

CIREC

MONTHLY NEWS

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

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Issue 336, 19 Nov 2018

Key pointers from this month's issue

Central European petrochemical markets

- Production of monomers for PKN Orlen rose slightly for the first three quarters in 2018, amounting to 676,000 tons from 674,000 tons, whilst polyolefin production at Plock rose to 500,000 tons against 467,000 tons in January to September 2017. Sales of chemicals and polymers for the whole group increased for product categories such as monomers, polymers and aromatics, but fell in fertilisers, plastics and PTA.
- Propylene inward shipments into the Czech Republic rose to 42,289 in the first nine months tons from 33,343 tons in January to September 2017. Propylene imports were sourced mostly from the EU, including Germany, Ukraine, Slovakia and Poland. For other monomers, butadiene imports into the Czech Republic dropped to 26,022 tons in the first nine months in 2018 against 33,538 tons in the same period in 2017, whilst benzene volumes dropped slightly from 59,234 tons to 56,270 tons.

Russian chemical production

- For the period January to September 2018 the production of base chemicals in Russia rose 2.7% over the same period in 2017, with the largest increases recorded for benzene, ammonia and caustic soda. Russian ethylene production rose slightly to 2.230 million tons in the first three quarters in 2018 against 2.143 million tons in the same period last year. Russian butanol production amounted to 188,700 tons in January to September 2018 against 160,100 tons in the same period in 2017. The share of n-butanol in gross production in comprised 58%, and isobutanol 42%. Third quarter production data for main Russian chemical plants can be accessed at the Statistical Database at www.cirec.net.

Russian chemical trade

- Russian propylene exports dropped to 87,600 tons in the first three quarters in 2018, down from 106,600 tons in 2017. The drop was due to increased domestic sales. SIBUR Kstovo reduced exports from 40,500 tons in January to September 2017 to 19,400 tons. The rapid growth of quotations of n-butanol in Asia along with the devaluation of the rouble has helped increase in the volume of exports of Russian butanols in 2018. N-butanol exports rose to 18,900 tons in the first three quarters in 2018 against 12,900 tons in the same period in 2017, whilst isobutanol exports rose from 12,700 tons to 20,300 tons. Russian exports of synthetic rubber increased to 679,000 tons in the first eight months in 2018 against 666,300 tons in the same period in 2017.

Russian chemical projects

- Irkutsk Oil Company (INK) increased its authorised capital in October of its subsidiary Irkutsk Polymers Plant. Gazprom and Sayanskkhimpast have almost completed negotiations on gas condensate supply for ethylene production. Russian reports speculate that ExxonMobil could become a partner of Rosneft in the implementation of the Eastern Petrochemical Company (VNHK) project near Nakhodka in the Primorsky Krai. Shchekinoazot is undergoing preparatory stages for construction of its third methanol plant, which will possess a capacity of 500,000 tpa.

CENTRAL & SOUTH EAST EUROPE

PKN Orlen Chemical Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Monomers	676	674
Polyolefins	500	467
Aromatics	295	293
Fertilisers	847	848
Plastics	300	298
PTA	401	415

PKN Orlen Group Chemical Sales (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Monomers	688	660
Polymers	420	410
Aromatics	293	254
Fertilisers	823	831
Plastics	302	305
PTA	410	415
Other	562	599

PKN Orlen, Jan-Sep 2018

Sales' revenues of the Orlen Group in the third quarter, including upstream, downstream and retail divisions amounted to zł 30,344 million, higher by zł 5,614 million than in the same period last year. This was mainly as a result of increasing prices of major products including ethylene (by 16%) and propylene (by 29%).

Operating costs for the Orlen Group increased by zł 5,543 million to zł 28,102 million which was mainly due to higher crude oil prices which increased material and energy costs by 47% over 2017. The operating profit for the third quarter amounted to zł 2,389 million against zł 2.997 million in the same period last year.

Production of monomers changed slightly for the first three quarters in 2018, rising to 676,000 tons from 674,000 tons, whilst polyolefin production at Plock rose to 500,000 tons against 467,000 tons. Sales of chemicals and polymers for the whole group increased for product categories such as monomers, polymers and aromatics, but fell in fertilisers, plastics and PTA.

Overall for the three quarters in 2018 sales revenues totalled zł 80,286 billion against in 70,630 million in 2017. The downstream divisional revenues rose from zł 55,087 million to zł 65,632 million in January to September 2018. Crude oil was the main driver behind the rise in revenues in the downstream division but as the table opposite illustrates margins for butadiene and benzene have been weak, and only partially compensated by slightly higher margins for propylene. Aside operational activity the Orlen Group received further insurance remuneration for the Litvinov cracker accident in November 2015.

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

analyses was sent to the European Commission for supporting approval for consent for the purchase of Grupa Lotos shares.

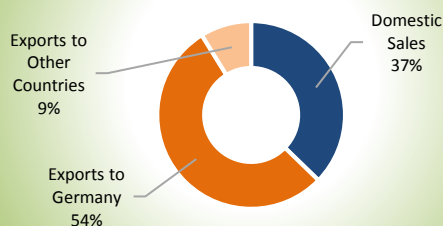
PKN Orlen, petrochemical investment strategy, Q3 2018

PKN Orlen intends to invest its first finance into the Petrochemical Development Programme in 2019; in 2019-2020 investment outlays will amount to between zł 500 million and zł 1 billion. This means that most expenses for this project will be covered in the period 2021-2023, when the construction programme should be underway. Project plans are envisaged broadly to include the new propylene plant based on metathesis, the expansion of the phenol and acetone capacities and increases in ethylene production.

Orlen-Petrochemical Development Programme

- In the first two years of the Petrochemical Development Programme, PKN Orlen intends to spend zł 1-2 billion.
- zł 6.3-7.3 billion in expenditures will be incurred only in the period 2021-2023, when the construction works will be put into action.
- Progress about the preparatory work together with the announcement of the company's strategy will be updated at the end of 2018.

At this stage, PKN Orlen does not expect to require additional external sources of financing of this strategic investment programme, apart from those already available to the company. Orlen has not yet given details of technologies to be used to expand the olefin complex in order to avoid a jump prices of these specific solutions before the call for tenders.

PKN Orlen PTA Sales, Jan-Sep 2018

share of shipments. PTA profits for Orlen were helped in the third quarter by rising paraxylene margins which went to €431 per ton against €362 in the second quarter this year and €384 in the same period in 2017.

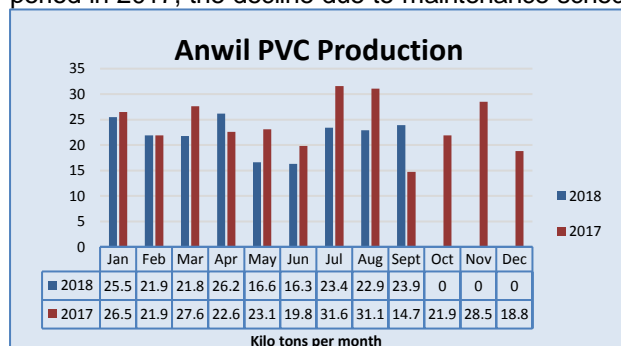
PKN Orlen PTA, Jan-Sep 2018

PKN Orlen recorded PTA revenues of zł 1,189 million (€274.5 million) in the first three quarters in 2018 against zł 1,021 million (€258.9 million) in the same period in 2017. PTA sales totalled 410,000 tons in January to September 2018, down from 415,000 tons.

Average PTA prices per ton rose to €670 in 2018 against €624 in 2017. Exports remain the focus of Orlen's PTA sales, with Germany taking the largest

Anwil-PVC process improvement

Anwil produced 198,500 tons of PVC in the first three quarters in 2018 versus 218,000 tons in the same period in 2017, the decline due to maintenance schedules. In order to reduce the energy consumption of



PVC plant Anwil has placed orders for ABB 250 kW motors and 315 kW inverters, which will replace the existing drive systems of eight mixers used to mix components at one of the key stages of production. PKN Orlen is considering investments with the current strategy of about zł 1 billion in the development of production capacities of the fertiliser production plant at Wloclawek, and also considers strengthening the capital of its strategic petrochemical assets by increasing production capacity of PVC installations.

Unipetrol's Financial Performance (Kc million)

	Jan-Sep 18	Jan-Sep 17
Revenues	35,990	30,904
EBITDA LIFO	2,049	3,412
EBITDA	2,450	2,932
EBIT	1,622	2,239
Net profit	1,280	1,523

Unipetrol, Jan-Sep 2018

Unipetrol recorded a rise in revenues rise by Kc 5 billion in the first three quarters in 2018 to Kc 36 billion. The operating profit before interest, taxes, depreciation and amortization (EBITDA LIFO) reached Kc 2 billion. Net profit amounted to Kc 1.3 billion, down against Kc 1.523 billion in the first three quarters in 2017.

Czech Petrochemical Exports (unit-kilo tons)

Product	Jan-Sep 18	Jan-Sep 17
Ethylene	60.4	48.8
Propylene	16.4	18.1
Benzene	22.5	13.6

new PE3 polyethylene unit, and to cover the scheduled petrochemical plant shutdown at Litvinov. Other investments this year have included Spolana's production unit shutdown at Neratovice, the construction of a new boiler house for the steam cracker unit at Litvinov and to the ongoing modernisation of Benzina filling stations.

Unipetrol's refinery utilisation rate in the first three quarters in 2018 amounted to 92%, whilst the steam cracker was reduced to 61% in the third quarter due to maintenance against 85% in the same period in 2017. Ethylene exports from Unipetrol increased in the first three quarters to 66,700 tons against 48,800 tons. The commissioning of the PE3 polyethylene installation at Litvinov is scheduled to start in the near future, with about three months required before product is shipped to the market. The production capacity of the PE3 unit will amount to 270,000 tpa and will replace the PE1 unit, while the PE2 unit (200,000 tpa) will continue to function.

Spolana, EDC imports & new equipment

Spolana imported 66,700 tons of EDC in the first three quarters in 2018 to compensate for the closure of the mercury electrolysis plant at Neratovice. Exports of PVC as a result have been only marginally affected by the closure of plant in November 2017, whilst imports were virtually unchanged.

Czech PVC Chain Trade (unit-kilo tons)		
	Jan-Sep 18	Jan-Sep 17
EDC Imports	66.7	0.5
PVC Imports	101.7	101.2
PVC Exports	63.7	74.8

Two new gas boilers from Germany arrived at Spolana's Neratovice site on 12 November, which will allow the company to modernise the heating plant by replacing the existing brown coal boilers. This is important to help Spolana's facilities to reduce the impact on the environment for which the company has a bad reputation. The modernisation of the heating plant will be completed in the middle of 2019. By switching from

brown coal to natural gas and by installing modern boilers, sulphur dioxide emissions are calculated to drop by 99%, emissions of dust and nitrogen oxides by 90% and carbon monoxide emissions by 60%.

MOL Group Q3 2018

MOL's EBITDA rose 23% to \$708 million in the third quarter in 2018, on track to reach upgraded 2018 target of \$2.4 billion. The upstream division showed a 70% rise in EBITDA to \$319 million on the back of rising oil and gas prices, whilst the downstream division's EBITDA remained almost flat at \$262 million in the third quarter, despite significantly weaker refinery and petrochemical margins. The deteriorating margins were mostly compensated by strong volumes and improved sales margins in refining in the quarter.

MOL's Olefin & Polyolefin Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Ethylene	603	567
Propylene	318	292
Butadiene	63	64
Raffinate	98	98
Product	Jan-Sep 18	Jan-Sep 17
LDPE	188	156
HDPE	303	293
PP	402	404

In the third quarter, MOL signed lump sum EPC contracts for the flagship polyol project in addition to agreeing a strategic partnership in plastics recycling.

Crude processing was up by 9% for the MOL Group in Q3 despite the unplanned event at Bratislava that resulted in a 240,000 tons crude processing shortfall. A planned maintenance of the steam cracker-2 at Tiszaujvaros was undertaken from late Q3 to early Q4 whilst an early-2019 major shutdown of Rijeka refinery in

Croatia is scheduled.

Czech Organic Chemical Imports (unit-kilo tons)		
Commodity	Jan-Sep 18	Jan-Sep 17
Methanol	62.1	71.2
Isopropanol	2.5	2.6
N-Butanol	9.3	9.2
Other Butanols	0.2	0.2
2-EH	20.1	18.6
Ethylene glycol	5.6	4.7
Propylene glycol	4.1	3.4
Pentaerythritol	0.5	0.6
Glycerol	31.3	23.1

Czech chemical imports Jan-Sep 2018

Propylene inward shipments into the Czech Republic rose to 42,289 in the first nine months tons from 33,343 tons in January to September 2017.

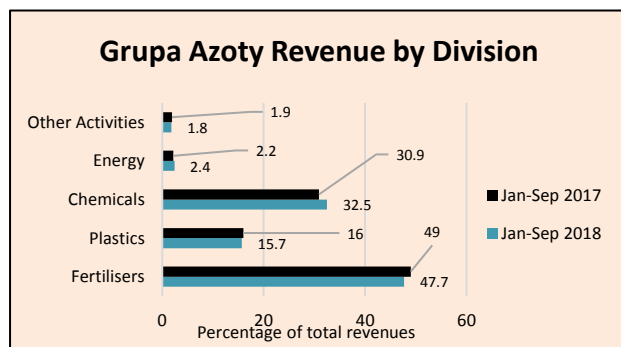
Propylene imports were sourced mostly from the EU, including Germany, Ukraine, Slovakia and Poland. For other monomers, butadiene imports into the Czech Republic dropped to 26,022 tons in the first nine months in 2018 against 33,538 tons in the same period in 2017, whilst benzene volumes dropped slightly from 59,234 tons to 56,270 tons.

Regarding organic chemicals, TDI imports into the Czech Republic dropped from 14,100 tons in the first three quarters in 2017. Germany increased shipments in 2018 from 2,700 tons to 3,200 tons. MDI imports rose from 19,700 tons to 22,400 tons in January to September 2018, with the largest suppliers including Germany, Hungary and Belgium. Other sources of imports included China and UAE.

Czech inward shipments of methanol dropped to 62,100 tons in the first three quarters in 2018 against 71,200 tons in the same period last year. Oxo alcohol imports remained stable, with a slight increase recorded for 2-ethylhexanol (2-EH) to 20,100 tons from 18,600 tons in 2017. Imports of 2-EH in January to September 2018 were sourced mainly from Poland (13,629 tons), Germany (3,091 tons) and Russia (2,714 tons).

Grupa Azoty, Jan-Sep 2018

Grupa Azoty's net profit decreased to zł 7.65 million in the first three quarters in 2018, against zł 453 million in the same period in 2017. Revenues for the group rose 2% to zł 7.2 billion, but the operating profit decreased to zł 70 million versus zł 543 million.



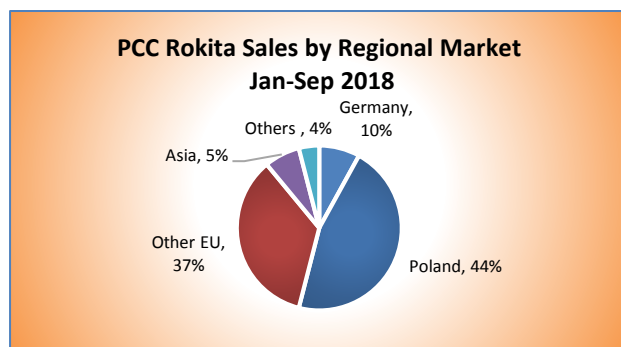
Key factors that causing Grupa Azoty's profit results to be weaker include unfavourable weather conditions in the first part of 2018, high inventory levels in subsequent months and unfavourable price trends for gas, coal and CO2 emission rights.

In the third quarter in 2018, the increase in propylene prices translated into higher prices of oxo alcohols, where spot prices were up notably over the corresponding period of 2017. It was the

reverse picture for DOTP plasticizers, as its spot price fell in Q3 2018 versus the same period in 2017. DOTP prices were affected by competitively priced product volumes originating from South Korea and the US. Gas prices on European exchanges rose sharply in the third quarter affecting Grupa Azoty's fertiliser division, rising from €22/MWh in early July to almost €30/MWh at the end of September. Coal prices have also risen this year following electricity prices across Europe.

In Q3 2018, revenue in the Azoty's plastics division was zł 363.231 million and accounted for 15.6% of the group's total. The segment reported a profit on sales and positive EBIT of zł 17.131 million. More than 88.1% of the segment's revenue was derived from sales on foreign markets. Azoty's plastics division comprises the production and marketing of engineering plastics (PA 6, POM) and modified plastics (PPC, PPH, PBT, PA66), in addition to caprolactam.

In Q3 2018, revenue in the chemicals' division amounted to zł 755.260 million having increased 11.5%. The segment accounted for 32.5% of the group's total revenue. The segment reported a profit on sales and positive EBIT of zł 3.05 million. Sales on foreign markets accounted for approximately 61.2% of Azoty's chemical division's revenue. The chemical division includes melamine, oxo alcohols, plasticizers, titanium white, iron sulphate, and solutions based on urea and ammonia.



PCC Rokita-Jan-Sep 2018

The sales revenue of PCC Rokita Group in the first three quarters in 2018 increased by 13.7% to zł 1100.9 million. The EBITDA rose 31% and the net profit rose by 60% to zł 161.2 million. The gross margin on sales in the first three quarters in 2018 rose 2% to 30.3%, with the chloralkali division acting as the major contributor to the higher margin. The conversion of chlorine production carried out by PCC Rokita three years ago has allowed for growing sales of chlor-alkali products at a time where some of the producers have

abandoned conversion. The second major division of PCC Rokita is polyurethanes, which recorded a 12% increase in sales value in the first three quarters in 2018 despite higher raw materials and lower demand for manufactured products.

PCC Rokita Product Sales (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Chloralkalis	238	207
Polyols	63	63
Other Chemicals	19	17

In the polyurethanes' division for PCC Rokita, higher raw material prices were only partially translated into product prices. The limited availability of TDI helped reduce the demand for polyols in the first half of 2018, although the supply position improved in the third quarter together with softening prices. There was also a decrease in the demand for polyols caused by the furniture industry using alternative

solutions, based on spring mattresses requiring the consumption of less foam.

Despite the decline in TDI prices, quotations still remain above the long-term average, and the production of polyurethane foam still involves higher costs and strongly competes in terms of profitability with other solutions used in the production of mattresses. Regarding the production of polyether polyols there has been an upward trend in propylene prices in 2018, which has directly translated into higher costs of propylene oxide. For propylene supply, PCC Rokita's contract with Ruhr-Petrol GmbH is scheduled to finish at the end of December. PCC expects to sign another contract with Ruhr-Petrol or another supplier for 2019.

Problems in the Orlen olefin installation at Plock in late October and early November this year impacted on feedstock deliveries to the PCC group. The downtime of the Orlen installation affects the reduction of ethylene oxide supplies, which for PCC group companies is one of the main raw materials used in production.

Oltchim, Jan-Sep 2018

Oltchim's profit in the first nine months of 2018 increased by 110.4%, from 39.906 million lei to 83.958 million lei (equivalent to €18 million). The improvements in the past three years have been gradual and incremental as the company been under the insolvency procedure. Oltchim registered a turnover of 834 million lei in the first three quarters (equivalent to €179 million), an increase of 16% over the same period in 2017.

Oltchim Sales Revenues (€ mil)		
Product	Jan-Sep 18	Jan-Sep 17
Polyols	99.3	93.1
Chloralkalis	45.8	32.2
Oxo alcohols	27.9	22.7
Others	5.9	5.8
Total	178.9	153.7

The increase in sales was mainly driven by the increase in sales prices for polyols, chloralkalis and oxo-alcohols. In the first nine months Oltchim recorded export sales and intra-Community sales of €142 million, up 17% from the same period in 2017 and accounting for 79% of total turnover. Investments made during January-September 2018 consisted of 3.4 million lei into the membrane electrolysis plant, 1.2 million lei were used for upgrades at the propylene oxide plant, and 1.6 million lei at the oxo-alcohol plant.

Polish Chemical Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Caustic Soda Liquid	253.2	260.2
Caustic Soda Solid	45.8	58.5
Ethylene	388.4	364.4
Propylene	242.4	265.7
Butadiene	44.4	44.3
Toluene	10.5	16.0
Phenol	34.6	32.8
Caprolactam	124.6	123.1
Acetic Acid	10.7	17.3
Polyethylene	289.0	260.9
Polystyrene	45.0	41.5
EPS	63.6	73.2
PVC	198.5	218.9
Polypropylene	211.2	206.4
Synthetic Rubber	203.4	182.7
Ammonia (Gaseous)	1900.0	2070.0
Ammonia (Liquid)	95.8	73.2
Pesticides	40.3	39.4
Nitric Acid	1729.0	1762.0
Nitrogen Fertilisers	1469.0	1552.0
Phosphate Fertilisers	321.5	344.8
Potassium Fertilisers	304.2	322.1

The largest influence on Oltchim's production costs stemmed from higher propylene prices, affecting propylene oxide, polyols and oxo plants. Also, electricity price increased by 11% in Q3 2018 compared to Q3 2017.

Oltchim has extended the deadline for the submission of binding bids for the remaining unpaid assets following the first sale process, the Bradu Petrochemical Division (Package 8), the Phthalic Anhydride Plant in Ramnicu Valcea (Package 9) and, partially, the Installation PVC II from Ramnicu Valcea (Package 7), until 21 November 2018. Initially, the period up to which offers could be submitted for the three asset packages was 31 October 2018.

BorsodChem MCHZ-nitrobenzene modernisation

Investments of up to €100 million euros have been promised by Wanhua to BorsodChem MCHZ at Ostrava in eastern Bohemia, in coordination with the regional government. Significant funds are required to upgrade the plant so that production is as environmentally friendly as possible in the region. The first investment of Kc 800 million involves the

modernisation of the nitrobenzene plant, which will be replaced by a new cleaner plant by late 2021.

Nitrobenzene at Ostrava is processed into aniline which is then sent to BorsodChem in Hungary for MDI production. In 2017 BorsodChem-MCHZ supplied 117,600 tons of aniline to Kazincbarcika, down by 17,100 tons against 2016, and another 5,800 tons delivered to other customers. The sales of cyclohexylamine recorded an increase of 2,300 tons to 20,800 tons.

Russia

Russian Chemical Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Caustic Soda	946.5	900.5
Soda Ash	2,573.0	2,568.0
Ethylene	2,229.9	2,143.0
Propylene	1,716.7	1,551.8
Benzene	1,061.8	1,007.0
Xylenes	313.4	386.4
Styrene	552.6	499.8
Phenol	142.5	162.5
Ammonia	13,300.0	12,200.0
Nitrogen Fertilisers	7,881.0	7,341.0
Phosphate Fertilisers	2,968.0	2,644.0
Potash Fertilisers	6,374.0	6,381.0
Plastics in Bulk	6,136.0	5,776.0
Polyethylene	1,651.0	1,512.0
Polystyrene	408.5	405.2
PVC	742.1	682.6
Polypropylene	1,135.0	1,080.9
Polyamide	126.8	117.8
Synthetic Rubber	1,231.0	1,170.0

Russian chemical production, Jan-Sep 2018

For the period January to September 2018 the production of base chemicals in Russia rose 2.7% over the same period in 2017, with the largest increases recorded for benzene, ammonia and caustic soda. The production of chemicals in Russia declined 1.0% in September compared to August, partly influenced by ethylene shutdowns. In September, 232,000 tons of ethylene was produced against 243,000 tons in August, with Kazanorgsintez and Ufaorgsintez both idle for maintenance in September. In the first nine months this year Russian ethylene production totalled 2.230 million tons which is 4.5% more compared to 2017. Benzene production rose 6.6% in the first nine months to 1.070 million tons, whilst caustic soda production rose 3.5% to 946,500 tons.

In September, 662,000 tons of plastics in primary forms were produced (+ 9.5% compared to September 2017) which was 4.9% less than in August 2018. The growth in January-September was 6.2%. Polyethylene production increased by 6.8% amounting to 1.651 million tons. Polypropylene production rose 4.1% to 1.135 million tons, whilst polystyrene production increased by 3.4% to 408,500 tons. PVC production rose 7.1% to 742,100 tons. Polyamide production rose to 126,800 tons versus 117,800 tons, the rise due to expansion at Kuibyshevazot whilst synthetic rubber increased by 5% to 1.231 million tons.

The thermoplastic market in Russia recorded a moderate rise in the first three quarters in 2018, although some product areas such as PVC still remained weak. Due to higher feedstock costs the average price of standard thermoplastics increased in 2018 by 20.2% (from 92,904 to 111,627 roubles per ton).

Russian chemical trade, Jan-Sep 2018

Russia's deficit in chemical product trade amounted to \$15.1 billion in the first three quarters in 2018 against \$14.5 billion in the same period in 2017. Although Russian exports by volume considerably outweigh imports, inward shipments of chemicals and chemical industry products possess much higher values. Ammonia exports from Russia rose from 2.189 million tons in January to September 2017 to 3.215 million tons in 2018, helped by rising production. Despite increased domestic production and sales, imports pharmaceuticals and pharmaceutical intermediates were unchanged in cost for the first three quarters this year against 2017 at \$7.6 billion. Polymer and rubber import costs jumped from \$7.1 billion to \$9.2 billion, helped by rising product prices.

Russian Petrochemical Projects



Irkutsk Oil Company & gas-chemical project outline

Irkutsk Oil Company (INK) is engaged in geological study, exploration and production of hydrocarbon raw materials in East Siberia. Since 2011, the company has been implementing a gas programme, ensuring the shipment of propane, butane and stable gas condensate to customers.

INK and Toyo Engineering Corporation agreed to build an ethylene production unit in September

ZapSibNefteKhim-progress at end of September

ZapSibNefteKhim had achieved 89.2% of its complete project schedule by the end of September 2018. Construction and installation work are now quite close to the finish line as evidenced by the reduction in the number of workers. At the moment, preparations are being made for commissioning whilst the

Lukoil-Budyyenovsk-petrochemical modernisation

The Coordination Council for the Development of Investment Activities and Competition in the Stavropol Territory supported the implementation of four investment projects of Lukoil for the development of the Stavrolen plant worth 2.7 billion roubles. Lukoil wants to modernise pyrolysis furnaces and replace the installation for the production of benzene. In addition, the management system of one of the workshops will be improved, and a comprehensive security system will be introduced.

treatment facilities of the petrochemical complex are being reconstructed. The reconstruction should be completed before the start of commissioning of the petrochemical facilities in the spring of 2019.

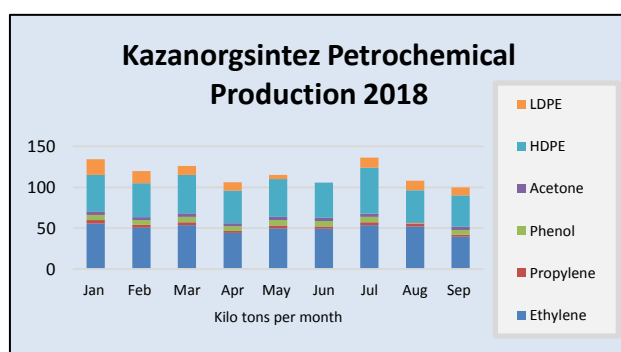
The design of the ZapSibNefteKhim complex by SIBUR has been completed in full, and the construction had achieved 87% at the end of September. Supply of materials and equipment were reported at 98.1%, with only a small

number of deliveries still to be made. SIBUR's capital investments in the first three quarters rose by 20.8% and amounted to 104.9 billion roubles, of which financing ZapSibNefteKhim comprised the main project,

Russian chemical company performance, Jan-Sep 2018

Kaanorgsintez increases net profit by 11.4% in Jan-Sep 2018

Kazanorgsintez increased revenues by 11.4% in the first nine months in 2018 to 60.142 billion roubles.

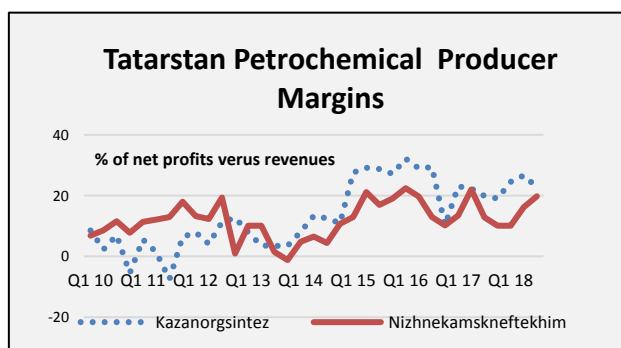


The cost of sales of the company increased by 6.3% to 35.78 billion roubles. As a result, gross profit amounted to 24.36 billion roubles and net profit increased by 34.9% to 15.87 billion roubles. In the polymer market: Kazanorgsintez's revenue rose by 11.4% in the first three quarters.

654,000 tpa due to the so-called propane scheme: i.e., part of the capacity will be reoriented to the processing of propane raw materials. Modernisation will allow the company to produce more ethylene whilst maintaining the possibility of increasing the volume of ethane.

Kazanorgsintez continues to upgrade its production facilities as part of its investment programme for the period 2018-2020. The plans are to increase the production of ethylene to 654,000 tpa due to the so-called propane scheme: i.e., part of the capacity will be reoriented to the processing of propane raw materials. Modernisation will allow the company to produce more ethylene whilst maintaining the possibility of increasing the volume of ethane.

The company also intends to modernise the polycarbonate plant to raise capacity to 100,000 tpa, whilst introducing technologies for the production of cumene using a heterogeneous zeolite catalyst on the bisphenol A plant. At the end of 2018



Nizhnekamskneftekhim reduces net profit by 4.7% in Jan-Sep 2018

Traditionally Nizhnekamskneftekhim achieved higher profit margins than Kazanorgsintez, but since the start of 2014 has been recording lower rates due to a variety of factors. A main

consideration is that Nizhnekamskneftekhim produces a much wider range of products which have been exposed to the volatility in oil prices and the value of the rouble. In the third quarter this year Nizhnekamskneftekhim achieved 19% margins across the board against 22% for Kazanorgsintez.

Nizhnekamskneftekhim reduced its net profit by 4.7% to 18.7 billion roubles for the third quarter, whilst the company's revenue grew by 14% to 138.4 billion roubles and the cost of sales increased from 84.72 to 104 billion roubles. As a result of higher costs, the gross profit decreased by 5.7% to 34.38 billion roubles and net profit amounted to 18.66 billion roubles against 19.590 billion roubles in the same period in 2017.

SIBUR, Jan-Sep 2018

SIBUR increased its revenues by 27.6% for the three quarters in 2018 to 414 billion roubles, whilst net profits declined by 10.7% to 82.9 billion roubles. The revenue of the olefin division increased by more than 16% to 74.9 billion roubles, whilst in the polyolefin sector polypropylene sales increased by 3.3% to 159,000 tons and sales of polyethylene decreased by 17% to 58,000 tons. The plastics division recorded revenues of 124.8 billion roubles in the first three quarters in 2018, which is an increase of 13.3% over 2017. Sales of synthetic rubber and elastomers increased by 0.8% compared to the same period last year and amounted to 364,000 tons.

SIBUR Financial Performance (billion roubles)		
	Jan-Sep 18	Jan-Sep 17
Revenue (net of VAT and export duties):	414,016	324,575
Olefins & Polyolefins	74,892	64,351
Plastics, Elastomers & Intermediates	124,782	110,161
Midstream segment	174,050	127,529
EBITDA	150,154	115,830
EBITDA margin	36.3%	35.7%

SIBUR's monomer & Intermediate Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Benzene	123.5	124.1
Styrene	143.4	135.5
PTA	201.7	201.0
Propylene	562.0	604.5
Ethylene Oxide	220.8	217.6
Butadiene	207.8	202.8
Isoprene	63.7	64.6
Isobutylene	134.2	139.6
Ethylene	470.9	484.3

The gas processing and infrastructure division increased its revenue by 36.5% to 174.1 billion roubles mainly due to the positive dynamics for LPG and naphtha. In the first nine months, the SIBUR gas processing plants processed 16.4 billion cubic metres of associated gas, almost the same as in the same period in 2017. The NGL fractionation volume increased by 3.4% and amounted to 5.7 million tons; the additional volumes made it possible to increase the sales volumes of LPG by 10% to 3.9 million tons.

One of the main reasons for the fall in profits in 2018 was the loss from the depreciation of the rouble against the US dollar and the euro and a corresponding revaluation of foreign currency debt. Also last year SIBUR's results were boosted to include the one-off event of the sale of Uralorgsintez which had a positive impact on the net profit.

SIBUR's Main Product Summary, Jan-Sep 2018

- Olefins & polyolefins revenue increased by 16.4% to 74.9 billion roubles mainly due to higher prices for PP, BOPP films and ethylene. Revenue growth was partially offset by a slight decline in revenue from polyethylene sales.
- Plastics, rubber & intermediates revenue increased by 13.3% to 124.8 billion roubles, largely due to positive pricing for plastics and organic chemicals, as well as MTBE and high capacity utilisation of the thermoplastic elastomers production facility.
- Overall growth was driven primarily by the strong performance of the midstream segment, where revenue increased by 36.5% to 174.1 billion roubles largely due to higher LPG and naphtha prices.

Sales volumes of polypropylene increased by 4.6% to 452,000 tons. Sales volumes of polyethylene (LDPE) decreased by 4.0% to 194,000 tons due to scheduled maintenance shutdown at Tomsk. Sales volumes of plastics and organic synthesis products increased by 2.4% to 597,000 tons as a result of higher alcohols and polystyrene production due to a two-year maintenance

cycle at our production site at Perm in 2017. Sales volumes of elastomers increased by 0.8% to 364,000 tons.

Rosneft-petrochemical sales, Jan-Sep 2018

Rosneft increased sales of petrochemical products from its separate plants at Angarsk, Ufa and Novokuibyshevsk by 28% in the first three quarters of 2018. Sales of petrochemical products brought 77 billion roubles, which is 28.3% higher than in 2017. Revenue from sales in the domestic market increased by 21% to 44 billion roubles. Sales prices in foreign markets increased by an average of

33.6%, and in the domestic by 12%. In the third quarter, petrochemicals were sold in the domestic market for 15 billion roubles, and in foreign markets for 10 billion roubles. In tonnage, the company sold 2.1 million tons of petrochemical products in the period January to September 2018, which is 5% higher than last year. Domestic petrochemical sales for Rosneft grew by 8.3% to 1.3 million tons for the first three quarters.

Gazprom neftekhim Salavat-petrochemical & acrylate production,

Gazprom neftekhim Salavat recorded growth in petrochemicals by 28.9% in the first three quarters in 2018, including a rise in ethylene production up to 285,900 tons. Ethylene production has been helped through the switch of the EP-340 complex to a two-year repair cycle. In other product areas Gazprom neftekhim Salavat increased styrene production by 25%, normal butanol by 23.8%, isobutanol by 28.7%, and DOP plasticizers by 33.4%.

Gazprom n Salavat, Petrochemical Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Ethylene	285.9	221.4
Propylene	123.8	88.6
Benzene	131.2	125.7
HDPE	90.1	64.2
Acrylates	50.1	48.8
Acrylic Acid Glacial	15.6	9.1

Subsidiary Acryl Salavat increased the production of glacial acrylic acid by 72.1% due to increased demand, amounting to 15,640 tons. Butyl acrylate production at Acryl Salavat increased by 2.6% in the first three quarters to 50,080 tons.

Russian petrochemical markets

Russian Ethylene Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Angarsk Polymer Plant	134.6	140.7
Kazanorgsintez	448.5	450.9
Stavrolen	240.7	222.0
Nizhnekamskneftekhim	480.3	453.0
Novokuibyshevsk Petrochemical	43.4	40.5
Gazprom n Salavat	285.9	221.7
SIBUR-Kstovo	278.9	278.9
SIBUR-Khimprom	41.8	36.3
Tomskneftekhim	192.2	206.1
Ufaorgsintez	83.5	93.3
Total	2229.9	2143.4

Russian Propylene Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Angarsk Polymer Plant	79.9	77.9
Kazanorgsintez	29.4	30.9
Lukoil-NNOS	204.6	218.9
Stavrolen	94.8	93.0
Nizhnekamskneftekhim	244.4	216.7
Novokuibyshevsk Petrochemical	31.1	0
Omsk Kaucuk	30.4	13.5
Polyom	148.8	152.9
Gazprom n Salavat	123.8	88.6
SIBUR Kstovo	123.4	123.7
SIBUR-Khimprom	47.9	49.1
Tomskneftekhim	102.6	112.4
SIBUR Tobolsk	324.9	246.0
Ufaorgsintez	130.9	128.2
Total	1716.7	1551.8

Russian ethylene & propylene production, Jan-Sep 2018

Russian ethylene production rose slightly to 2.230 million tons in the first three quarters in 2018 against 2.143 million tons in the same period last year. The largest rise was recorded by Gazprom neftekhim Salavat, increasing production from 221,700 tons to 285,900 tons and helping to compensate for reduced volumes at Tomsk, Ufa and Angarsk due to maintenance shutdowns. Ethylene prices in Russia have been rising due to the rise in naphtha prices and the weakened rouble. Repairs in September at Ufaorgsintez and Nizhnekamskneftekhim both affected supply in October. Propylene in Russia was also tight in October due the outages. In the first half of the October, Lukoil Kstovo did not ship propylene to the domestic market whilst due to shortages Kazanorgsintez was required to purchase 1,600 tons of propylene for November as part of a tender, most of which came from the Angarsk Polymer Plant.

Nizhnekamskneftekhim intends to resume work in the near future on the production of ethylene oxide after the scheduled repair. The shop for the production of ethylene oxide stopped at Nizhnekamsk in parallel with the production of ethylene.

Russian propylene production totalled 1.719 million tons in the first nine months in 2018, against 1.552 million tons in the same period in 2017. The largest increase

was noted by Gazprom neftekhim Salavat which produced 123,800 tons against 88,600 tons, whilst overall SIBUR Tobolsk remained the largest producer followed by Nizhnekamskneftekhim.

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	Jan-Sep 18	Jan-Sep 17
Angarsk Polymer Plant	53.7	48.5
Omsk Kaucuk	1.3	2.1
SIBUR-Kstovo	88.4	70.5
Akriat	5.0	1.4
Lukoil-NNOS	158.5	138.3
Tomskneftekhim	0.2	2.8
Gazprom n Salavat	7.9	0.0
Stavrolen	0.2	0.0
SIBUR Tobolsk	0.0	2.0
Ufaorgsintez	0.3	1.4
Total	315.5	267.1

Russian propylene sales, Jan-Sep 2018

Propylene sales on the Russian domestic market totalled 315,500 tons in the first three quarters in 2018, up from 267,100 tons in the same period in 2017. The rise was largely due to increased purchases from SIBUR-Tobolsk to supplement propylene production. In September this year, Lukoil-NNOS sold 9,800 tons of propylene in the domestic market, which is twice less than in August. The reduction in shipments was due to scheduled maintenance at the Nizhny Novgorod plant. All monomer was supplied by Lukoil to Saratovorgsintez, which remains the largest merchant buyer of propylene on the Russian market.

Russian propylene exports dropped to 87,600 tons in the first three quarters in 2018, down from 106,600 tons in 2017. The drop was due to increased domestic sales. SIBUR Kstovo reduced exports from 40,500 tons in January to September 2017 to 19,400 tons.

Bulk Polymers

Russian polyethylene production Jan-Sep 2018

Russian production of HDPE totalled 731,700 tons in January-September 2018, 2.5% up against the same period in 2017. Kazanorgsintez maintained the same amount of HDPE production in 2018 at 395,600 tons, whilst Stavrolen increased production by 8% to 222,400 tons. Gazprom neftekhim Salavat produced 89,400 tons, which is 39% up on 2017 and Nizhnekamskneftekhim reduced production from 46,300 tons to 24,200 tons.

Russian HDPE Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Kazanorgsintez	395.6	397.2
Stavrolen	222.4	206.7
Nizhnekamskneftekhim	24.0	46.9
Gazprom n Salavat	90.1	64.2
Total	732.1	715.0

Russian polyethylene production totalled 1.346 million tons in the first nine months against 1.302 million tons in the same period last year. LDPE production dropped 2% to 471,600

tons whilst LLDPE production rose a third to 143,000 tons. In the third quarter of 2018, polymer prices increased by 3% compared to the second quarter. Most changes are associated with the weakening of the rouble. Regarding outages, Ufaorgsintez resumed the production of LDPE in mid-October, after stopping on 19 September whilst Gazprom neftekhim Salavat restarted plant operations in early November following a scheduled shutdown.

Russian Polypropylene Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Ufaorgsintez	94.7	91.9
Stavrolen	83.6	84.1
Moscow NPZ	99.1	73.7
Nizhnekamskneftekhim	160.7	161.1
Polyom	165.9	161.0
Tomskneftekhim	103.7	105.0
SIBUR Tobolsk	365.2	371.1
Total	1072.9	1047.9

Russian polypropylene production, Jan-Sep 2018

Russian polypropylene production rose 2.2% in the first nine months in 2018 to 1.073 million tons against 1.048 million tons in the same period in 2017. SIBUR Tobolsk reduced production in January to September 2018 to 365,200 tons from 371,100 tons whilst Polyom at Omsk increased by 3% to 165,900 tons. Nizhnekamskneftekhim was unchanged at 160,700 tons, whilst Tomskneftekhim dropped from 105,000 tons to 103,700 tons. Ufaorgsintez increased production to 94,700 tons from 91,900 tons, Neftekhimya at the Moscow refinery rose 30% to 99,100 tons and Stavrolen was unchanged at 83,600 tons.

Polypropylene imports to the Russian market increased by 17% in the first three quarters of the current year to 144,600 tons. In total, 51,600 tons of propylene homopolymers were imported to the Russian

Federation versus 40,800 tons. External supplies of propylene block copolymers increased by 10% to 35,900 tons whilst imports of stat-copolymers of propylene increased to 27,100 tons from 23,000 tons. Imports of other polymers of propylene amounted to about 30,100 tons against 27,400 tons.

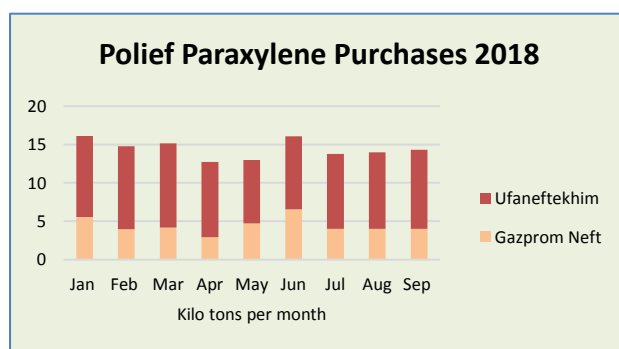
Russian PVC Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Bashkir Soda	190.0	175.6
Kaustik	69.7	67.6
RusVinyl	243.3	224.6
Sayanskkhimplast	197.0	184.6
Total	700.0	652.4

Russian PVC market, Jan-Sep 2018

In the first nine months in 2018, Russian PVC production rose to 699,900 tons against 652,500 tons in the same period in 2017. RusVinyl produced 243,300 tons in the first nine months, which is 8% more, whilst Sayanskkhimplast produced 197,200 tons versus 184,000 tons. Other producers included Bashkir Soda, rising 8% to 190,000 tons and Kaustik at Volgograd which shipped 69,500 tons versus 67,700 tons.

For the first nine months of this year, imports of PVC into Russia totalled 13,800 tons against 42,400 tons against the same period in 2017. China accounted for 11,500 tons versus 39,500 tons last year. Export sales of Russian PVC rose by slightly less than a third, rising to 87,800 tons versus 68,100 tons.

PX-PTA-PET

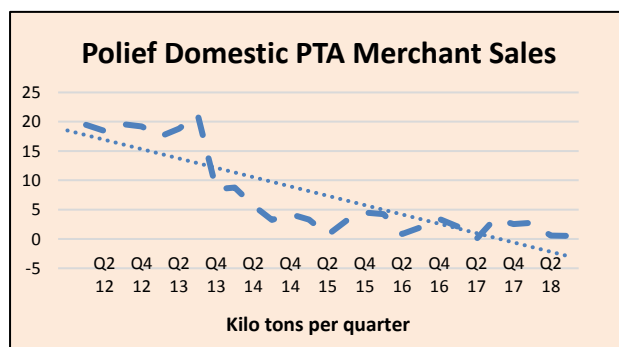


SIBUR, paraxylene, PTA & PET, Jan-Sep 2018

SIBUR's paraxylene purchases from Russian refineries amounted to 129,720 tons in the first three quarters in 2018 against 133,297 tons in the same period in 2017. Prices for paraxylene purchases from Ufaneftekhim and Gazprom Neft rose to €644 per ton in 2018 against €508 per ton in the same period last year. SIBUR can benefit from the Russian Tax Code in paraxylene purchases in that domestic companies are eligible to receive an excise duty refund (recoverable excise) with a scale-up factor if the product is

processed into non-excisable petrochemical products. This would apply to PTA.

SIBUR's PTA & PET Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Paraxylene Purchases	129.7	133.3
PTA Production	201.9	201.6
PTA Domestic Sales	3.9	5.6
PTA Exports	3.1	5.0
PET Production	218.7	222.8
PET Domestic Sales	225.6	218.6
PET Exports	0.7	1.7



SIBUR is engaged in the reconstruction of the PTA facilities at Polief at the Blagoveshchensk industrial site in Bashkortostan. The eventual target of the modernisation programme is to expand the production capacity to 350,000 tpa from around 270,000 tpa at present. The project is planned to be completed in 2019. Construction and installation work is being carried out without Polief requiring a major shutdown. The project includes a new unit for catalytic oxidation of waste gases, power supply facilities, and an additional tank of 3,200 cubic metres for storing paraxylene.

SIBUR is seeking to secure additional supplies of paraxylene to meet the demands of the PTA expansion.

In August 2016, SIBUR and Bashneft signed a long-term contract for the delivery of paraxylene for the production of PTA by Polief. The agreement will last until 2036 inclusive. Bashneft is required to deliver at least 120,000 tpa of paraxylene to Polief. The cost of raw materials for the production of PTA is determined by factoring international exchange quotations on the principles of formula

pricing. Bashneft supplies around 60-70% of paraxylene supplies to Polief, with the remainder supplied by Gazprom Neft.

Polief expansion & quality approval

Polief is the only producer of PTA and a major supplier of PET in Russia with capacities of 272,000 and 219,000 tpa respectively. SIBUR will receive regional tax benefits from investing in Polief, as enterprises with a minimum investment of 750 million roubles are offered to exempt from property tax and reduce the profit rate to 4.5% by 4.5%. SIBUR has indicated the volume of capital investments in the amount of 6.4 billion roubles. PTA and PET produced at SIBUR's Blagoveshchensk plant Polief was recently rewarded with awards at the All-Russian Competition 100 Best Goods of Russia-2018.

Russian PTA Imports (unit-kilo tons)		
Country	Jan-Aug 18	Jan-Aug 17
Belgium	0.5	22.1
India	5.7	28.1
China	90.9	63.3
South Korea	49.2	24.3
Poland	5.0	0.0
Thailand	14.9	20.4
Total	166.3	158.1

in 2018 versus 20,400 tons in the same period in 2017.

Russian PTA imports, Jan-Aug 2018

PTA imports into Russia in the first eight months in 2018 amounted to 166,300 tons against 158,100 tons in the same period last year. China increased shipments to 90,900 tons against 63,300 tons in January to August 2017 whilst India reduced deliveries from 28,100 tons to 5,700 tons. Thailand supplied 14,900 tons of PTA to Russia in the first eight months

Etana PET project, Kabardino-Balkaria

Construction of Etana's PET plant in the Kabardino-Balkaria region in southern Russia, is now scheduled to start in 2019. The capacity of the plant is targeted at 1.5 million tpa in total, although 500,000 tpa is set for first stage of construction. The basic design of the first stage of the complex is reported to have been completed, whilst the investment application has passed the preliminary banking approval.

To date, energy facilities, resource facilities have been prepared, and logistics has been built. Work on the project has been going on since 2010 and has faced the prospect of being wound up due to a lack of finance. Chinese investors saved the project in 2016, involving China Petroleum Technology and Development Corporation (CPTDC) and China Kunlun Contracting and Engineering Corporation. Although moving slowly, the project remains active.

Aromatics

Russian Benzene Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Rosneft	110.7	92.5
Gazprom Neft	81.9	56.6
Lukoil	86.7	92.1
Magnitogorsk MK	42.6	43.1
Nizhnekamskneftekhim	175.5	152.9
Novolipetsk MK	6.1	27.9
Gazprom n Salavat	131.2	125.7
Kirishinefteorgsintez	49.2	46.5
Slavneft	55.0	55.3
Severstal	27.8	23.9
Bashneft	70.4	50.1
Ural Steel	6.6	9.6
Uralorgsintez	68.3	64.8
Zapsib	54.0	40.8
SIBUR	57.1	61.3
Total	1023.0	943.1

Russian benzene production-sales, Jan-Sep 2018

Benzene production in Russia totalled 1.023 million tons in the first three quarters in 2018 against 943,100 tons in the same period in 2017. Rosneft plants increased production from 92,500 tons in January to September 2017 to 110,500 tons this year and Gazprom Neft at the Omsk refinery increased production from 56,600 tons to 81,900 tons. After technical upgrades, Nizhnekamskneftekhim increased production from 152,900 tons in the first three quarters in 2017 to 175,500 tons in 2018.

In September both Gazprom neftekhim Salavat and Gazprom Neft carried out scheduled repairs, which affected production in that month. The Salavat plant produced 131,200 tons of benzene in the first three quarters in 2018. In addition, benzene was not produced by Stavrolen in September due to an emergency shutdown at the end of August. Gazprom Neft started maintenance on 10 September lasting until 5 October, resulting in consumers such as Kuibyshevazot and Azot at Kemerovo needing to seek alternative suppliers.

Nizhnekamskneftekhim stopped production of ethylbenzene for scheduled repairs in October, to be followed by production of styrene and propylene oxide. Repairs affect the installation of alkylation of benzene with

ethylene, where the process of mixing the raw materials in the presence of a catalyst, aluminium chloride, takes place.

Russian Benzene Consumers (unit-kilo tons)		
Consumer	Jan-Sep 18	Jan-Sep 17
Kuibyshevazot	151.5	121.1
Azot Kemerovo	99.1	78.4
Shchekinoazot	54.7	45.8
Kazanorgsintez	50.3	43.2
Omsk Kaucuk	14.5	0.1
Novokuibyshevsk Petrochemical	25.2	34.6
Zapsib	39.5	31.6
SIBUR-Khimprom	46.7	64.1
Promsintez	5.9	10.3
Uralorgsintez	48.4	59.9
Others	67.3	47.9
Total	603.1	536.9

The three Russian caprolactam producers remain the largest domestic merchant consumers of benzene, followed by styrene and phenol producers. Purchases made by domestic producers totalled 603,100 tons in the first nine months which was 19% up on the same period in 2017 due largely to higher caprolactam production. Kazanorgsintez also increased purchases of benzene to support the increase in bisphenol A production. Regarding exports, shipments from Russia more than halved in the first nine months, dropping from 124,000 tons from 51,800 tons in the same period in 2017.

Shchekinoazot-cyclohexane expansion

Shchekinoazot is modernising its cyclohexane plant which is produced by hydrogenation of benzene. In 2017, Shchekinoazot produced 58,000 tons of caprolactam and 4,090 tons of commodity cyclohexane. A new column is already installed on the site, the equipment of the internal structure has arrived. Part of the work in the cyclohexanone unit will be carried out during the next short-term outage. In the spring of 2019, a cyclohexane purification scheme will be put into operation.

Russian Caprolactam Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Kuibyshevazot	161.1	137.0
Shchekinoazot	40.8	37.2
SDS Azot	95.0	82.3
Total	296.9	222.6

Russian Toluene Domestic Sales (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Slavneft-Yanos	12.5	12.8
Severstal	3.4	3.7
Lukoil-Perm	19.3	15.5
Gazprom Neft	52.8	66.0
Zapsib	2.3	12.0
Kinef, Kirishi	27.0	24.2
Gazprom Neftekhim Salavat	0.0	1.8
Others	1.0	2.6
Total	118.5	138.7

Russian toluene & orthoxylene, Jan-Sep 2018

Toluene sales on the Russian domestic market amounted to 118,473 tons in the first nine months in 2018 versus 138,800 tons in the same period in 2017. Toluene differs from other aromatic sales in Russia in that there is no large consumer and that product shipments are distributed in relatively small quantities. The largest toluene consumer in 2018 has been the TAIF group in Tatarstan which bought 6,494 tons in the first three quarters in 2018 which amounted to under 5% of total sales on the domestic market.

Russian Orthoxylene Domestic Sales (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Gazprom Neft	56.3	61.2
Ufaneftekhim	22.8	41.9
Kinef, Kirishi	27.0	15.5
Total	103.3	118.6

Russian companies supplied 9,434 tons of orthoxylene to the domestic market in September, 25% less than in August. The Omsk refinery shipped 3,469 tons in September, Kirishinefteorgsintez 2,915 tons (28%) and Bashneft 3,050 tons (25%). Kamteks-Khimprom reduced purchases of orthoxylene in September by 18% to 4,149 tons, followed by Gazprom neftekhim Salavat which increased purchases by 31% to 2,000 tons (5%). Dmitrievsky Chemical Plant reduced volumes of orthoxylene by 39% to 166 tons.

Overall orthoxylene sales on the domestic market totalled 103,300 tons in the first three quarters in 2018 against 118,600 tons in the same period in 2017.

Russian phenol sales, Jan-Sep 2018

Phenol sales on the domestic Russian market totalled 84,800 tons in the first three quarters in 2018 against 87,100 tons in the same period in 2017. On 6 October, the Ufaorgsintez plant resumed shipment of phenol after a stoppage which started on 24 August. The first batch of a commodity product (500 tons), shipped by

the company, went in 100 lots to Y.M. Sverdlov, Shchekinoazot, and Sterlitamak Petrochemical Plant and the remaining 200 tons to Metadynea.

Kuibyshevazot, Jan-Sep 2018

Kuibyshevazot increased sales' revenues by 42% in the first three quarters of 2018 to 44 billion roubles, whilst the net profit rose to 5.1 billion roubles. The production of ammonia increased by 106% due to the launch of the Linde Azot Togliatti joint venture. For three quarters, the production of caprolactam increased by 13.4% and by 4.1% for polyamide-6.

Kuibyshevazot-Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Polyamide-6	113.6	109.1
High Tenacity Tech Yarns	3.9	8.6
Tyre Cord Fabric	2.7	2.4
Caprolactam	161.6	142.7
Ammonia	847	411.1
Urea	271.6	214.5
Ammonium Nitrate	463.3	450.3
Ammonium Sulphate	408.8	345.0

production is 1,340 tons per day of ammonia and 8,000 m³/h of hydrogen.

The output of the technical thread was reduced by Kuibyshevazot by 55.6% in the first three quarters whilst cord fabric increased by 14.8%. The decrease in the production of technical threads was due mainly to the reconstruction of the unit. In July 2018, a modern high-tech ammonia production was opened at Kuibyshevazot which is the most important event for the company this year. The capacity of the new



Synthetic rubber

SIBUR & Sinopec, Saudi rubber project

Sinopec may join SIBUR in the project for the construction of a synthetic rubber plant in Saudi Arabia. The consortium could extend to include Total to construct a synthetic rubber plant at Al-Jubail. SIBUR is currently engaged in negotiations with Saudi Aramco to establish a joint venture for the production of synthetic rubber. The reason for expanding the jv into a consortium is that SIBUR and Aramco may not possess all necessary technologies to complete the project.

Russian C4s, Jan-Sep 2018

C4 sales on the domestic market in Russia totalled 291,200 tons in the first three quarters in 2018 against 289,900 tons in the same period in 2017. Nizhnekamskneftekhim reduced merchant purchases due to increased internal production and fell from 128,000 tons in 2017 to 110,600 tons. SIBUR Togliatti increased merchant purchases of C4s from 131,100 tons to 139,000 tons and Omsk Kaucuk increased from 29,600 tons to 41,500 tons.

Russian C4 Purchases (unit-kilo tons)		
Consumer	Jan-Sep 18	Jan-Sep 17
Omsk Kaucuk	41.5	29.6
Nizhnekamskneftekhim	110.6	128.0
SIBUR Togliatti	139.0	131.0
Sterlitamak Petrochemical Plant	0.0	1.4
Total	291.2	289.9



The largest domestic supplier of C4s in the first three quarters in 2018 was SIBUR Kstovo which shipped 70,300 tons versus 68,400 tons in the same period in 2017. Most of the C4s from Kstovo were sent to Togliatti. The next largest suppliers was Stavrolen, shipping 55,300 tons against 49,800 tons. Imports of C4s were sourced from neighbours of Russia, the largest being Azerbaijan which shipped 22,400 tons to the Russian market in January to September 2018 against 17,400 tons last year.

Russian rubber production, Jan-Sep 2018

Russian synthetic rubber production totalled 1.230 million tons in the first nine months in 2018 against 1.170 million tons in the same period in 2017. Domestic

Russian Synthetic Rubber Exports (unit-kilo tons)		
Product	Jan-Aug 18	Jan-Aug 17
E-SBR	19.5	25.0
Block	20.2	24.5
SSBR	6.0	6.2
SBR	62.9	54.7
Polybutadiene	159.8	157.6
BR	83.2	82.9
HBR	88.7	85.4
NBR	21.5	16.2
Isoprene	193.7	204.6
Others	23.6	9.1
Total	679.0	666.3

rubber (HBR). Volatility in raw materials prices for tyres and rubber goods has moderated since last year, but market is still prone to wild swings. The butadiene markets have been driven largely by trends in the

Efremov Synthetic Rubber Plant-modernisation

Efremov Synthetic Rubber Plant was in difficulty in 2016 but has since overcome some problems through signing an investment agreement with the Tula region and its holding company Tatneft. This year, production has increased at Efremov, with revenues rising 25% to 3.5 billion roubles in the first nine months of operations. In addition, the production of low-molecular rubbers was resumed, which allowed 42 people to be employed. A technical re-equipment of a refrigerating compressor station for the production of polyisobutylene is under way.

butyl rubber and halogenated butyl rubber.

ABS (acrylonitrile butadiene styrene) markets in Asia that have pushed prices to the point where rubber producers are not able to maintain positive margins. Regarding recent trends, November prices for butadiene were on a downward trend, falling €100/ton for next month to €1075/ton.

Russian rubber exports, Jan-Aug 2018

Russian exports of synthetic rubber increased to 679,000 tons in the first eight months in 2018 against 666,300 tons in the same period in 2017. Revenues from synthetic rubber exports dropped from \$945 million to \$846 million reflecting a fall per ton from \$1839 to \$1670. The highest value product category exported from Russia is halogenated butyl

rubber (HBR). Volatility in raw materials prices for tyres and rubber goods has moderated since last year, but market is still prone to wild swings. The butadiene markets have been driven largely by trends in the

In terms of revenues for Russian synthetic rubber exports in the first six months in 2018, isoprene rubber provided the largest source of sales totalling \$228 million. This was followed by polybutadiene,

SIBUR-Synthetic Rubber Production (unit-kilo tons)		
Category	Jan-Sep 18	Jan-Sep 17
Commodity Rubber	236.5	223.4
Speciality Rubber	76.2	78.0
Thermoplastic	57.7	57.2
3rd part purchases	0.0	0.5
Total	370.4	359.1
SIBUR-Synthetic Rubber Domestic Sales		
Category	Jan-Sep 18	Jan-Sep 17
Commodity Rubber	84.3	84.9
Speciality Rubber	9.9	9.5
Thermoplastic	38.0	34.0
Total	132.2	128.4
SIBUR-Synthetic Rubber Export Sales		
Category	Jan-Sep 18	Jan-Sep 17
Commodity Rubber	142.7	141.0
Speciality Rubber	64.6	64.0
Thermoplastic	23.5	31.6
Total	230.7	236.6

Nizhnekamskneftekhim-new divinyl plant

Public hearings were held in October in Nizhnekamsk regarding environmental impact assessment from the new production facilities for divinyl-styrene synthetic rubber at Nizhnekamskneftekhim with a capacity of 60,000 tpa. The project is being implemented under the license of a Japanese partner which will reduce capital costs and energy consumption, as well as emissions. The construction of a new unit within the number one industrial zone of Nizhnekamskneftekhim will not affect the level of pollution in nearby communities, the company has stressed.

SIBUR-Synthetic Rubber, Jan-Sep 2018

SIBUR's production of synthetic rubber, including thermoplastic elastomers, totalled 370,400 tons in the first three quarters in 2018 against 359,100 tons in the same period in 2017. In the first nine months in 2018, SIBUR's revenue from rubber sales was largely flat at 40.196 billion roubles on almost flat sales volumes and effective

average selling price. In the nine months of 2018, export sales accounted for 63.2% of total rubber revenues, and 36.8% attributable to domestic sales.

In September this year SIBUR stated that the Voronezh site will increase the output of thermoplastic elastomers (TPE) by 50,000 tpa which would increase design capacity to 135,000 tpa. The project's key deliverables comprise expanding the range of grades applied in roofing and road construction and adding new grades for compounds and adhesives. SIBUR plans to supply the products to both domestic and international markets.

Methanol & Ammonia

Russian methanol production Jan-Sep 2018

Russia produced 3.106 million tons of methanol in January to September 2018 against 2.884 million tons in the same period in 2017. Metafrax increased production to 860,000 tons from 797,000 tons whilst Sibmetakhim increased production from 641,800 tons to 659,200 tons. Azot at Nevinnomyssk was the only Russian producer to record a decline in the first nine months. Tomet at Togliatti increased production to 651,300 tons from 562,200 tons. Although Shchekinoazot produced only 6,000 tons of methanol more than in January to September 2017 the company is expected to increase volumes from its new plant.

Russian Methanol Production (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Shchekinoazot	387.8	381.7
Sibmetakhim	659.2	641.8
Metafrax	860.0	797.0
Akron	80.4	73.6
Azot, Novomoskovsk	218.6	177.3
Angarsk Petrochemical	2.6	2.1
Azot, Nevinnomyssk	85.0	90.9
Tomet	651.3	562.2
Ammoni	161.5	157.7
Totals	3106.4	2884.3

Russian methanol export sales, Jan-Sep 2018

Russian methanol producers increased exports by 15.3% over January-September 2018, rising in volume by 185,000 tons to 1.39 million tons. Export growth was driven by high product prices in north-west Europe. Metafrax increased exports of methanol by 96,800 tons to 371,500 tons in the first three quarters, followed by Sibmetakhim with 363,500 tons, and Shchekinoazot 293,300 tons. Ammoni at Mendeleevsk almost ceased shipment of methanol, redirecting the product to the domestic market. The volume of foreign shipments from Ammoni in January-September amounted to only 808 tons versus 40,700 tons in January to September 2017.

The export geography of Russian methanol shipments has expanded significantly. Shchekinoazot shipped to the Black Sea port of the Caucasus, to Hungary and Moldova. At the same time, Russian plants stopped exporting to China and Kyrgyzstan, a year earlier they shipped 922 and 64 tons to these countries respectively. The largest increase in exports of methanol fell on the ports of Finland due to the rise in price of the product in the markets of Europe. The growth amounted to 158,300 tons up to 791,800 tons.

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Azot Nevinnomyssk	13.7	21.9
Azot Novomoskovsk	103.2	65.7
Metafrax	216.7	280.4
Sibmetakhim	270.2	254.9
Tomet	397.8	356.0
Shchekinoazot	45.8	47.3
Ammoni (Mendeleevsk)	122.1	81.2
Others	2.8	3.3
Total	1172.5	1110.7

Russian methanol domestic sales, Jan-Sep 2018

Domestic sales of methanol in the Russian market amounted to 1.173 million tons in the first nine months in 2018 against 1.111 million tons in the same period in 2017. Tomet at Togliatti was the largest supplier providing 397,800 tons against 356,000 tons in the same period in 2017. Metafrax reduced shipments to 216,700 tons from 280,400 tons whilst Ammoni increased deliveries from 81,200 tons to 122,100 tons. In terms of consumers Nizhnekamskneftekhim reduced purchases from 180,300 tons in January to September 2017 to 177,000 tons in 2018 but remained the largest domestic purchaser.

Metafrax, Jan-Sep 2018

Metafrax increased sales' revenues by 31% in the first three quarters in 2018 to 18.260 billion roubles. Rising prices and increasing sales helped increase turnover. From January to September, the company produced

860,000 tons of methanol (+7%), 17,340 tons of pentaerythritol (-3%), and 1,028 tons of micronized pentaerythritol (same as 2017). The share of exports in the structure of sales was 46%.

Metafrax is considering opening a joint venture in India, which is becoming a more promising market. A subsidiary of Metafrax Metadynea Trading SA (Geneva) and Korean Sunghong have already established a jv Samyang Meta for sales of hexamine and pentaerythritol in East Asia. These products are used in the manufacture of phenolic resins, explosives, rubber, plastics, synthetic rubber, adhesives and varnishes, as well as in medicine. Metafrax hopes to increase sales of urotropine and pentaerythritol in this region in addition to exploring the possibility of entering the Baltic market.

Gazprom granted right to sell gas to domestic methanol producers at unregulated prices

Following a decree issued by the Ministry of Industry at the end of October Gazprom has been granted the right to sell gas at unregulated prices to methanol producers, particularly those focused on export markets. The effect of the resolution will apply to contracts concluded after 1 November 2018, deliveries under which should begin after 1 January 2020.

TAIF and Toyo Engineering consider joint methanol projects

Toyo and TAIF are considering construction of a methanol plant in Oman, in conjunction with Mitsui. At the same time Nizhnekamskneftekhim is interested in starting production of methanol from its own resources. Toyo will present a technical and commercial proposal for a methanol production plant as part of the modernisation of the production of isoprene rubber at Nizhnekamsk. Nizhnekamskneftekhim is faced with the issue of optimizing the cost of production of isoprene rubber. At least six more companies involved in the construction of methanol production plants are participating in the tender.

For the creation of favourable conditions for undertaking methanol projects and increasing their investment attractiveness, the flexibility granted to Gazprom in gas price contracts could be highly significant. The resolution stresses that if the supplier and the producer of methanol cannot agree on the price of the supplies, the contract is concluded at the prices regulated in the prescribed manner.

Currently, a number of methanol projects are being either constructed or planned in Russia that are to use natural gas produced by Gazprom and its affiliated companies as raw materials. This will increase the sales of competitive Russian products on the world market.

The main projects that could benefit from unregulated gas prices include the Baltic Gas Chemical Company

Shchekinoazot-third methanol unit construction underway

Shchekinoazot is undergoing preparatory stages for construction of its third methanol plant, which will possess a capacity of 500,000 tpa. At the future site of methanol M-500, buildings and structures have been dismantled allowing builders to prepare the ground and surface for the methanol plant. In October of the current year NIIK plans to issue working documents for priority construction projects: the central processing unit, the methanol reservoir park and the administrative building (the presence of own ABK is a feature of the third methanol plant, which will be geographically remote from the central part of the plant). Other developments include the creation of an energy plant for the methanol unit, in addition to infrastructure investments.

which has signed an agreement with Marubeni Corporation and Invasta Capital to construct a gas-chemical complex in the Ust-Luga region on the Baltic coast. In the Russian Far East, Nakhodka Plant of Mineral Fertilisers (NHC) is implementing an investment project for the construction of a complex for the production of mineral fertilisers in the village of Kozmino of Nakhodka urban district of

Primorsky Krai. NHC will produce methanol and nitrogen fertilisers and expects the plant will be commissioned in 2022.

Organic chemicals

Russian butanol production Jan-Sep 2018

Russian butanol production amounted to 188,700 tons in January to September 2018 against 160,100 tons in the same period in 2017. The share of n-butanol in gross production comprised 58%, and isobutanol 42%. This year producers have increased the production of isobutanol significantly and slightly increased the production of normal butanol. Overall Gazprom neftekhim Salavat increased butanol production to 74,600 tons from 54,800 tons, whilst SIBUR-Khimprom increased to 70,300 tons from 57,500 tons.

Russian Butanol Production (unit-kilo tons)		
N-Butanol		
Producer	Jan-Sep 18	Jan-Sep 17
Angarsk Petrochemical	21.3	23.6
Azot	11.4	11.7
Gazprom n Salavat	46.1	37.2
SIBUR-Khimprom	30.9	28.6
Total	109.7	101.1
Isobutanol		
Producer	Jan-Sep 18	Jan-Sep 17
Angarsk Petrochemical	11.4	12.5
Gazprom n Salavat	28.5	15.3
SIBUR-Khimprom	39.1	26.4
Total	79.0	52.8

Chemical Plant purchased 9,500 tons against 9,900 tons in the same period in 2017.

Russian butanol sales, Jan-Sep 2018

Butanol sales on the merchant domestic market amounted to 44,800 tons in the first nine months in 2018 against 43,000 tons in the same period in 2017. The largest consumers remain Aktilat at Dzerzhinsk, Dmitrievsky Chemical Plant and Volzhskiy Orgsintez.

Aktilat purchased 14,600 tons of butanols in January to September 2018 against 14,400 tons in the same period in 2017. Most of Aktilat's purchases are taken from SIBUR-Khimprom, which accounted for 100% of shipments in August and September. In both those months SIBUR-Khimprom supplied butanols to other consumers including Volzhskiy Orgsintez and Roshalsky Plant of Plasticizers. Dmitrievsky Chemical Plant, which is the second largest consumer of merchant market butanols, purchased from Angarsk Petrochemical and Gazprom neftekhim Salavat. In the first nine months in 2018 Dmitrievsky

Russian N-Butanol Exports (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Gazprom n Salavat	6.7	2.9
SIBUR-Khimprom	6.3	4.7
Angarsk Petrochemical	4.2	2.3
Azot Nevinnomyssk	0.3	1.8
Dmitrievsky Chemical Plant	1.4	1.3
Total	18.9	12.9
Russian Isobutanol Exports (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Gazprom n Salavat	8.3	4.6
SIBUR-Khimprom	11.6	7.7
Angarsk Petrochemical	0.2	0.4
Dmitrievsky Chemical Plant	0.2	0.1
Total	20.3	12.7

12,300 tons (or 30% of total supplies from Russia) which was a rise of 2.8 times over 2017. Another 5,290

Russian Butanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Sep 18	Jan-Sep 17
Gazprom n Salavat	6.7	6.4
SIBUR-Khimprom	21.3	24.1
Angarsk Petrochemical	13.9	10.5
Azot Nevinnomyssk	2.1	2.0
Totals	44.0	43.0

Petrochemical increased its supply to foreign countries by more than 7.1 times in 2018.

Russian butanol exports, Jan-Sep 2018

The rapid growth of price quotations of n-butanol in Asia along with the devaluation of the rouble has helped increase in the volume of exports of Russian butanols in 2018. N-butanol exports rose to 18,900 tons in the first three quarters in 2018 against 12,900 tons in the same period in 2017, whilst isobutanol exports rose from 12,700 tons to 20,300 tons.

Rises in butanol export activity have tended to cause a shortage in the domestic merchant market. Since the beginning of 2018 the increase in the cost of normal butanol in China was almost 27%. In the European market, prices for n-butanol over this period increased by 4% and the export of butanols from Russia has more than doubled.

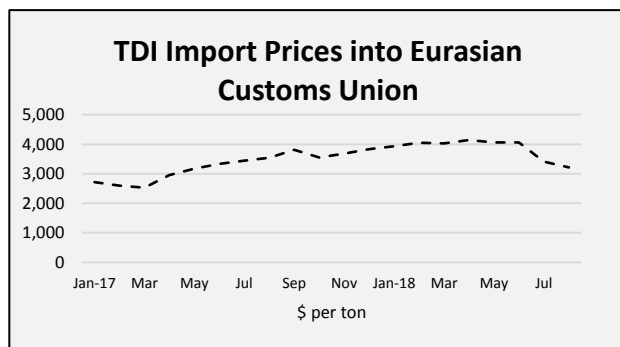
The highest volumes of Russian butanols from January to September 2018 were exported to China, 4,450 tons, and the Netherlands 4,250 tons.

The largest exporters in 2018 included SIBUR-Khimprom (38% of the total Russian exports, or 15,610 tons), Gazprom neftekhim Salavat (37%, or 15,240 tons) and the Angarsk Petrochemical Company (19%, or 7,930 tons).

Other Russian organic chemicals, Jan-Aug 2018

Russian exports of 2-ethylhexanol (2-EH) dropped in the first eight months to 16,700 tons against 17,100 tons in the same period in 2017, whilst both n-butanol and isobutanol exports increased. 2-EH exports from Russia are expected to continue falling as domestic demand increases. Acetone exports dropped from 25,500 tons in January to August 2017 to 16,900 tons in 2018, partly due to the lower production of phenol. Pentaerythritol exports from Metafrax amounted to 7,400 tons in the first eight months, representing around 50% of production at the sole Russian producer Metafrax.

Russian Organic Chemical Exports (unit-kilo tons)		
Product	Jan-Aug 18	Jan-Aug 17
N-Butanol	17.9	12.5
Iso-butanol	18.3	12.5
2-EH	16.7	17.1
Pentaerythritol	7.4	7.2
Phenol	11.7	8.9
Ethylene Oxide	8.6	10.6
Formaldehyde	12.4	13.9
DEG	9.5	15.5
MEG	23.4	39.8
Acetone	16.9	25.5
Acetic Acid	22.8	22.5
VAM	21.7	26.2
Butyl Acetate	14.4	17.1
Acrylic Acid	15.9	7.7
Esters of Acrylic Acid	42.2	25.9
Phthalic Anhydride	47.2	41.4



Eurasian TDI Imports (unit-kilo tons)		
Country	Jan-Aug 18	Jan-Aug 17
Hungary	5.9	8.4
Germany	13.4	8.5
Saudi Arabia	5.9	0.0
China	0.1	2.2
South Korea	0.6	3.4
US	1.3	5.0
Japan	1.2	0.4
Others	1.0	0.2
Total	29.4	28.1

running soon. Thus, it would need a large rise in demand to overcome supply-side concerns which should benefit import dependent countries such as Russia where purchases relate closely to affordability.

Russian & Eurasian MDI imports, Jan-Aug 2018

MDI imports into the Eurasian Customs Union in the first eight months in 2018 totalled 101,800 tons against 92,100 tons in the same period in 2017. Most of the imported MDI was bought by Russian consumers, although Belarus accounted for around 12-13% of inward shipments. Import costs for the first eight months in 2018 for the Eurasian Customs Union totalled \$257.1 million against \$212.1 million in the same period last year. The higher costs were due partly to the higher volumes and the higher average prices which jumped from \$2184 per ton for January to August 2017 to \$2564 per ton in the same period this year.

Pentaerythritol production at Gubakha totalled 17,590 tons in the first three quarters in 2018 which is 1% less than in 2017. Phthalic anhydride production amounted to 73,600 tons in the first nine months in 2018 against 75,700 tons in the same period in 2017. Kamteks-Khimprom at Perm reduced the production of phthalic anhydride by 5% to 64,400 tons, whilst Gazprom neftekhim Salavat increased production by 11% to 9,200 tons. From total phthalic production in January to September 2018 exports totalled 47,200 tons, accounting for 73% of output.

Other products

Russian TDI market

TDI import prices into Russia and the Eurasian market peaked this year April before starting to soften in the second half of the year. Imports rose in volume to 29,100 tons for the region in the first eight months in 2018, against 28,125 tons in the same period in 2017. Russia takes almost all of the TDI imported into the Eurasian Customs Union area, where the main suppliers this year have included Germany, Hungary and Saudi Arabia.

Imports from Saudi suppliers totalled 5,900 tons in the first eight months in 2018 replacing volumes in 2017 imported from the US and South Korea. Prices started to drop below \$4,000 per ton in July and August which has set the directional tone for the remainder of 2018.

Russian TDI consumers are benefiting from supply/demand factors, although somewhat offset by currency factors. In Asia market prices have been falling in October and November, particularly from China, whilst Japan reduced export shipments due to lower demand in the past couple of months. Factors such as the US-China trade war has impacted indirectly on demand in polyurethane markets, although the results of the US midterm elections may help to prevent further deterioration between Washington and Beijing.

In addition to lower demand for TDI, new plants coming on stream could add to price pressure. This includes the 300,000 tpa plant by Wanhua Chemical at Shandong, which could be up and running soon.

Eurasian Imports of MDI (unit-kilo tons)		
Country	Jan-Aug 18	Jan-Aug 17
Belgium	13.4	14.8
Hungary	4.4	4.1
Germany	13.3	31.9
Spain	0.2	1.7
Italy	0.1	1.6
China	14.8	11.4
South Korea	1.1	3.7
Netherlands	26.6	21.2
Saudi Arabia	25.9	0.2
Turkey	0.3	0.2
Switzerland	0.0	0.2
Japan	1.6	1.1
Others	0.0	0.2
Total	101.8	92.2

The major change in supply in 2018 has come from Saudi Arabia which shipped 25,949 tons in the first eight months against 200 tons in the period January to August 2017 whilst imports from Germany dropped from 31,900 tons to 13,260 tons. The largest supplier this year for the first eight months was the Netherlands, shipping 26,600 tons all of which went to Russia.

Russian & Eurasian polyol imports, Jan-Aug 2018

Russian polyol imports amounted to 73,640 tons in January to August 2018 from a total of 79,804 tons imported into the Eurasian Customs Union area. Russian imports jumped 12% in the first eight months across various polymer and liquid grades. Russian import costs for polyols rose to \$149 million for the first eight months compared to \$109 million in the same period in 2017, the increase due to a rise in both volume and price.

Russian Polyol Imports by Country (\$ million)		
Country	Jan-Aug 18	Jan-Aug 17
Netherlands	53.0	44.9
Saudi Arabia	21.7	0
Germany	12.1	13.9
China	14.7	11.1
Belgium	9.1	8.7
Poland	8.2	6.6
South Korea	6.9	4.1
Italy	4.5	4.8
Estonia	4.4	2.1
Others	14.4	12.8
Total	149.0	109.9

The main supplier to the Russian market remains the Netherlands which accounted for more than a third of shipments in January to August 2018, although proportionally lower than in 2017. Saudi Arabia has been a new entrant to the Russian market this year, consistent with other products such as isocyanates, and accounted for 15% of import shipments in the first eight months.

BASF-Krasnodar

BASF has launched a new production unit at Krasnodar where the company will produce more than 20 additives in concrete. Investments in the project amounted to about €2 million. The plant's capacity exceeds 5,000 tpa, whilst the new unit will specialise in the production of additives for concrete, from traditional plasticizers based on lignosulphonates to innovative developments based on polyaryl. Krasnodar was chosen as a platform in order to shorten delivery times and expand its presence in the construction chemicals market in southern Russia. BASF opened a plant for the production of concrete

additives at St. Petersburg in 2017.



Sika opened the tenth production unit of construction chemicals in Russia

The Swiss concern Sika has launched another plant for the production of construction chemicals in Russia. Sika commissioned the production of liquid concrete additives at Berezovka (Sverdlovsk Region). The capacity of the enterprise will be 12,000 tpa of additives. The products will be delivered to customers in Siberia, the Urals Federal District and the Volga region. The plant will produce a wide range of liquid additives in concrete comprising plasticizing, antifreeze, air-

entraining, accelerators and retarders. Liquid additives are in demand in the construction industry to improve the quality of concrete and give it unique properties.

Ukraine

Ukrainian polymer imports, Jan-Sep 2018

Imports of suspended PVC to Ukraine decreased by 28% in the first nine months in 2018 compared to 2017 and amounted to 43,700 tons. The main reason is the growth of Ukrainian production volumes by Karpatneftekhim at Kalush. For the first nine months of the year, imports from the US amounted to

Ukrainian Polypropylene Imports (unit-kilo tons)		
Category	Jan-Sep 18	Jan-Sep 17
Homo	73.0	68.0
Block	9.8	9.8
Random	12.4	9.0
Propylene copolymers	0.0	0.0
Other	1.7	1.7
Total	96.9	88.5

rose to 12,400 tons against 10,100 tons. Other grades remained unchanged at 1,700 tons. Imports of polyethylene to the Ukrainian market decreased by 3% and amounted to 179,000 tons. HDPE imports

Ukrainian Polyethylene Imports (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
LDPE	59.5	51.8
LLDPE	55.4	49.3
HDPE	54.9	74.9
Ethylene Vinyl Acetate	11.7	11.9

to last until 4 December with HDPE and PVC following a few days later. This represents the first major stop for prevention after more than a year of work since the restart in mid-2017.

28,600 tons against 25,100 tons a year earlier. Imports from European suppliers dropped from 24,100 tons in the first nine months in 2017 to 13,800 tons in 2018.

In the first three quarters polypropylene imports to the Ukrainian market amounted to 96,900 tons, which is 9% more than in 2017 from 89,400 tons. Homopolymer imports rose to 73,900 tons from 68,000 tons, block copolymers amounted to 9,800 tons versus 9,700 tons and random copolymers rose to 12,400 tons against 10,100 tons. Other grades remained unchanged at 1,700 tons. Imports of polyethylene to the Ukrainian market decreased by 3% and amounted to 179,000 tons. HDPE imports dropped to 54,900 tons against 74,700 tons, whilst LDPE rose 15% to 59,500 tons. LLDPE rose from 49,300 tons to 55,400 tons, and EVA imports amounted to 11,700 tons against 11,900 tons.

Karpatneftekhim stopped the production of HDPE and PVC in November for preventive maintenance. The outage started on 5 November and is expected

Belarus

Azot Grodno Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Methanol	59.2	61.2
Caprolactam	91.6	82.4
Polyamide primary	83.1	74.7
Polyamide filled	9.6	9.1
Ammonia	792.4	818.5
Urea	760.2	798.7
Fertilisers	572.1	586.6
Fibres	31.5	25.6

Azot Grodno chemical production, Jan-Sep 2018

In the first three quarters this year, Grodno Azot increased sales in January-September by 16%. Caprolactam production at Grodno totalled 91,561 tons in the first three quarters against 82,400 tons in the same period in 2017. Output of fibres and chemical filaments in September increased by 19.5%, totalling 3,729 tons. Production of primary polyamide at Grodno rose to 83,100 tons in the period January to September 2018 against 74,700 tons in 2017.

Belarussian Petrochemical Production (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
Ethylene	53.5	52.6
Propylene	34.2	32.9
Benzene	89.9	79.1

Belarussian ethylene, propylene and benzene production, Jan-Sep 2018

In the petrochemical sector, Belarus produced 53,500 tons of ethylene in the first three quarters in 2018 versus 52,600 tons in the same period in 2017. Propylene increased from 32,900 tons to 34,200 tons and benzene production rose from 79,100 tons to 89,900 tons.

Belarussian Polymer Imports (unit-kilo tons)		
Product	Jan-Aug 18	Jan-Aug 17
PVC	43.9	39.1
Polypropylene	69.5	66.2
LDPE	25.8	25.8
LLDPE	12.2	26.0
HDPE	36.9	30.4

Belarussian polymer trade, Jan-Aug 2018

In the first eight months in 2018 imports of polyethylene into Belarus decreased by 7.6% to 75,800 tons against 82,100 tons a year earlier. LDPE imports into Belarus totalled 25,800 tons in January-August 2018, unchanged from 2018 whilst LLDPE imports dropped from 26,000 tons to 12,200 tons. HDPE imports totalled 36,900 tons in the first eight months of 2018, up by 21.2%.

Imports of polypropylene to Belarus increased by 5.5% and amounted to 67,300 tons against 63,800 tons. Homopolymer imports rose 7.4% to 45,900 tons, whilst copolymer imports rose to 21,400 tons versus 21,100 tons. Regarding polymer exports, Belarus shipped 44,916 tons of LDPE in the first eight months in

2018 against

50,132 tons whilst HDPE increased to 7,550 tons from 2,601 tons in 2017. Alkyd resin exports from Belarus totalled 25,244 tons in the first eight months in 2018 against 23,393 tons in the same period last year, with most sales being distributed amongst CIS neighbours. PET exports from Belarus totalled 10,490 tons against 12,498 tons in January to August 2017 whilst polyamide exports rose to 49,149 tons against 42,453 tons.

Belarussian MDI Imports (unit-kilo tons)		
Country	Jan-Aug 18	Jan-Aug 17
Russia	1.6	2.4
Belgium	2.6	3.7
Hungary	1.6	2.0
Germany	3.4	3.9
Saudi Arabia	3.0	0.2
Others	1.6	0.8
Total	13.8	12.9

Belarussian MDI imports, Jan-Aug 2018

MDI imports into Belarus totalled 13,751 tons in the first eight months in 2018 against 12,881 tons in the same period in 2017. Germany was the largest source of imports this year followed by Saudi Arabia, Belgium, Russia and Hungary. MDI from Russia was supplied from import sources. Average prices over the period January to August 2018 amounted to \$2,688 per ton against \$2,411 per ton in 2017. Total import costs amounted to \$37 million in the first eight months against \$31 million.

Belarussian acrylonitrile exports, Jan-Aug 2018

Acrylonitrile exports from Belarus totalled 29,367 tons in the first eight in 2018 to 32,274 tons in the same period in 2017. Turkey was the main market for Belarussian acrylonitrile, accounting for 22,062 tons in the first eight months. Average prices for acrylonitrile exports increased to \$1697 per ton from \$1324 per ton in 2017.

Belarussian Acrylonitrile Exports (unit-kilo tons)		
Product	Jan-Aug 18	Jan-Aug 17
Russia	1.9	1.4
Hungary	3.1	2.5
India	0.0	2.0
Iran	2.3	3.0
Netherlands	0.0	12.6
Romania	0.0	0.1
Turkey	22.1	11.0
UAE	0.0	0.2
Total	29.4	32.8

Belarussian trade in phthalic anhydride, methanol and propylene, Jan-Aug 2018

Phthalic anhydride exports totalled 32,770 tons in the first eight months in 2018 against 13,324 tons in the same period in 2017. The rise in exports has been facilitated by the increase in capacity at Lida. The main destinations for Belarussian phthalic anhydride

exports included Russia, India and Columbia. Methanol exports have increased this year from Belarus, totalling 14,051 tons in the first eight months versus 7,049 tons in the same period last year.

Belarussian Organic Chemical Exports (unit-kilo tons)		
Product	Jan-Aug 18	Jan-Aug 17
Acrylonitrile	29.4	32.8
Caprolactam	4.0	6.2
Phthalic anhydride	24.3	10.0
Methanol	11.8	3.3

Methanol imports increased to 61,902 tons in the first eight months in 2018 against 30,811 tons in the same period in 2017. Russia has accounted for nearly all imports in 2018, with average prices rising to \$325 per ton against \$290 last year. Imports have increased due to increased domestic consumption.

In the aromatic sector, Belarus increased imports of orthoxylene in the first eight months in 2018 to 18,081 tons against 5,520 tons in the same period in 2017. Imports have been driven this year by the increased demand from Lakokraska at Lida where phthalic anhydride production has risen significantly. Whilst imports of orthoxylene have risen, the opposite trend has been seen for paraxylene where imports dropped to 6,219 tons in the period January versus 21,405 tons in the same period in 2017.

Propylene imports totalled 32,095 tons in the first eight months in 2018 against 31,726 tons in the same period last year. Azerbaijan supplied 2,011 tons of propylene to the Belarussian market in January to August 2018, whilst Russian supplied the remainder. Average prices for propylene imports rose to \$959 per ton this year against \$744 in the same period in 2017.

Belarussian PTA imports, Jan-Sep 2018

PTA imports into Belarus totalled 16,344 tons in the first eight months in 2018, versus 47,653 tons in the same period in 2017. Imports from South Korea dropped to 5,324 tons in January to August 2018 from 25,500 tons, whilst imports from Poland slipped slightly from 10,300 tons to 9,262 tons. PTA prices averaged \$815 per ton in the first eight months against \$761 per ton in the same period in 2017.

Belarussian PTA Imports (kilo tons)		
Country	Jan-Aug 18	Jan-Aug 17
Russia	1.2	4.0
Belgium	0.5	4.9
South Korea	5.3	25.5
Poland	9.3	10.3
Total	16.3	33.0

Mogilevkhimvolokno celebrated fifty years of operation in November, whilst preparing for the launch of its new polyester fibre plant. The capacity of the new plant is 50,000 tpa, including 35,000 tpa of PET. The commissioning of this complex will ensure a complete transition to modern technology for producing polyester from PTA. The second stage of the project involves the construction of technologically interconnected PET continuous polycondensation plants with a capacity of 80,000 tpa, fibre production lines, an additional polycondensation plant and yarn

production.

Omsk Carbon Group-Mogilev

Omsk Carbon Group received the first batch of carbon black at the Mogilev enterprise where the capacity has been designed to produce 200,000 tpa. About half of the production is planned to be sent to the Belarusian tyre manufacturer Belshina, the rest will be delivered to Poland, Sweden, Germany, Romania, and Finland. The group of companies Omsk Carbon Group includes two factories for the production of carbon black at Volgograd and Omsk. The capacity of the Omsk plant is 200,000 tpa of carbon black, Volgograd has grown to 200,000 tpa. With the launch of the enterprise in Belarus, Omsk Carbon Group plans to reach capacity of 585,000 tpa of carbon black.

Central Asia/Caucasus

Atyrau petrochemical complex-Malaysian vessel contract

KNM Group from Malaysia has won a 40 million-yuan (RM24 million) contract from China National Chemical Engineering Co (CNCEC) to supply vessels for the construction of an integrated petrochemical complex at Atyrau in Kazakhstan. It is not clear when the petrochemical complex will be completed by CNCEC which won an EPC contract in December 2015 for the construction of the project valued at \$1.795 billion.

Kazakh Polymer Imports (unit-kilo tons)		
Product	Jan-Sep 18	Jan-Sep 17
HDPE	78.1	69.7
LDPE	13.7	16.0
LLDPE	7.2	5.2
PVC	33.7	41.7
Polypropylene	25.4	24.8

The project for the construction of an integrated gas chemical complex at Atyrau assumes implementation in two phases. The first will be launched polypropylene production capacity of 500,000 tpa and the second with a polyethylene capacity of 800,000 tpa and butadiene with capacity to be decided.

Kazakh polymer imports, Jan-Sep 2018

Imports of PVC into Kazakhstan dropped 19% in the first three quarters in 2018 to 33,700 tons against 41,700 tons. Polypropylene imports amounted to 25,400 tons versus 24,800 tons, of which homopolymer shipments increased 19% to 18,000 tons. Polypropylene exports from Kazakhstan was unchanged at 18,400 tons.

Imports of polyethylene into Kazakhstan grew in January-September 2018 by 9% to 99,300 tons compared to 91,400 tons. HDPE imports exceeded 78,100 tons in the first nine months of 2018, up by 12% whilst LDPE imports dropped 17% to 13,700 tons. LLDPE imports rose from 5,200 tons to 7,500 tons.

Turkmenistan new fertiliser complex

Turkmenistan has started construction of a new complex for the production of fertilisers at Garabogaz. The capacity of the new plant is 1.16 million tpa, consuming around 1 billion cubic metres of gas per annum and includes capacities of 660,000 tpa for ammonia and 1.16 million tpa for urea.

The enterprise will be able to receive more than 2 million tpa of urea. Two thirds of the products are planned to be exported by road and sea. For this purpose, a new transshipment complex was built in Turkmenbashi.

The main contractors of the project are Japanese Mitsubishi Corporation and Mitsubishi Heavy Industries. The construction contractor selected Turkish Gap İnşaat, which is also responsible for the supply of materials, engineering and commissioning. The licensed producer of ammonia is Haldor Topsoe.

Kiyanly petrochemical complex opens in Turkmenistan

The gas chemical complex for the production of polyethylene and polypropylene in Turkmenistan was officially opened on 17 October. The capacity of the natural gas processing plant is 5 billion cubic metres per annum. Under the project, the gas-

chemical complex will be able to produce 381,000 tpa of HDPE polyethylene and 81,000 tpa of polypropylene. More than \$3.4 billion were invested in the project, involving Toyo Engineering, and a consortium of South Korean companies LG International Corporation and Hyundai Engineering Corp. License agreements were signed with Toyo (Japan), INEOS (UK), Lummus (USA), and Grace (USA).



Air Products-Uzbekistan MTO project

Air Products has been commissioned by Uzbekneftegaz to prepare a preliminary project for the production of olefins using MTO technology. A framework agreement was signed in October under which Air Products will analyse preliminary costs within three months. Uzbekneftegaz is considering two options for implementing the project, processing one billion or one and a half billion cubic metres of natural gas per annum, followed by the production of methanol and the production of olefins.

Uzbekneftegaz envisages plans to build a new gas chemical cluster with a preliminary cost of \$4.25 billion based on a public-private partnership. The cluster will include a gas chemical complex using MTO technology, as well as about ten polymer processing plants with production of up to 300,000 tpa of finished products. The gas chemical complex will process up to one and a half billion cubic metres of gas and produce 200-250,000 tpa of polypropylene, and 100,000 tpa of ethylene-propylene rubber. Other facilities could include 100,000 tpa of PET, and 100-150,000 tpa of ethylene glycol.

Relevant Currencies

Czech crown. \$1=20.852. €1 = 27.444: Hungarian Forint. Ft. \$1 = 229.253. €1 = 310.141: Polish zloty. zł. \$1=3.016. €1 =4.14
Ukrainian hryvnia. \$1 = 28.1 €1 = 32.6: Rus rouble. \$1 = 67.6 €1= 76.8

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