the delayed project for butyl rubber at Jamnagar (India) in the near future. The 120,000 tpa butyl rubber plant will include 60,000 tpa of halogenated butyl rubber. SIBUR has 25.1% in the joint venture and Reliance 74.9%.

The first stone of the project was laid in the foundation and thus the project has taken six years to complete.

A license agreement allows the joint venture to use the technology of butyl rubber owned by SIBUR. Furthermore, SIBUR took over the development of the base project of the new complex, Reliance Industries pledged to provide the necessary infrastructure.



rubber plant. Production from the new complex will probably replace most of the Russian exports of butyl rubber and halogenated butyl rubber to India, shown in the graphic above.

### Nizhnekamskneftekhim expansion of rubber production

Nizhnekamskneftekhim continues to work on the expansion of new product grades and modernisation of existing synthetic rubber plants, combined with the construction of new units. Some of the ongoing tasks include the technical re-equipment of the SKD-777 unit and installation of returning metal packaging for synthetic rubbers. Nizhnekamskneftekhim also continues to implement a project to modernize the production of polybutadiene rubber SKDN.

Nizhnekamskneftekhim Rubber Exports (unit-kilo tons)		
Product	Jan-Mar 19	Jan-Mar 18
Isoprene Rubber	60.0	58.5
Butyl Rubber	17.2	19.1
HBR	37.5	35.0
Polybutadiene	47.0	45.6
Total	161.7	158.2

By the end of this year, Nizhnekamskneftekhim intends to begin work on the construction of the production of DSSK rubber with a capacity of 60,000 tpa. The company's plans include the production of five grades of divinyl styrene rubber, which will aim to meet demand from domestic consumers and to produce rubber of the fifth generation.

The investment programme of Nizhnekamskneftekhim also includes a project to increase the capacity for isoprene rubber from 270,000 tpa to 420,000 tpa. For halogenated and butyl rubbers, the company is capable at present of producing 200,000 tpa and wants to increase up to 220,000 tpa by 2021. A programme to increase the production of isoprene rubber SKI-3 to 330,000 tpa would be completed with the launch of isoprene monomer and isobutylene production at the plant.

## Methanol &amp; related products

Russian Methanol Production (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Shchekinoazot	315.4	146.4
Sibmetakhim	321.1	322.8
Metafrax	407.1	404.5
Akron	36.2	35.6
Azot, Novomoskovsk	98.7	93.7
Angarsk Petrochemical	14.5	0.5
Azot, Nevinnomyssk	36.1	30.0
Tomet	282.4	311.8
Ammoni	56.2	73.7
Totals	1567.6	1419.1

## Russian methanol production, Jan-Apr 2019

Methanol production in Russia totalled 1.568 million tons in the first four months in 2019 against 1.419 million tons in same period in 2018. The largest proportional rise was recorded by Shchekinoazot which increased production from 146,400 tons to 321,100 tons whilst Tomet reduced production from 311,800 tons to 282,400 tons.

## Russian methanol sales, Jan-Apr 2019

Demand for methanol on the Russian domestic market dropped in the first four months, with domestic sales totalling 489,700 tons s versus 527,900 tons in the same period in 2018. Ammoni at Mendeleevsk reduced domestic sales from 57,700 tons to 27,000 tons, Azot at

Novomoskovsk increased from 51,200 tons to 60,700 tons and Tomet dropped from 194,100 tons to 140,400 tons. Metafrax reduced shipments from 85,000 tons to 81,300 tons.

Russian Methanol Consumption (unit-kilo tons)		
Consumer	Jan-Apr 19	Jan-Apr 18
Nizhnekamskneftekhim	76.8	87.4
SIBUR Togliatti	59.7	40.9
Uralorgsintez	24.3	21.5
SIBUR-Khimprom	10.7	5.5
SIBUR Tobolsk	10.1	19.3
Ektos-Volga	19.1	13.9
Omsk Kaucuk	27.6	27.4
Novokuibyshevsk NPZ	15.3	14.0
Uralkhimplast	10.5	7.3
Slavneft-Yanos	5.1	3.4
Others	229.0	267.7
Total	488.2	508.3

Nizhnekamskneftekhim remains the largest individual buyer of merchant methanol on the Russian market, purchasing 76,800 tons in the first four months against 67,400 tons in the same period in 2018. SIBUR Togliatti increased purchases from 40,900 tons to 59,700 tons, whilst Uralorgsintez increased inward shipments from 21,500 tons to 24.900 tons. Bashneft has arranged to purchase 20,400 tons of methanol on the domestic market for the Bashneft-Ufaneftekhim branch. The initial value of the contract is 555.397 million roubles, including VAT. The company needs approximately 1,700 tons of methanol per month.

Russian methanol exports totalled 729,000 tons in the first four months in 2019 against 619,000 tons in the same period in 2018. The export logistics of methanol is one of the key problems facing Russian producers and investors. New terminals are under construction and they are located directly on new production facilities.

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Azot Nevinnomyssk	9.4	2.3
Azot Novomoskovsk	60.7	51.2
Metafrax	81.3	85.0
Sibmetakhim	131.9	121.2
Tomet	140.4	194.1
Shchekinoazot	39.1	15.9
Ammoni (Mendeleevsk)	27.0	57.7
Others	0.0	0.5
Total	489.7	527.9

## Metafrax, Q1 2019

Metafrax increased its net profit in the first quarter to 3.002 billion roubles (\$46.111 million) against 2.373 billion roubles (\$36.449 million) in the same period in 2018, despite only a small rise in revenues from 6.121 billion roubles (\$94.019) to 6.459 billion roubles (\$98.749) in the first three months this year. Net profits were allowed to rise due only a marginal rise in production costs.

Exports comprised 42.7% of Metafrax's product sales in the first quarter, with methanol shipped to Poland, Lithuania and Finland, as well as to foreign countries through Finnish seaports. Urotropin in the first quarter of 2019 was shipped by Metafrax to Australia, Germany, Spain, Italy, Korea, etc. The small size of the Russian market for urotropin is overcome by export activity. In the first quarter pentaerythritol was shipped from Gubakha to the markets of the Netherlands, Germany, Korea, Poland, Estonia, and Belarus. The main foreign partners for Metafrax include Metadynea Trading SA (Switzerland), Maritime House (UK).



Metafrax is concentrating on an ambitious investment programme including the AKM complex (ammonia-urea-melamine), whilst at the same time developing its internal processing for methanol. The company's projects include a paraformaldehyde installation with a capacity of 30,000 tpa, whilst also constructing a new plant for the production of formaldehyde with a capacity of 180,000 tpa. These projects are scheduled for completion by 2021.

<b>Metafrax Financial Performance (billion roubles)</b>		
	<b>Q1 19</b>	<b>Q1 18</b>
Revenue	6.459	6.121
Cost of sales	-2.529	-2 480
Gross profit (loss)	3.930	3 641
Net income (loss)	3.002	2.373

### Shchekinoazot methanol tanks

Shchekinoazot signed a contract with the TikhvinChemMash plant (part of the NPK OVK holding) for the supply of 100 tank cars for the transportation of methanol. The tank cars are scheduled for delivery by the end of July this year. Tank car



model 15-6880 has a loading capacity of 73 tons and a boiler volume of 88 cubic metres. The increased net volume of the tank provides an additional load of up to 2 tons per car. Earlier in 2019 Metafrax ordered 100 tank cars for transportation of methanol to add to the existing 400 units. The tank car model 15-6880 has an increased carrying capacity of 73 tons and a boiler capacity of 88 m3.

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.



### Skovorodino methanol project

Saudi investors have shown interest in taking an equity stake in the Skovorodino methanol project in the Amur Oblast where construction is scheduled to start in 2019. Russian state support for the methanol project at Skovorodino already has been allocated at 4.9 billion roubles which will be used for the spending on infrastructure. The Tekhnolizing project claims the status of a resident of TOR Svobodny, which covers the territory of Svobodny and Skovorodino of the Amur Region. In May 2018, Vnesheconombank committed to providing financial support to the Tekhnolizing

complex, estimated at \$900 million. The UST group in which Tekhnolizing belongs has also undertaken negotiations with Chinese partners concerning an off-take contract for methanol from the Skovorodino plant.

### YATEK-Yakutsk methanol project

Yakutia based energy company YATEK has reiterated plans to enter the pre-investment phase of the proposed methanol complex in 2019. YATEK maintains the outlined target for the implementation of a



methanol production project near the regional capital Yakutsk based on its own raw materials. In the second half of 2019, the company could start the FEED preparation phase if other conditions are met. The design capacity of the future complex comprises 5,000 tons of commercial methanol per day or 1.83 million tpa.

Under the terms of the agreement, Haldor Topsoe will provide a license for the production of methanol from natural gas, perform basic design, and also provide the supply of catalysts and parts

of its own technological equipment development. Investment in the project was estimated at \$1.4 billion. The major question relates to logistics and how would the methanol be distributed to the market.



YATEK supplies gas to the central region of the Republic of Sakha (Yakutia), and the company's share in natural gas production in the republic is about 86%, while the company provides for 100% the needs of all of Yakutsk. The company's natural gas reserves in the C1 and C2 categories are estimated at 203 billion cubic metres, oil and gas condensate at 14 million tons.

### SAFMAR, Tecnimont & methanol project at Ust Luga

Russian group SAFMAR has signed a memorandum of understanding with Maire Tecnimont and Novaya Gavan terminal, which comprises the design and construction of a methanol plant at the port of Ust-Luga. A methanol production plant with a capacity of 5,000 tons per day will be integrated into the Novaya Gavan terminal in the north-eastern part of the Luga Bay of the Kingisepp District of the Leningrad Region with direct access to the Baltic Sea. The total investment cost of the project is tentatively estimated at more than €1 billion. The parties intend to attract funding from international banks with the support of one or several export credit agencies. The commissioning of the plant is scheduled for 2024.



### Vysotsk methanol project

Russian company Gas Sintez plans to build a methanol production plant with a capacity of 1.83 million tpa at the port of Vysotsk (Leningrad Region). At the end of April, Gas Sintez signed a contract with Hyundai Engineering for design, with a contract price was \$12 million. Methanol from the plant is to be exported through Lukoil's petroleum terminal at Vysotsk. Currently, the complex at Vysotsk

includes a capacity of 16 million tpa specializing in the transshipment of diesel fuel, naphtha, fuel oil and vacuum gas oil. In terms of market direction, the Vysotsk project may be seen as competition for the Ust Luga projects.

The 1.83 million tpa plant will be located in the Baltic port of Vysotsk, 875 km northwest of Moscow and close to Vyborg which was part of Finland until 1944. The design contract, which was signed in Moscow in June, is valued at \$12 million. Construction of the methanol plant could start in the third quarter in 2020, after Hyundai finishes its design work for the plant and related infrastructure has been completed.

Russian N-Butanol Production (unit-kilo tons)		
	Jan-Apr 19	Jan-Apr 18
Angarsk Petrochemical	9.7	11.5
Azot, Nevinnomyssk	4.0	3.3
Gazprom n Salavat	22.6	20.8
SIBUR-Khimprom	14.8	14.8
Total	51.1	50.3
Russian Isobutanols Production (unit-kilo tons)		
	Jan-Apr 19	Jan-Apr 18
Angarsk Petrochemical	5.7	6.3
Gazprom n Salavat	14.1	14.2
SIBUR-Khimprom	19.6	16.0
Total	39.3	36.5

Russian Butanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Apr 19	Jan-Apr 18
Gazprom n Salavat	1.6	2.5
SIBUR-Khimprom	8.6	9.1
Angarsk Polymer Plant	6.7	8.1
Azot Nevinnomyssk	0.3	0.0
Others	0.4	4.0
Totals	17.6	23.6

domestic or export markets. Moreover, SIBUR-Khimprom has started maximising the production of 2-

## Organic chemicals

### Russian butanol production, Jan-Apr 2019

Russian normal butanol production amounted to 51,100 tons in the first four months in 2019, versus 50,300 tons in the same period in 2018 whilst isobutanol production rose from 36,300 tons to 39,500 tons.

SIBUR-Khimprom at Perm increased the production of isobutanol from 16,000 tons in January to April 2018 to 19,600 tons in 2019 whilst Gazprom neftekhim Salavat produced 14,100 tons versus 14,200 tons. The Salavat plant also increased production of normal butanol from 20,800 tons to 22,600 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

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 now up and running.

<b>Russian Butanol Consumption (unit-kilo tons)</b>		
<b>Consumer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Akrilat	5.8	5.6
Dmitrievsky Chemical	5.7	6.6
Volzhskiy Orgsintez	3.1	2.4
Roshalsky Plant of Plasticizers	0.0	0.0
Others	3.0	9.1
<b>Total</b>	<b>17.6</b>	<b>23.6</b>

supply was 86%, and isobutanol 14%.

Akrilat at Dzerzhinsk remained the largest consumer of butanols on the domestic market, taking 5,800 versus 5,600 tons in January to April 2018, whilst Dmitrievsky Chemical reduced inward shipments from 6,600 tons to 5,700 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

<b>Russian Phthalic Anhydride Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Apr 19</b>	<b>Jan-Apr 18</b>
Gazprom n Salavat	5.0	4.2
Kamteks	29.1	31.2
<b>Total</b>	<b>34.2</b>	<b>35.4</b>

<b>Russian &amp; Eurasian Organic Chemical Exports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Mar 19</b>	<b>Jan-Mar 18</b>
N-butanol	6.1	7.9
Iso-butanol	5.8	10.1
2-EH	2.3	6.6
Pentaerythritol	2.6	3.6
Phenol	2.2	7.9
Ethylene Oxide	3.7	3.7
Formaldehyde	3.3	4.7
DEG	3.4	4.0
MEG	4.5	4.8
Acetone	5.9	9.3
Acetic Acid	16.1	12.2
VAM	10.4	6.9
Butyl Acetate	6.5	5.2
Acrylic Acid	4.7	7.1
Butyl Acrylate	16.0	12.2
Phthalic Anhydride	22.0	18.0

where they are heated to a temperature of +215 degrees. The resulting plasticizer is used for the production of linoleum, cable, roofing, wallpaper, toys, etc. The main difference from the previous plasticizers is its environmental friendliness which does not have the impact on human health and the environment associated with phthalic based plasticisers. The project was implemented in partnership with the Perm Krai as part of a special investment contract signed for a period of eight years. The technology is licensed by the Korean company Aekyung. Russian company NIPIGAZ acted as the general designer.

The production of DOTP plasticizer with a capacity of 100,000 tpa will not only satisfy the demand of the Russian market, whose shortage of plasticizers is about 60,000 tpa but will also contribute to the growth of non-oil non-energy exports to Europe and other areas. The product will mainly be exported in the short to

### Russian butanol sales, Jan-Apr 2019

Gazprom neftekhim Salavat began scheduled stopping repair in the production of oxo alcohols in late May, lasting for a month and which may affect market availability.

Russian sales of butanols on the domestic merchant market amounted to 17,600 tons in the first four months in 2019 against 23,600 tons in the same period in 2018. The share of n-butanol in the total

consumption and internal processing.

### Russian phthalic anhydride production Jan-Apr 2019

Russian production of phthalic anhydride amounted to 99,900 tons in the period January to April 2019 against 35,400 tons in the same period in 2018. Kamteks-Khimprom produced 29,100 tons against 31,200 tons whilst Gazprom neftekhim Salavat increased production from 4,200 tons to 5,000 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 DOTP plant, which is phthalate based rather than phthalic. Exports of phthalic anhydride amounted to 19,900 tons in the first four months in 2019 against 21,600 tons in January to April 2018.

### SIBUR launched the production of DOTP plasticizer at the site in Perm

SIBUR-Khimprom officially opened its new DOTP plant on 22 May, although production has been running for a few weeks. The plant capacity of 100,000 tpa required investments of 6.9 billion roubles. The process consists predominantly mixing 2-ethylhexanol and terephthalic

medium term, as Russia will need some time for homologation and to persuade consumers to switch from DOP or DINP phthalate plasticizers to DOTP.

The next stage in the development of specialty chemistry at SIBUR-Khimprom following the DOTP plant

Russian Organic Chemical Imports (unit-kilo tons)		
Product	Jan-Mar 19	Jan-Mar 18
Ethylene glycol	14.5	12.5
Propylene glycol	5.1	7.0
Acetic Acid	12.6	11.2
Isopropanol	3.1	5.1
Maleic anhydride	1.1	1.6
DINP	7.0	5.7
DOP	0.6	3.4
Phthalic anhydride	2.9	4.7
PTA	106.0	53.7
TDI	11.0	12.2
Lysine	13.5	18.7

imports dropped to 600 tons from 3,400 tons in the first quarter last year, and demand for this product will continue to decline.

#### Metafrax-pentaerythritol expansion

SverdNIIkhim mash (part of Rosatom's engineering division Atomenergomash) has contracted Metafrax for the manufacture and supply of non-standardized equipment for the production of pentaerythritol. The installation of purification of the secondary stock solution will be part of an additional technological line for the production of pentaerythritol. In accordance with the contract, the bulk of the equipment must be delivered to the customer in 2019. The equipment is intended to obtain an additional volume of pentaerythritol by the extraction method from the secondary stock solution. The scope of supply includes an extractor, heat exchangers, tanks, evaporators, condensers and other process equipment.

Russian TDI Imports (unit-kilo tons)		
Country	Q1 19	Q1 18
Hungary	2.7	2.6
Germany	2.7	4.9
China	0.3	0.0
South Korea	0.2	0.6
Lithuania	0.0	0.0
Saudi Arabia	2.0	1.8
UK	0.0	0.1
US	2.3	1.4
Japan	0.5	0.6
Belgium	0.1	0.0
Netherlands	0.1	0.0
France	0.0	0.1
Iran	0.0	0.1
Total	10.9	12.2

where a series of both planned and unplanned outages in Europe and Asia left the

consists of new plant for special plasticizers with a capacity of 25,000 tpa. This product is intended for the markets in waterproofing membranes, flooring and in other fields of application. Deliveries are expected to be carried out in the domestic and export markets.

#### Russian organic chemical trade, Jan-Mar 2019

Butanol exports from Russia dropped in the first quarter this year to 11,900 tons from 18,000 tons in the same period in 2018. Normal butanol export shipments dropped from 7,900 tons to 6,100 tons and isobutanol shipments fell from 10,100 tons to 5,800 tons. 2-EH exports dropped from 6,600 tons to 2,300 tons. Pentaerythritol exports from Russia dropped from 3,600 tons to 2,540 tons. DOP

#### SIBUR maleic anhydride project-Tobolsk

SIBUR is carrying out preparatory work at the site for the maleic anhydride plant at Tobolsk, which is expected to be ready to start construction in the third quarter of 2019. At the current time, 55 workers and 40 units of specialized equipment are involved at the site, and the ground is being developed. In parallel, there is a tender for the implementation of the main volume of construction work.

The Italian company Conser was selected as a licensor for production with a capacity of 45,000 tpa. Commissioning of the installation is scheduled for 2021. NIPGAZ was involved in the development of working documentation. To date, the suppliers of 188 out of 228

units of the main technological equipment are identified. Regarding feedstocks, butane from the gas fractionating plant will be used as a raw material.

Currently, maleic anhydride is not produced in Russia, but imports comprise only around 4,500 tpa which means that the Tobolsk plant would need to export most of the production. The challenges in trade stem from the largest consumers taking maleic in molten form which requires special tankers. Exporting solid (flake or pearls) is easier the global market for non-liquid maleic is quite small.

#### Other products

#### Russian TDI-MDI imports, Jan-Mar 2019

Russia imported 10,900 tons of TDI in the first three months in 2019 against 12,200 tons in the same period. Around 25% of supplies came from Germany, followed by Hungary, the US and Saudi Arabia. The global isocyanates markets have been stable in Q1 and prices are changing direction as we move further into Q2. Compared to 2018,

market very short of supply, this year has seen an over supplied market and ongoing price cuts. However, a shift in direction has taken place since the beginning of Q2.

Production of polyurethanes in Russia in 2018 amounted to 346,000 tons, 3.3% more than in 2017. In 2020, Belgian company Soudal plans to build a production of polyurethane foams in the Bogorodsk industrial park near Moscow. The plant will be built in three stages; Soudal has already invested €20 million in launching the project. The share of imports of polyurethane foam into Russia may be affected by the new unit, where production is expected to start in 2022.

MDI imports into Russia totalled 30,500 tons in the first three months in 2019, against 23,400 tons in the same period in 2018. Most product was delivered to Russia. Saudi Arabia was the largest supplier, providing 8,300 tons against 6,500 tons in the previous year. The Netherlands accounted for 7,000 tons of MDI imports in the first three months in 2019 against 7,100 tons in the same period in 2018.

Russian Imports of MDI (unit-kilo tons)		
Country	Jan-Mar 19	Jan-Mar 18
Hungary	1.8	0.8
Germany	3.6	3.0
China	4.7	2.8
South Korea	0.6	0.0
Lithuania	0.0	0.1
Saudi Arabia	8.3	6.5
Japan	0.5	0.4
Belgium	3.9	2.1
Netherlands	7.0	7.1
Others	0.1	0.5
Total	30.5	23.4

#### **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 (STFG). The STFG currently produces some 4,000 tpa of specialty technical textile yarn, including for the automotive industry.

#### **Redevelopment of Khimprom Volgograd**

On the basis of the former Khimprom site at Volgograd where Khimprom was declared bankrupt in 2013

##### **New industrial gas plant approved for construction at Moglino SEZ in Pskov region**

The Moglino SEZ has approved an investment project for the construction of an air separation plant for the production of liquefied gases. The company Elme Messer Rus plans to build an air separation plant for the production of liquefied technical and medical oxygen, nitrogen and argon. The capacity of the enterprise will be over 90,000 tpa.

new investors have devised project plans, the first of which includes the implementation of the Russian Japanese project to construct a large-scale methanol plant. The start of this project is scheduled for 2023 if questions over finance and logistics can be resolved. The Russian investor is AEON which also wants to launch revive part of the idle Khimprom facilities in the production of ferrosilicon at the calcium carbide workshop. This production could start in 2020. Other chains under review include the possibility of creating a production of polyolefins from

methanol; hydrogen peroxide; PVC and potassium sulphate, 1,4-butanediol, etc.

#### **Khimprom Novocheboksarsk, hydrogen peroxide project restart**

Khimprom at Novocheboksarsk and the Eurasian Development Bank (EDB) signed a loan agreement on the allocation of funding in the amount of 4.5 billion roubles which will be invested in a project for the production of hydrogen peroxide using anthraquinone technology with a capacity of 50,000 tpa. Project documentation has now been approved and contracts are being concluded with equipment suppliers. Production is planned to start in 2022. Khimprom produces hydrogen peroxide currently using isopropyl technology. The company's share in the Russian market (excluding domestic consumption) is about 16%, which it hopes to increase to around 80% after the launch of new production facilities.

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### **Ukraine**

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#### **Ukrainian polymer imports, Jan-Apr 2019**

Imports of propylene polymers totalled 45,000 tons in January-April 2019, compared to 38,600 tons in the same period in 2018. Propylene homopolymers (homopolymer PP) accounted for the main increase in imports, amounting 25,900 tons in the first four months of 2019 versus 27,600 tons. 4,300 tons of PP block copolymers were imported in January to April this year, versus 4,100 tons in 2018, whilst random copolymers dropped from 6,000 tons to 4,100 tons. Imports of other propylene copolymers were about 600 tons over the first four months.



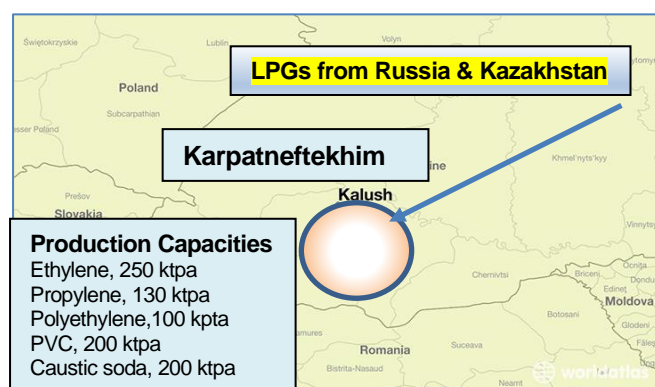
Ukrainian Polymer Imports (unit-kilo tons)		
Product	Jan-Apr 19	Jan-Apr 18
PVC	15.8	25.8
LDPE	26.3	16.3
LLDPE	25.9	11.6
HDPE	33.3	24.0
Ethylene Vinyl Acetate	4.5	3.3
PP	45.0	38.4

Polyethylene imports into Ukraine increased 18% in January to April 2019 to 90,200 tons against 76,500 tons. HDPE imports rose to 33,300 tons from 23,900 tons, LDPE imports rose 8% to 26,300 tons and LLDPE imports amounted to 25,900 tons against 23,700 tons. Imports of other types of polyethylene, including EVA, amounted to 4,500 tons against 4,400 tons in 2018.

Imports of PVC into Ukraine decreased by 44% in the first four months of this year to 15,800 tons. The key suppliers of PVC to the Ukrainian market were producers from Europe, their share in total imports in the first four months of this year was about 65%. PVC exports from the country exceeded 50,100 tons in January-April, compared with about 49,000 tons in the same time in 2018. The key importers of Ukrainian PVC were consumers from India and Turkey, their share in total exports was 58% and 20%.

### Karpatneftekhim feedstock purchases 2019

Russia started a ban of crude oil exports to Ukraine from 1 June, as well as a number of oil products which may affect Karpatneftekhim. The list of banned products includes crude oil, ethylene, propylene, bitumen, butadiene, coke, fuel oil, ethane, butane and isobutane, but excludes gasoline and diesel. Exports of naphtha, gasoline, diesel and LPG will be allowed subject to permission from Russia's economy ministry.



Ukraine's wholesale LPG prices rose about 15% at the start of June after Kazakhstan-based Tengizchevroil (TCO) suspended supplies to the country. TCO, which accounted for 19% of Ukrainian LPG imports in April, suspended supplies on Friday to comply with Russia's ban. TCO delivered 21,500 tons of LPG to Ukraine in April and for the whole of 2018 208,300 tons which comprised 16% of total imports. Other smaller Kazakh companies delivered a total of 48,700 tons of LPG to Ukraine in 2018.

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 via Vitebsk in Belarus. Also, a small supply of liquefied Gas was sent to Karpatneftekhim from the Mazeikiu Orlen Lietuva refinery in Lithuania.

## Belarus

Belarusian Polymer Imports (unit-kilo tons)		
Product	Jan-Mar 19	Jan-Mar 18
PVC	15.0	15.2
Polypropylene	25.3	24.6
LDPE	12.2	16.2
Other Polyethylene	7.8	5.3
HDPE	11.7	15.4
Polystyrene	14.9	13.4

### Belarusian polymer trade, Jan-Mar 2019

Imports of polypropylene into Belarus totalled 25,328 tons in first three months of this year, up 7.1% compared to the same period of 2018. Homopolymer imports rose 10.3% to 24,600 tons compared with 22,900 tons. Russian producers occupy the market with the share of about 86%. Total imports of propylene copolymers in the country reached 7,200 tons in Jan-March 2019, up 0.3%. Imports of PVC into Belarus decreased in the first three months of 2019 by 6.5%, totalling 8,300 tons. 8,800 tons.

Russian producers took a share of about 86% of the Belarusian market. Producers from Ukraine and Germany with the share of 8% and 4% were the second and third largest suppliers.

Exports of polyethylene from Belarus dropped to 21,628 tons in the first quarter from 27,803 tons in the same period last year. LDPE exports amounted to 14,855 tons versus 20,067 tons.

<b>Belarussian Acrylonitrile Exports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Mar 19</b>	<b>Jan-Mar 18</b>
Russia	0.5	0.5
India	0.0	0.6
Netherlands	3.4	0.0
Turkey	7.3	10.0
Total	11.2	12.4

#### Belarussian organic chemical trade, Jan-Mar 2019

Belarussian acrylonitrile exports totalled 11,200 tons in the period January to March 2019 against 12,400 tons in the same period in 2018. The largest destination for Belarussian exports was Turkey, accounting for 7,926 tons versus 9,970 tons in the previous year. Average prices for Belarussian acrylonitrile exports rose to \$1146 per ton in the first

three months this year against \$1601 per ton in the same period in 2018.

<b>Belarussian Methanol Market (unit-kilo tons)</b>		
	<b>Jan-Mar 19</b>	<b>Jan-Mar 18</b>
Production	24.4	23.0
Exports	5.3	3.5
Imports	13.3	12.7
Balance	32.4	32.6

Phthalic anhydride exports from Belarus amounted to 10,645 tons in the first quarter against 12,669 tons in January to March 2018, with average prices dropping from \$899 per ton to \$866 per ton. Belarus exported 3,354 tons of phthalic anhydride to Russia in the first quarter in 2019 versus 4,099 tons in the same period last year. The second largest destination in the first quarter this year was Poland, taking 1,658 tons.

In other areas of chemical trade, methanol export shipments amounted to 5,231 tons in January to March 2019 against 3,529 tons in the same period in 2018. Average methanol export prices amounted to \$326

<b>Belarussian PTA Imports (kilo tons)</b>		
<b>Country</b>	<b>Jan-Mar 19</b>	<b>Jan-Mar 18</b>
Russia	1.0	1.2
Belgium	0.0	0.5
India	0.0	0.0
China	0.0	0.0
South Korea	4.7	5.3
Portugal	3.0	0.0
Poland	5.9	6.0
Turkey	0.0	0.0
Total	14.6	13.0

per ton against \$355 in the first three months last year. Methanol imports into Belarus totalled 13,235 tons in the first three months in 2019, at \$309 per ton, against 16,135 tons in the same period in 2018 at \$318 per ton. Methanol consumption in the first three months totalled 32,400 tons against 32,600 tons in the first three months in 2018.

PTA imports into Belarus in the first three months amounted to 14,600 tons against 13,000 tons in the same period in 2018. Poland and South Korea were the main suppliers. Prices averaged \$946 per ton in the first three months against \$804 in the same period in 2018. Ethylene glycol imports dropped to 17,711 tons from 19,085 tons in the first three months in 2017. Mogilevkhimvolokno purchases Bashkir paraxylene and PTA, and produces polyester

yarns and fibres based on them.

<b>Belarussian MDI Imports (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Mar 19</b>	<b>Jan-Mar 18</b>
Russia	0.4	0.4
Belgium	1.0	0.6
Hungary	0.3	0.7
Germany	1.9	1.0
Saudi Arabia	0.6	0.9
Others	0.0	0.2
Total	4.2	3.7

#### Belarussian MDI imports, Jan-Mar 2019

MDI imports into Belarus totalled 4,224 tons in January to March 2019 at an average price of \$1,582 per ton against 3,655 tons at almost double the price of \$3,029 per ton in the same period in 2018.

Saudi Arabia reduced shipments to Belarus to 595 tons in January to March 2019 against 868 tons, whilst Germany increased shipments to 1,868 tons from 956 tons and Belgium increased to 1,028 tons from 594 tons.

**Relevant Currencies**

Czech crown. Kc. \$1= 22.4. €1 = 25.4; Hungarian Forint. Ft. \$1 = 279.2 €1 = 322.2; Polish zloty. zł. \$1=3.70. €1 =4.28; Ukrainian hryvnia. \$1 = 31. 4€1 = 26.9; Rus rouble. \$1 = 66.3 €1= 76.6

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