

# CIREC monthly NEWS

*Chemical Industry Reporting for Russia, regional partners, and Central Europe*

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## Countries

**Russia-Ukraine-Belarus-Kazakhstan-Uzbekistan-Azerbaijan  
Czech Republic-Hungary-Poland-Romania-Serbia-Slovakia**

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## Key points from Issue 369

### Central European petrochemical markets

- Orlen's petrochemical production generated earnings of over zł 1.021 billion in the second quarter, representing a fourfold increase over the same period in 2020
- In the first six months the MOL Group achieved a \$1.559 million EBITDA and for the second quarter an all-time high EBITDA of \$893 million
- Polyol producers in Central Europe including PCC Rokita and Chimcomplex report strong results for first half of 2021
- MDI imports into the Czech Republic totalled 23,656 tons in the period January to June 2021 up from 14,212 tons in the same period in 2020
- Paraxylene imports into Poland amounted to 42,500 tons in the first half of 2021 against 9,500 tons in the same period in 2020

### Russian chemical production

- The production of chemicals and chemical products in Russia increased by 8.2% in the first half of 2021 compared to January-June 2020
- Russian ethylene production totalled 2.260 million tons in the first six months in 2021 against 2.110 million tons in the same period in 2020.
- Russian polypropylene production increased by 13% in the first half of 2021 to 1.025 million tons
- Russia produced 2.202 million tons of methanol in the first six months in 2021 against 2.284 million tons in same period in 2020

### Russian chemical trade

- Russian chemical trade balance narrowed slightly in first half of 2021, driven partly by the increase in the exports of plastics
- Export shipments of Russian methanol from producers totalled 973,900 tons in the first six months in 2021 against 1.150 million tons in the same period last year
- Russian exports of synthetic rubber amounted to 372,800 tons in the first six months in 2021, up from 280,600 tons in the same period in 2020

### Project news

- Nizhnekamskneftekhim reported around 30% project completion of the new ethylene plant by end of July
- The C3 propylene splitter for the Amur Gas Chemical Complex started its journey to Svobodny in late July from the Russian pacific seaport of De-Kastri (Khabarovsk Territory)
- Baltic gas processing and gas-chemical projects at Ust Luga receive financial backing
- Tatneft has outlined plans to launch the production of PTA at the site of its Taneko oil refining complex at Nizhnekamsk in 2024-2025
- The new polypropylene plant at Atyrau is intended to serve the domestic market in addition to the export market

## CENTRAL & SOUTH EAST EUROPE

### PKN Orlen second quarter and first half in 2021

The Orlen Group posted a record-high EBITDA of zł 3.2 billion in the second quarter (€699.4 million), up by zł 1.2 billion (€263.4 million) over the same period in 2020. The main contributors to the

#### PKN Orlen Group Chemical Production (unit-kilo tons)

Product group	Jan-Jun 21	Jan-Jun 20
Monomers	316	476
Polymers	301	164
Aromatics	167	156
Fertilisers	574	425
Plastics	146	184
PTA	289	291

group's performance comprised power generation and petrochemicals. More than half of the Orlen Group's sales revenues come from foreign markets. Orlen's refining volumes rose 10% in the second quarter to 6.8 million tons.

Overall, for the second quarter revenues for the Orlen Group increased by 73% to zł 29.4 billion (€6.426 billion), even if sales of oil products and petrochemicals rose by only 9% to 9.3 million tons. Maintenance at the Olefin 11 cracker at Plock meant that production and sales of petrochemicals

were down in the first half of 2021 against 2020.

#### PKN Orlen Group Chemical Sales (unit-kilo tons)

Product group	Jan-Jun 21	Jan-Jun 20
Monomers	282	458
Polymers	283	209
Aromatics	163	164
Fertilisers	584	533
Plastics	145	195
PTA	287	298

Orlen's petrochemical production generated earnings of over zł 1.021 billion in the second quarter, representing a fourfold increase over the same period in 2020. Quarterly comparisons with 2020 are complicated due to the effects of the pandemic on economic activity, but at the same time second quarter profits from petrochemicals were higher than in any previous quarter on record.

Following the scheduled shutdown of the Olefins unit in Plock for routine maintenance, sales volumes in Poland in the second quarter fell by 27%, although sales in the Czech Republic and Lithuania rose by 58% and 367% respectively. Orlen Unipetrol underwent a force majeure for polypropylene sales in June. The 345,000 tpa plant was closed on 25 May.

#### PKN Orlen Petrochemical Revenues (zł million)

Product Group	Jan-Jun 21	Jan-Jun 20
Petrochemicals	2170	2524
Monomers	892	1351
PTA	763	691
Aromatics	231	192
Others	284	290

Orlen Group's production of monomers dropped from 476,000 tons in the first half last year to 316,000 tons whilst polymer production increased from 164,000 tons to 301,000 tons. Aromatics production rose from 156,000 tons to 167,000 tons whilst fertiliser production at Anwil increased from 425,000 tons to 574,000 tons. PTA production at Wloclawek amounted to 289,000 tons in the first half of 2021 against 291,000 tons in 2020 whilst sales dropped from 298,000 tons to 287,000 tons.

#### PKN Orlen Petrochemical Margins (€ per ton)

Product	Q3 20	Q4 20	Q1 21	Q2 21
Ethylene	499	502	559	627
Propylene	444	445	515	603
Toluene	87	64	126	195
Benzene	90	150	306	672
Butadiene	110	282	335	442
Paraxylene	235	236	243	334

Orlen Lietuva was the only group plant to report higher than 90% utilisation rates at its propane-propylene splitter, having achieved 92% in the first quarter this year. The total volume of sales in the second quarter of 2021 fell 4% to 1.0 million tons, including a drop of 69% for olefins and 22% for PVC. Polyolefin sales for the group rose though by 23% helped by propylene imports into Poland, whilst the production of fertilisers and PTA at Wloclawek increased by 12% and 3% respectively.

Petrochemical revenues for the Orlen Group dropped from zł 2.524 billion (€551.7 million) in the first half of 2020 to zł 2.170 billion (€474.3 million) in the same period this year. Revenues from monomer sales fell from zł 1.351 billion (€295.3 million) to zł 892 billion (€195.0 million). Thus, it is a mixed picture for the petrochemical division in that although prices of ethylene increased by 23% and propylene by 33% the group was restricted from maximising the returns from higher margins by restrictions on production in Poland.

<b>PKN Orlen Production (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Ethylene	99.4	240.8
Propylene	112.1	224.3
Butadiene	13.3	29.9
Toluene	6.3	5.4
Phenol	24.7	21.5
Polyethylene	67.4	176.1
PVC	74.0	141.3
Polypropylene	124.9	174.4
PTA	289	291

Ethylene production at Plock fell from 240,800 tons to 99,400 tons whilst propylene dropped from 224,300 tons to 112,100 tons. Over the first six months of 2021, the amount allocated by the Orlen Group to investments came to zł 4.2 billion (€918.0 million). PKN Orlen launched a new project under its Petrochemical Development Programme, which is the Olefins III Complex, expected to add some zł 1 billion annually (€220 million) to the Group's operating profit. The contractor for the petrochemical project is expected to be a consortium of Hyundai Engineering and Técnicas Reunidas.

#### **PKN Orlen-PTA Jan-Jun 2021**

PKN Orlen's production and sales of PTA was slightly lower in the first half in 2021, with production at Wloclawek dropping from 291,000 tons in the first half last year to 289,000 tons. Production was affected this year by paraxylene tightness, a trend which continued into April, but the position improved in May with plant will supplying minimum contract volumes.

Orlen sold 287,000 tons of PTA in January to June 2021 against 298,000 tons in the same period in 2020. Revenues rose from zł 691 million (€151.4 million) to zł 763 million (€167.2 million) with average prices rising from €508 per ton to €583. Export revenues amounted to €123.765 million in the first six months in 2021, equating to €595 per ton.

<b>Polish PTA Values (€ million)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Total Revenues	167.2	151.4
Exports	123.9	102.0
Imports	41.8	25.3
Net Values	85.1	74.7
<b>Polish PTA Supply Balance (ktons)</b>		
Production	289.0	291.0
Exports	207.2	186.4
Imports	26.9	12.7
Market Consumption	108.7	117.3

<b>Polish Exports of PTA (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Belarus	6.1	15.9
Germany	178.2	147.3
Lithuania	16.2	6.1
Switzerland	2.5	4.0
Others	4.2	13.5
Total	207.2	186.9

PTA exports from Poland amounted to 207,210 tons in the first six months in 2021 against 186,854 tons in the same period in 2020. Shipments to Germany increased to 178,200 tons from 147,300 tons in January to June 2020. Other destinations for Polish PTA include Lithuania and Belarus, with volumes rising in 2021 to Lithuania and dropping for Belarus. Imports of PTA into Poland rose to 26,900 tons in the first six months in 2021 against 12,700 tons in the same period in 2020.

<b>Polish Propylene Imports (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Germany	58.3	1.1
Lithuania	6.4	13.4
Russia	22.3	10.8
Ukraine	34.1	39.9
Others	0.0	5.1
Total	121.2	70.2

#### **Polish propylene imports, Jan-Jun 2021**

Propylene imports into Poland amounted to 121,200 tons in the first six months in 2021 against 70,200 tons in the same period in 2020.

Lower propylene production from the cracker by PKN Orlen has been the cause of higher imports this year. Germany supplied 58,300 tons of propylene to the Polish market in January to June 2021, up from 1,054 tons, followed by Ukraine which was down from 39,900 tons to 34,100 tons.

<b>Czech Petrochemical Imports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Ethylene	2.4	2.4
Propylene	24.0	26.4
Butadiene	38.4	26.1
Benzene	44.2	43.4
Toluene	3.5	2.7
Styrene	29.4	18.1

#### **Czech petrochemical trade, Jan-Jun 2021**

Butadiene imports into the Czech Republic totalled 38,444 tons in the first six months in 2021 versus 26,119 tons in the same period in 2020. This continues the upward trend from 2020. In January to June 2021 Germany supplied 32,346 tons of butadiene to the Czech market for €23.063 million followed by Hungary with 5,160 tons for €3.874 million.

For other monomers, propylene imports in the first six months dropped from 26,409 tons to 23,994 tons whilst styrene imports rose from 18,061 tons to 29,379 tons. Benzene imports increased to 44,195 tons.

Czech Petrochemical Exports (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Ethylene	15.4	7.0
Propylene	2.0	5.1
Butadiene	1.2	0.0
Benzene	21.8	10.2
Toluene	4.8	2.9
Ethylbenzene	58.6	29.4

Regarding export activity, the Czech Republic increased benzene shipments in the first six months to 21,753 tons from 10,215 tons whilst ethylbenzene exports rose from 29,424 tons to 58,563 tons. All of the ethylbenzene is exported to Poland.

#### MOL second quarter and first half in 2021

In the first six months the MOL Group achieved an EBITDA of \$1.559 billion and for the second quarter an all-time high EBITDA of \$893 million which was 153% higher than in the second quarter in 2020. Downstream results were driven by strong petrochemical performance on the back of strong polymer demand, whilst refining continued to be affected by lower fuel demand across the Central European region.

MOL's Olefin & Polyolefin Production (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Ethylene	425	410
Propylene	220	210
Butadiene	55	27
Raffinate	84	45
Product	Jan-Jun 21	Jan-Jun 20
LDPE	132	129
HDPE	196	202
PP	278	265

MOL's downstream Q2 EBITDA increased by 305% to \$447 million, boosted by very strong petrochemical performance while refining margins gradually recovered from the lows of Q2 2020. For the first half of 2021 the downstream division generated 73% better result than in the same period last year. The downstream result was driven primarily by performance in petrochemicals, which in addition to higher production saw its integrated margin achieving an all-time high of €1035.8 per ton in April.

MOL's large polyol project had exceeded 84% of its construction schedule by the end of Q2, whilst the MOL Group has launched a joint project with Tatneft to build a rubber-modified bitumen in Russia.

MOL's Feedstock Margins			
Macro figures (average)	H1 2021	H1 2020	Ch %
Naphtha (\$/ton)	550	294	87
MOL Group refinery margin (\$/bbl)	3.4	4.5	(24)
Ethylene (€/ton)	995	813	22
Butadiene-naphtha spread (€/ton)	329	296	11
Group petrochemicals margin (€/ton)	809	407	99

#### PCC Rokita-polyols exports Jan-Jun 2021

PCC Rokita increased production of polyols to 49,100 tons in the first half of 2021 against 43,100 tons in the same period in 2020. From the production of 49,100 tons the company exported 36,147 tons of polyols at a total cost of €88.746 million compared to 27,920 tons for €49.096 million in the same period in 2020.

All five production lines jointly amount to a capacity of 110,000 tpa of polyether polyols. PCC Rokita to start maintenance at No. 2 and No. 3 polyols unit at Brzeg Dolny.

PCC Rokita recorded an unchanged margin of 14% in the first half in 2021 from a turnover of €99 million against €80 million in the same period in 2020. Materials and energy used amounted to 56% of total costs

PCC Exol's Surfactant Sales (unit-kilo tons)		
Product Group	Jan-Jun 21	Jan-Jun 20
Detergents and cosmetics	32.6	30.1
Industry	16.8	15.7
PCC Exol's sales (zł million)		
Product Group	Jan-Jun 21	Jan-Jun 20
Detergents and cosmetics	152.6	125.4
Industry	148.5	134.5

which amounted to €94.2 million which was €24.5 million higher than in January to June 2020. Raw materials include propylene, benzene and ethylene oxide. In addition to higher raw material costs PCC Rokita is faced by the challenge of higher electricity prices, which are rising following the rising prices of CO2 emission allowances.

#### PCC Exol Jan-Jun 2021

PCC Exol recorded an increase of 7.9% in sales in the first half of 2021 over the same period in 2020 to a total of 49,400 tons. Surfactants increased both for applications in detergents and cosmetics and industrial applications. Sales revenues amounted to zł 301.1 million which was 15.8%

higher than in 2020, although higher volumes and selling prices were offset by higher raw material prices, for ethylene oxide and natural alcohol which affected profitability. As a result, PCC Exol achieved a sales



margin of 17.8% which was down against 21% in the same period in 2020. The EBITDA dropped in the first half of 2021 by 3% to zł 36.5 million.

PCC Exol undertakes production at Brzeg Dolny and Płock with on a total of five plants comprising ethoxylation I and II, sulphated I and II and formulations Industrial. The current production capacity of the company is 137,000 tpa including 102,000 tpa at Brzeg Dolny and 35,000 tpa at Płock, depending on the assortment produced and is specified for standard products.

### Chimcomplex Jan-Jun 2021

Chimcomplex reported a net profit of €57.7 million in the first six months in 2021 based on a turnover of €238 million. Sales on the foreign market, mostly aimed at European markets accounted for about 78% of total product sales in the first half of 2021. The largest share of sales is held by polyols and caustic soda. Chimcomplex aims to complete the construction of its new polyol plant at Ramnicu Valcea in 2021 after an investment of €40 million at the Oltchim site. This will increase polyol production capacity to over 140,000 tpa and will take Chimcomplex into the top eight players in Europe by capacity.

Chimcomplex Production (€ million)		
Product	Jan-Jun 21	Jan-Jun 20
Polyols	170.3	62.1
Chlor-alkali	41.1	40.9
Oxo alcohols	22.2	0.0
Others	4.6	6.6
Total	238.2	109.7

of 2021, the company expects to consolidate the positive results. The consolidation of the polyols and hydrogen portfolio, with a major impact on the decarbonization process, forms a key part of the company's strategy.

Chimcomplex achieved an EBITDA of €83 million in the first half of 2021 which was 36% of turnover. This allowed the consolidation of the company's financial position and the repayment of €52 million from the loans contracted in December 2018 for the acquisition of Oltchim's assets. For the second half

Czech MDI Imports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
China	1.5	1.4
Belgium	6.7	4.2
Germany	9.1	5.0
Hungary	4.1	1.4
Netherlands	1.2	1.1
Others	1.1	1.0
Total	23.7	14.2

### Central European isocyanate imports, Jan-Jun 2021

The strong demand for polyurethanes in Central Europe is helping to drive the market for isocyanates where costs have been much higher this year. MDI imports into the Czech Republic totalled 23,656 tons in the period January to June 2021 up from 14,212 tons in the same period in 2020. Import costs rose in the first six months this year to €52.737 million against €19.403 million in the period January to June 2020. TDI imports into the Czech Republic rose from 2,952 tons in January to June 2020 to 3,588 tons in the same period in 2021.

TDI imports into Poland amounted to 39,707 tons in the first six months in 2021 against 46,000 tons in the same period in 2020. Costs of imports in the first half of 2021 totalled €104.798 million, equating to €2639 per ton. Germany and Hungary were the two largest suppliers providing 12,723 tons and 18,607 tons in January-June 2021 respectively.

Polish TDI Imports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Germany	12.7	9.9
Netherlands	3.5	7.7
Hungary	18.6	10.6
Belgium	0.6	1.3
Saudi Arabia	1.4	1.9
Others	3.0	14.6
Total	39.7	46.0

MDI imports into Poland amounted to 85,461 tons in the first six months in 2021 against 63,700 tons in the same period last year. Costs of imports in 2021 for the first half totalled €187.4 million. Average prices per ton for the whole of 2020 amounted to €1364 but have risen to €2193 per ton in the first six months in 2021. Major MDI suppliers to the Polish market this year so far include Germany, Hungary and Belgium.

### BorsodChem TDI-MDI planned outage and MDI expansion

BorsodChem's TDI and MDI units in Hungary began a series of overhauls on 17 August which are expected to take until the end of September or up to 50 days. The shutdown will comprise a technical upgrade of the MDI plant, which is expected to increase the production capacity from 300,000 tpa to 350,000 tpa. BorsodChem's maintenance started straight after Wanhua Chemical had completed its maintenance at the MDI plant at Shandong in China.

Polish Petrochemical Imports (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Butadiene	66.2	48.3
Ethylbenzene	45.0	29.4
Paraxylene	42.5	9.5
Propylene	121.2	70.2
Styrene	56.4	59.6
Toluene	11.0	12.4

#### Polish petrochemical imports, Jan-Jun 2021

Paraxylene imports into Poland amounted to 42,500 tons in the first half of 2021 against 9,500 tons in the same period in 2020. Imports supplement paraxylene production at Wloclawek.

Poland imported 66,200 tons of butadiene in the first six months in 2021 against 48,300 tons in the same period in 2020. Hungary supplied 25,600 tons to Poland in the first six months this year for €18.9 million whilst Austria

supplied 15,200 tons for €13.5 million. The main buyer of butadiene in Poland is Synthos, as with styrene.

MSK Kikinda Exports (unit-kilo tons)		
Product	Jan-May 21	Jan-May 20
Methanol	48.4	45.9
Acetic Acid	35.7	36.0

The acquisition of Trinseo's rubber business has intensified the interest in securing sufficient stocks of butadiene and styrene.

#### Central European methanol trade, Jan-Jun 2021

Methanol exports from MSK in Serbia amounted to 48,400 tons in the first five months in 2021 versus 45,900 tons in the same period in 2020, followed by a slight fall in acetic acid exports from 36,000 tons to 35,700 tons. MSK runs its own fleet of rail wagons and uses the port of Bar in Montenegro.

Polish Methanol Imports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Belarus	1.3	4.6
Finland	42.0	26.5
Lithuania	3.8	5.4
Germany	39.0	4.1
Netherlands	25.7	0.0
Norway	4.3	21.4
Russia	213.9	251.7
Equatorial Guinea	2.5	0.000
Others	10.8	46.0
Total	343.2	359.7

Polish methanol imports amounted to 343,200 tons in the first six months in 2021 from 359,700 tons in the same period in 2020 whilst exports fell from 104,600 tons to 95,000 tons. As a non-producer Poland re-exports methanol to Austria, the Czech Republic and Germany.

Russia is the major supplier to the Polish market and reduced shipments to 213,865 tons in January to June 2020 from 251,700 tons in the same period last year. Shchekinoazot is one of the main suppliers of methanol to the Polish market which it ships by rail through Belarus. Prices of methanol have risen sharply this year averaging €300 per ton in the first six months, almost double the average prices recorded in 2020.

Methanol imports into the Czech Republic amounted to 47,600 tons in the first six months in 2021 against 44,500 tons in same period in 2020. Russian shipments into the Czech Republic rose from 17,800 tons to 28,900 tons, whilst at the same time volumes from Poland

Czech Methanol Imports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Germany	7.1	6.7
Norway	0.0	0.4
Russia	28.9	17.8
Poland	10.7	18.8
Others	0.8	0.4
Total	47.6	44.5

dropped from 18,800 tons to 10,700 tons.

#### Grupa Azoty Jan-Jun 2021

Grupa Azoty has seen probably the least successful performance of the Polish chemical producers in the first half of 2021 due mainly to the price of gas and the impact on the fertiliser sector. In the chemistry segment, the increase in results was the result of high prices (especially plasticizers, melamine, and technical urea). The margins achieved were

negatively affected by strong increases in the prices of raw materials such as propylene, PTA, phosphate rock. In the plastics segment, higher polyamide prices resulting from higher demand had a

Grupa Azoty First Half of 2021 Financial Performance		
Product Group	Revenues	EBITDA
Fertilisers	zł 3.661 billion	zł 415 million
Chemicals	zł 1.712 billion	zł 181 million
Plastics	zł 842 million	zł 33 million
Energy	zł 168 million	zł 56 million

positive impact on the results. Polyamide-6 exports by Grupa Azoty totalled 85,515 tons in the first half of 2021 which gave revenues of €176.579 million.

In the first half of 2021, Grupa Azoty achieved zł 6.54 billion in revenues,

zł 383 million in operating profit, zł 766 million in EBITDA and zł 254 million in net profit.

## RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Caustic Soda	551.4	658.0
Soda Ash	1,436.0	1,682.0
Ethylene	2,260.2	2,109.8
Propylene	1,544.5	1,544.2
Benzene	677.3	714.0
Xylenes	296.2	256.6
Styrene	390.3	359.3
Phenol	127.8	127.7
Ammonia	10,200.0	10,100.0
Nitrogen Fertilisers	5,804.0	5,715.0
Phosphate Fertilisers	2,108.0	2,196.0
Potash Fertilisers	5,402.0	4,846.0
Plastics in Bulk	5,445.0	4,906.0
Polyethylene	1,749.0	1,667.0
Polystyrene	269.8	282.8
PVC	549.9	542.5
Polypropylene	1,024.9	904.9
Polyamide	99.8	82.0
Synthetic Rubber	860.0	727.0
Synthetic Fibres	102.7	62.0

### Russian chemical production, Jan-Jun 2021

The production of chemicals and chemical products in Russia increased by 8.2% in the first half of 2021 compared to January-June 2020. The production of rubber and plastic products increased by 16.2% whilst the production of synthetic fibres amounted to 102,700 tons. For the six months of 2021, 13.3 million tons of fertilisers were produced amounting to 7.4% more than in January-June 2020.

The production of plastics in primary forms in June amounted to 937,000 tons, which is 18.7% more than in June 2020, but 1.2% less than in May 2021. For the six months of 2021, the production of plastics in primary forms amounted to 5.5 million tons, which is 12.8% more than in January-June 2020.

Production of synthetic rubbers in June amounted to 135,000 tons which is 22.8% more than in June 2020, and 4.3% more than in May 2021. For the six months of 2021, the Russian production of synthetic rubbers in primary forms amounted to 859,000 tons, which is 18.3% more than in January-June 2020. The production of polymer-based paints and varnishes amounted to 636,000 tons in the first half of 2021 which is 9.9% more than in January-June 2020.

### Russian chemical trade Jan-Jun 2021

Higher prices have been seen across the board in the first half of 2021 for Russian exports and imports of organic chemicals, polymers and rubber. Vaccine sales (Sputnik V) have driven up export values of pharmaceuticals. Imports of pharmaceuticals into Russia amounted to \$3.090 billion in the second quarter in 2020 against \$611 million for exports.

In the organic chemical sector export values were boosted by higher prices of methanol, acetone and caprolactam whilst import values were affected by higher costs for products such as isocyanates and PTA. Overall chemical export revenues totalled \$6.1 billion in the second quarter this year against \$4.0 billion in the same period in 2020.

Exports of plastics and rubber from Russia totalled \$2.6 billion in the second quarter this year against \$1.4 billion in the same period in 2020, helped significantly by the increase in polymer

Russian Chemical and Polymer Trade						
Exports	Volume (ktons)					
Category	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21	Q2 21
Chemicals	10764	12720	13699	12523	12833	13344
Plastics and Rubber	906	1104	1411	1292	1325	1557
Exports	Value (\$ billion)					
Category	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21	Q2 21
Chemicals	3.88	4.01	4.07	4.12	4.61	6.1
Plastics and Rubber	1.4	1.41	1.8	1.79	1.98	2.55
Imports	Volume (ktons)					
Category	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21	Q2 21
Chemicals	2572	2784	2741	2794	2643	2893
Plastics and Rubber	1128	1120	1291	1218	1131	1416
Imports	Value (\$ billion)					
Category	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21	Q2 21
Chemicals	6.28	8.06	6.42	8.61	8.07	8.64
Plastics and Rubber	3.09	2.97	3.38	3.51	3.55	4.57

production at ZapSibNeftekhim. Exports of plastics and rubber products totalled 1.557 million tons in the second quarter this year against 1.104 million tons in the same period in 2020. Despite the rise in production imports increased to 1.416 million tons in the second quarter versus 1.120 million tons in 2020.

## Russian petrochemical projects

### Amur Gas Chemical Complex-C3 propylene splitter

The C3 propylene splitter for the Amur Gas Chemical Complex at Svobodny started its journey in late July from the Russian pacific seaport of De-Kastri (Khabarovsk Kray). The column weight of the C3 splitter is 968 tons with a length of 111 metres and is planned for installation at the end of September 2021. The column is being delivered to the construction site on the Tomsk barge, which returned in July to the port of De Kastri after the first column delivery to the unloading berth near Svobodny.

Amur Gas Chemical Complex main products	
Product	Capacity
Ethylene	2.3 million tpa
Polyethylene	2.3 million tpa
Polypropylene	400,000 tpa

Delivery of the C3 splitter column will be carried out through Nikolaevsk-on-Amur, along the Amur and Zeya rivers, then the barge-tow train with the column will follow to a temporary pier located at 212 km of the Zeya

River. The barge will be able to use this navigational route from May until September. From October to April equipment deliveries will need to be undertaken by road and rail. The estimated completion date for construction of the Amur Gas Chemical Complex and start-up work has been set for 2024.

### Amur GPP-fifth line delivered in July

The largest equipment for the fifth technological line for the Amur Gas Processing Plant was delivered in July to the berth at Svobodny, including methane emission columns (demethanizer) and nitrogen removal. This is the largest and dimensional equipment delivered to the Amur GPP during the summer navigation period in 2021. The weight of the demethanizer is 870 tons, the length is 88 metres. During the summer navigation period in 2021, Gazprom has scheduled delivery of 37 units of equipment with a total weight of about 5,600 tons to the construction site of the Amur GPP. Four barge-bucking trains will be used to transport goods along the Amur and Zeya rivers.

This project is important as it will provide feedstock to SIBUR's Amur Gas Chemical Complex, in regard to LPGs and ethane. Gazprom plans to process 42 billion cubic metres of natural gas at the Amur GPP which will produce 1.5 million tpa of LPGs (1 million tpa of propane and 500,000 tpa of butane), 2.5 million tpa of ethane, and 200,000 tpa of pentane-hexane fraction. Gazprom is constructing the Amur GPP as part of the infrastructure of the Power of Siberia pipeline, designed to export gas to China.

### Nizhnekamskneftekhim-ethylene project

Nizhnekamskneftekhim has completed the installation of compressors for the new olefin complex EP-600, in addition to starting installation of the overpass which is designed for laying pipelines and cable lines. Around 30% of the olefin project was completed by the end of July.

Nizhnekamskneftekhim is undertaking a project for the construction of polyethylene units with a capacity of 600,000 tpa integrated into the new ethylene complex,

addition to the polypropylene plant of 400,000 tpa. In February 2020, NKNK and Turkish Gemont signed a contract for the implementation of a complex of construction and installation works for the construction of the first stage of the ethylene complex. The project is scheduled to be completed in July 2023.

### Lukoil-Budyennovsk ethylene expansion

Lukoil is reviving previously idled plans for the expansion of production capacity for the Stavrolen plant at Budyennovsk. This involves the construction of the complex for the processing of associated gas, which is obtained during the production of oil in the North Caspian. Its capacity would be about 5.0 billion cubic metres per annum. Also, the company plans to expand the production of ethylene from 350,000 tpa to 420,000 tpa and polyethylene from 300,000 tpa to 420,000 tpa. Lukoil also wants to increase the production of copolymer grades of polypropylene from 80,000 tpa to 120,000 tpa. Previous plans were outlined more than a decade ago and failed to materialise.

ethane-containing gas and 50% into petrochemicals. Questions on finance are complicated with part coming from the VEB bank and another part includes funds being provided by the National Welfare Fund. This latter source is designed in principle to cover pensions but is used occasionally for large-scale projects where there is government interest.

### Ruskhimalliance-Ust Luga gas processing and gas chemical

Ruskhimalliance, Linde and Renaissance Heavy Industries have signed an EPC contract for the construction of the gas processing facility at Ust-Luga on Russia's Baltic coastline. Linde and Renaissance Heavy Industries consortium have been contracted to carry out work on the design, supply of equipment, construction and commissioning of gas processing facilities and the industrial plant of the gas processing complex. The total investment in the project to create a complex at Ust-Luga will amount to about 3 trillion roubles (\$41 billion). This can be broken down into 50% investment into processing



### Yamal gas for Ust Luga petrochemicals

Gas producers of Yamal began commissioning the Semakovsk natural gas field, intended for supply to the Ust Luga gas processing and gas-chemical investments. This will be the first step towards the development of the Tambey field with reserves of 4 trillion cubic metres. Gas production will be handled by Ruskhimalliance, a joint venture between Gazprom and RusGazDobycha. This gas source is expected will become a resource base for the gas chemical cluster in Ust-Luga, which could be the most expensive and large-scale LNG project to date in Russia.

The first part of the Ust Luga site consists of an integrated natural gas processing and liquefaction complex (Ruskhimalliance, Gazprom JV and Rusgazdobysha). The second is the interlinked gas-chemical complex Baltic Chemical Complex which is a subsidiary of Rusgazdobysha.

Lummus has been commissioned to supply a total of 14 furnaces for the production of ethylene for the Baltic Chemical Complex whilst a number of license agreements for polyolefin capacities have already been signed. Rusgazdobysha, Gazprom and Linde have created an engineering company Gazprom Linde Engineering on the basis of the design institute Salavatgazoneftekhimproekt.

Gazprom-Baltic Project Outline	
Gas processing	45 billion cubic metres per annum
Methane	19 billion cubic metres per annum
LNG	13 million tpa
LPG	2 million tpa
Ethane	4 million tpa
Ethylene	3 million tpa
Polymers	3 million tpa

### Irkutsk Oil Company-polymerisation unit installed

The largest piece of equipment the polymerisation reactor has been installed at the Irkutsk Polymer Plant at Ust-Kut. The weight of the unit is 538 tons, height 44.5 metres, and diameter 9.6 metres. Currently, 33 units of equipment out of 44 have been installed at the construction site.

Ethylene polymerisation reactor weighing 538 tons at the Irkutsk Polymer Plant



The construction of the polymer plant is being carried out by the Irkutsk Oil Company. Delivery of 45 pieces of equipment from the port of South Korea to Ust-Kut was completed in September last year. At present, work is being completed on the preparation of foundations for installation, and the assembly of the main crane with a lifting capacity of 1,600 tons is underway.

Installation is expected to be completed by September 2021. The Irkutsk Polymer Plant is the first ethane polymer plant in East

Siberia, using its own raw materials from the oil and gas fields in the northern part of the Irkutsk Oblast. The production capacity of the polyethylene plant is being designed at 650,000 tpa. In addition to polyethylene the Irkutsk Oil Company (INK) intends to build a second helium plant at the Markov field in the Irkutsk region, which will allow the company to become the second largest producer in Russia. Currently, the company is building its first helium plant in the Yarakta field which is planned for launch in 2022. The second plant is planned to be built by 2025.

### SIBUR-TAIF Operating Performance Jan-Jun 2021

SIBUR's financial performance (Billion roubles)		
	H1 21	H1 20
Total Revenues	374.340	335.316
EBITDA margin	45.4%	31.4%
EBITDA by segment		
Olefins and Polyolefins	190.595	91.715
Plastics, Elastomers and Intermediates	93.533	57.124
Midstream	149.961	96.231
Profit for the year	107.737	35.866

### SIBUR Jan-Jun 2021

SIBUR's revenue increased in the second quarter by 15.8% to 200.9 billion roubles (\$2.734 billion), compared to 173.4 billion roubles in the first quarter (\$2.361 billion). Overall SIBUR's turnover amounted to 374.340 billion roubles (\$5.097 billion) in the first half of 2021 against 335.316 billion roubles (\$4.565 billion) in the same period in 2020.

Revenues from sales of olefins and polyolefins (predominantly the latter) rose from 91.715 billion roubles (\$1.249 billion) in the first half of 2020 to 190.595 billion roubles (\$2.599 billion) in the

same period in 2021. This meant that the product group accounted for more than half of the group's turnover.

<b>SIBUR's monomer &amp; Intermediate Production (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Benzene	86.7	85.4
Styrene	98.6	99.4
PTA	145.7	116.2
Propylene	713.8	544.7
Ethylene Oxide	164.9	160.0
Butadiene	132.5	98.5
Isoprene	0.0	0.0
Isobutylene	17.6	9.9
Ethylene	1076.6	862.9

#### **SIBUR's sales and production Jan-Jun 2021**

SIBUR increased sales of most of its petrochemical products in the first half in 2021 mainly through increased production of olefins and polyolefins as ZapSibNeftekhim reached its design capacity utilisation rate. Elsewhere, SIBUR increased PTA production in the first half this year to 145,700 tons against 116,200 tons in January to June 2020, whilst butadiene production increased from 98,500 tons to 132,500 tons.

#### **SIBUR's operating results Jan-Jun 2021**

SIBUR's operating expenses increased in the second quarter by 3.9%, rising from 115.6 billion roubles (\$1.574 billion) over the first quarter to 120.1 billion roubles (\$1.634 billion) due to the significant increase in the cost of feedstock and a rise in transportation and logistics costs. This was also compounded by higher repairs and maintenance costs.

<b>SIBUR's Operating Results</b>			
	<b>H1 2021</b>	<b>H1 2020</b>	<b>Change</b>
APG processing (bcm)	9.847	10.896	(9.6%)
NGL fractionation (ktons)	3,963	3,850	2.9%
<b>Sales volumes (unit-kilo tons)</b>			
Petrochemical products	2,711	2,414	12.3%
PE	818	551	48.3%
PP	612	509	20.3%
Other sales	1,281	1,354	(5.4%)
Midstream products	1,879	2,326	(19.2%)

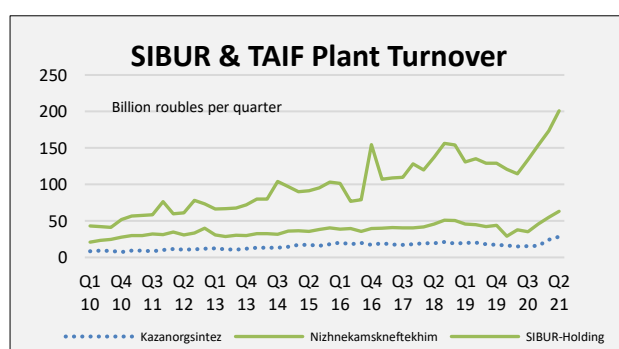
SIBUR's gas processing plants processed 5 billion cubic metres of associated gas in the second quarter, up 3.1% quarter the first quarter in 2021. Raw NGL fractionation volumes remained nearly unchanged from Q1 2021 at 2.0 million tons.

SIBUR's EBITDA in the olefins and polyolefins segment increased by 41.4% to 51.5 billion roubles (\$701.2 million). For the first half of this year SIBUR's EBITDA rose 183.4% over the same period in 2020 due to an increase in the production of polypropylene and polyethylene at ZapSibNeftekhim. Sales of plastics and organic synthesis products by the SIBUR Group remained unchanged from Q1 2021 at 204,000 tons. Sales of elastomers decreased by 13% to 94.500 tons.

<b>SIBUR Feedstock Costs (billion roubles)</b>				
<b>Product</b>	<b>H1 21</b>	<b>% of costs</b>	<b>H1 20</b>	<b>% of costs</b>
NGLs	59,446	64.4%	21,297	44.1%
APG	15,055	16.3%	14,113	29.2%
Paraxylene	5,796	6.3%	1,710	3.5%
Benzene	3,019	3.3%	1,377	2.8%
<b>Total feedstock costs</b>	<b>92,307</b>	<b>100.0%</b>	<b>48,339</b>	<b>100.0%</b>

production volumes at ZapSibNeftekhim. Higher costs were driven mainly by an increase in feedstock expenses amid higher purchasing volumes of raw NGL and naphtha and higher prices. Paraxylene costs also more than doubled due to higher purchases by Polief for the production of PTA.

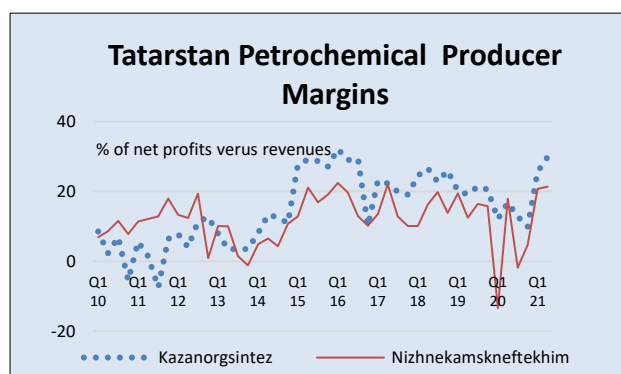
External sales of plastics, elastomers and intermediates decreased by 8% in the second quarter against the first quarter, primarily due to maintenance works at the company's Voronezh site. External sales of LPG and naphtha increased by 5% and 26.4%, respectively, due to lower internal consumption, as well as due to higher



#### **TAIF petrochemical performance Jan-Jun 2021**

The main petrochemical assets of TAIF including Nizhnekamskneftekhim and Kazanorgsintez in the first half of 2021 increased net profit several times over the same period in 2020. Kazanorgsintez increased its net profit three-fold in the first half of 2021 to 14.695 billion roubles (\$200.0 million), whilst revenue rose 68% to 52.602 billion roubles (\$716.2 million). Gross profit for

Kazanorgsintez increased to 22.5 billion roubles (€306.3 million) against 7.87 billion roubles (\$107.2 million) in the first half of 2020, while profit from sales increased by 3.8 times to 19.3 billion roubles (\$262.8 million). The performance results of Kazanorgsintez are primarily due to the recovery of the polymer market after the economic effects from the pandemic last year.



Nizhnekamskneftekhim (increased net profits from 2.9 billion roubles (\$39.484 million) to 24.9 billion roubles (\$339.0 million) in the first half of 2021. The company's revenue increased by 1.8 times to 118.2 billion roubles (\$1.609 billion) against 67.1 billion roubles (\$913.6 billion) in the same period in 2020. Gross profit increased by 2.3 times to 38 billion roubles (\$517.4 million), which is 21.6 billion (\$294.0 million) more than in the first half of 2020 (16.5 billion roubles or \$224.6 million).

In the first half of 2021, Nizhnekamskneftekhim produced 1.35 million tons of marketable products of all types, which is 170,000 tons higher than in the same period last year. The production of rubbers increased to 336,400 tons in the first half of 2021 against 262,700 tons for the same period last year. The production of plastics amounted to 357,400 tons. Nizhnekamskneftekhim continues to expand its rubber range following the introduction of new products DSSK, rubber SKD-777, and thermoplastic TEP in addition to polyethylene glycol H-PEG-2400.

**Nizhnekamskneftekhim Production (unit-kilo tons)**

Product	Jan-Jun 21	Jan-Jun 20
Ethylene	323.6	328.3
Propylene	159.5	157.3
Benzene	159.5	152.1
Polypropylene	110.0	110.0
Styrene	155.4	149.4

The production of DSSK is a strategically important project of the company, whilst also introducing SKD-777 rubber (lithium polybutadiene) based on the company's own technology which was developed in 2018. In 2021, its development on an industrial scale began. SKD-777 is used in the formulation of tread rubber compounds in the production of passenger and light truck tyres of the summer and all-season range.

**Kazanorgsintez Production (unit-kilo tons)**

Product	Jan-Jun 21	Jan-Jun 20
Ethylene	299.1	318.5
Propylene	25.1	24.6
Acetone	27.0	25.6
Phenol	42.6	40.4
Polycarbonate	44.0	26.0
HDPE	206.0	271.1

The production of ethylene in the TAIF Group totalled 622,700 tons in the first half of 2021 against 646,800 tons in the same period in 2020. Propylene amounted to 184,500 tons against 181,900 tons. Kazanorgsintez increased polycarbonate production in 2021 following capacity expansion whilst HDPE production dropped from 271,100 tons in the first half of 2020 to 206,000 tons in the same period in 2021.

**Russian Ethylene Production (unit-kilo tons)**

Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Polymer Plant	112.0	112.6
Kazanorgsintez	299.1	318.5
Stavrolen	174.0	175.6
Nizhnekamskneftekhim	323.6	328.3
Novokuibyshevsk Petrochemical	27.2	23.8
Gazprom N Salavat	180.2	193.1
SIBUR-Kstovo	202.8	209.3
SIBUR-Khimprom	29.9	28.2
Tomskneftekhim	141.6	142.7
Ufaorgsintez	37.3	66.8
ZapSibNeftekhim	732.5	510.9
Total	2260.2	2109.8

### Russian petrochemical production

#### Russian ethylene production, Jan-Jun 2021

Russian ethylene production totalled 2.260 million tons in the first six months in 2021 against 2.110 million tons in the same period in 2020. ZapSibNeftekhim produced 732,500 tons of ethylene up from 510,900 in January to June 2020. Other Siberian producers include Tomskneftekhim, which reduced production from 142,700 tons to 141,600 tons and Angarsk Polymer Plant which was down slightly to 112,000 tons.

In Tatarstan Nizhnekamskneftekhim reduced ethylene production from 328,300 tons to 323,600 tons whilst

Kazanorgsintez reduced production from 318,500 tons to 299,100 tons. Both producers belong to the TAIF Group, and both reported weak financial results for 2020. In Bashkortostan Ufaorgsintez reduced ethylene production to 37,300 tons from 66,800 tons in January to June 2020 after encountering a fire at the cracker in February. Gazprom neftekhim Salavat reduced production slightly from 193,100 tons to 180,200 tons.

<b>SIBUR's Olefin Production (unit-kilo tons)</b>			
<b>Monomer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>	<b>Change</b>
Ethylene	1,076.905	862.884	24.8%
Propylene	713.761	544.669	31.0%

19,700 tons against 19,200 tons.

Smaller Russian ethylene producers include Novokuibyshevsk Petrochemical, in the Samara region, and SIBUR-Khimprom in the northeast Urals. Production at Novokuibyshevsk increased in the first six months in 2021 to 27,200 tons from 23,800 tons whilst SIBUR-Khimprom at Perm produced

In the Nizhniy Novgorod region SIBUR-Kstovo produced 202,800 tons of ethylene in the first six months in 2021 against 209,300 tons in the same period in 2020. In the Stavropol region Stavrolen produced

<b>Russian Propylene Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Angarsk Polymer Plant	62.4	62.1
Kazanorgsintez	25.1	24.6
Lukoil-NNOS	107.8	111.4
Stavrolen	69.3	67.7
Nizhnekamskneftekhim	159.5	157.6
Novokuibyshevsk Petrochemical	15.6	17.3
Omsk Kaucuk	13.3	19.7
Polyom	97.5	90.6
Gazprom n Salavat	65.1	83.4
SIBUR Kstovo	89.9	91.8
SIBUR-Khimprom	31.5	27.9
Tomskneftekhim	76.6	80.3
SIBUR Tobolsk	3.0	189.1
Ufaorgsintez	86.9	95.6
ZapSibNeftekhim	640.8	196.1
<b>Total</b>	<b>1544.2</b>	<b>1315.3</b>

174,000 tons of ethylene versus 175,600 tons in January to June 2020. Stavrolen uses ethylene for the production of HDPE and VAM.

Regarding the ethylene market in Russia prices of product shipped through the pipeline connecting the plants in Bashkortostan and Tatarstan increased by 7% in June, rising to 72,400-72,600 roubles per ton. In July, repair work continues at the Angarsk Polymer Plant followed by a planned stoppage by Gazprom neftekhim Salavat which reduced the supply of ethylene to the Bashkir Soda Company.

#### **Russian propylene production, sales & exports, Jan-Jun 2021**

Russian propylene production totalled 1.544 million tons in the first six months in 2021 versus 1.315 million tons in the same period in 2020. The Tobolsk two-plant hub controlled by SIBUR produced 643,800 tons of propylene against 385,200 tons in January to June 2020.

At Kstovo in the Nizhniy Novgorod region Lukoil-NNOS reduced production from 111,400 tons to 107,800 tons in the first six months this year and SIBUR-Kstovo reduced production from 91,800 tons to 89,900 tons.

<b>Russian Propylene Domestic Sales (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Angarsk Polymer Plant	21.9	37.7
SIBUR-Kstovo	66.5	80.7
Akrilat	0.2	0.2
LUKoil-NNOS	64.4	100.5
Tomskneftekhim	0.7	0.2
Nizhnekamskneftekhim	0.4	2.0
SIBUR-Khimprom	0.0	1.3
Stavrolen	2.3	2.2
Naftan	0.0	2.3
<b>Total</b>	<b>156.4</b>	<b>227.1</b>

In Bashkortostan Ufaorgsintez reduced production from 95,600 tons to 86,900 tons in January to June 2021, which was down due the outage in February whilst in Tatarstan Nizhnekamskneftekhim increased production slightly from 157,600 tons to 159,500 tons.

Sales of propylene on the domestic dropped in the first six months in 2021 to 156,400 tons versus 227,100 tons in the same period in 2020. Due to maintenance at the acrylonitrile plant on which started on 15 May Saratovorgsintez at Saratov reduced purchases from 80,200 tons to 65,000 tons

whilst SIBUR Tobolsk reduced purchases from 55,600 tons in 27,700 tons mainly due to the integration with ZapSibNeftekhim and increased production. Of the suppliers Lukoil-NNOS reduced shipments on the domestic market to 64,400 tons from 100,500 tons in the same period in 2020 whilst SIBUR-Kstovo reduced shipments from 80,700 tons to 66,500 tons.



Russian Propylene Domestic Purchases (unit-kilo tons)		
Consumer	Jan-Jun 21	Jan-Jun 20
Saratovorgsintez	65.0	80.2
Volzhskiy Orgsintez	5.4	4.0
SIBUR-Khimprom	25.1	28.4
Omsk-Kaucuk	6.0	12.4
Tomskneftekhim	2.7	3.3
SIBUR Tobolsk	27.7	55.6
Moscow Refinery	6.3	10.5
Ufaorgsintez	7.4	8.8
Novokuibyshevsk Petrochemical	3.0	3.6
Khimprom Kemerovo	3.4	1.6
Plant of Synthetic Alcohol	5.8	10.9
Others	0.6	5.5
Total	158.4	224.9

Propylene exports from Russian producers amounted to 48,900 tons in the first six months in 2021 against 20,300 tons in the same period in 2020.

The Angarsk Polymer Plant exported 17,700 tons of propylene in January to June 2021 against no activity in the same period in 2020, all of which was sent to China. Exports of propylene from Angarsk have contributed to a tight domestic market supply balance in Russia for propylene. Nizhnekamskneftekhim and Gazprom neftekhim Salavat were required to buy monomer on the market over the summer months for internal processing.

The propane dehydrogenation unit at ZapSibNeftekhim was shut for several days in July which meant that SIBUR increased the supply of propylene to the Tobolsk plant from other production sites. Propylene was also supplied to the market by Kazanorgsintez in July as the phenol plant was down for maintenance.

Russian Propylene Exports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Belarus	0.0	8.1
China	25.0	0.0
Latvia	0.0	4.5
Poland	15.0	9.7
Others	8.9	2.8
Total	48.9	25.1

SIBUR will carry out a scheduled shutdown repair of the Tomskneftekhim production complex in August 2022, during which it also plans to upgrade the flare unit. The company is investing 140 million roubles in the aim of modernising the Tomsk plant under the terms of SIBUR's comprehensive environmental safety programme. Tomskneftekhim includes capacities of 300,000 tpa of ethylene and 139,000

tpa of propylene. SIBUR has launched a project at ZapSibNeftekhim to modernize the propane dehydrogenation unit. The modernisation planned for 2021-2022 will increase its capacity by more than 8% up to 561,000 tpa.

Russian Styrene Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Nizhnekamskneftekhim	155.4	149.4
Angarsk Polymer Plant	22.5	19.8
SIBUR-Khimprom	72.8	73.0
Gazprom n Salavat	104.2	92.4
Plastik, Uzlovaya	35.3	25.7
Total	390.4	360.3

#### Russian styrene production and sales, Jan-Jun 21

Russia produced 390,400 tons of styrene in the first six months in 2021 versus 360,300 tons in the same period in 2020. The largest producer Nizhnekamskneftekhim produced 155,400 tons to 149,400 tons. Gazprom neftekhim Salavat increased production from 92,400 tons to 104,200 tons and SIBUR-Khimprom dropped from 73,000 tons to 72,800 tons.

Russian Styrene Domestic Sales (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Polymer Plant	14.1	9.9
Plastik	1.1	0.8
Gazprom n Salavat	33.6	28.1
SIBUR-Khimprom	22.2	14.6
Nizhnekamskneftekhim	1.0	0.0
Total	72.1	53.4

Domestic merchant sales for styrene monomer rose from 53,400 tons in the first half of 2020 to 72,100 tons in the same period in 2021. Nizhnekamskneftekhim consumes most of its styrene monomer in the production of polystyrene and synthetic rubber. Gazprom neftekhim Salavat increased sales from 28,100 tons to 33,600 tons and SIBUR-Khimprom increasing from 14,600 tons to 22,200 tons.

SIBUR-Khimprom has completed commissioning works which will allow the company to start shipment of styrene to automobile tanks. SIBUR-Khimprom normally sends shipments styrene for customers to railway tanks, but shipment to road transport will allow the company to meet the needs of customers who require a small amount of products. The shipment of styrene to tankers will allow the company to increase the number of customers in the Central and Volga regions, where it will be profitable to deliver products by road from Perm.

## Bulk Polymers

## Russian PE production and HDPE exports

In the first six months of 2021, HDPE production in Russia amounted to 1.001 million tons, which is 12% more than in 2020. ZapSibNeftekhim increased production by 46% over January to June to 576,200 tons, which is 46% more than in 2020, whilst due to greater focus on LLDPE Kazanorgsintez reduced production by 24% to 206,000.

Russian HDPE Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Kazanorgsintez	206.0	271.1
Stavrolen	160.7	163.9
Gazprom neftekhim Salavat	58.5	64.4
ZapSibNeftekhim	576.2	393.4
Total	1001.7	892.8

Stavrolen reduced production slightly from 163,900 tons to 160,700 tons and Gazprom neftekhim Salavat reduced production from 64,400 tons to 58,500 tons. Gazprom neftekhim Salavat started maintenance on both HDPE and LDPE plants from 20 July for around thirty days.

Capacities include 120,000 tpa for HDPE and 45,000 tpa for LDPE.

Russian Polypropylene Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Ufaorgsintez	63.8	65.3
Stavrolen	60.1	62.8
Neftekhimiya	75.3	75.1
Nizhnekamskneftekhim	109.8	110.0
Polyom	104.0	94.0
Tomskneftekhim	74.7	77.1
SIBUR-Tobolsk	0.0	218.1
ZapSibNeftekhim	568.3	202.5
Total	1056.0	904.9

HDPE exports from Russia increased from 197,000 tons in the first six months in 2020 to 477,000 tons in the same period in 2021, with revenues rising from \$151.7 million to \$460 million. China was the largest destination for Russian HDPE, amounting to 287,000 tons against 91,900 tons in the first half in 2020.

## Russian polypropylene exports Jan-Jun 2021

Russian polypropylene production increased by 13% in the first half of 2021 to 1.025 million tons. ZapSibNeftekhim increased production to 568,300 tons against 420,600 tons from the Tobolsk hub in January to June 2020. Polyom at Omsk produced 104,000 tons in the first half of 2021 which is 11% up whilst Nizhnekamskneftekhim produced 109,800 tons versus 110,000 tons. NPP Neftekhimiya (Kapotnya) produced 75,300 tons, which corresponds to the same level in 2020, whilst Tomskneftekhim reduced volumes by 3% to 74,700 tons. Ufaorgsintez reduced production by 5% to 63,100 tons whilst Stavrolen dropped 3% to 60,800 tons.

SIBUR Polyolefins (unit-kilo tons)		
Production	Jan-Jun 21	Jan-Jun 20
Polyethylene	875.7	645.0
Polypropylene	644.1	506.4
Purchases from third parties	75.1	76.5
Total	1594.9	1227.9
Domestic Sales		
Product	Jan-Jun 21	Jan-Jun 20
Polyethylene	341.1	115.3
Polypropylene	286.6	235.7
Total	627.7	351.1
Export Sales		
Product	Jan-Jun 21	Jan-Jun 20
Polyethylene	476.2	435.4
Polypropylene	325.1	273.0
Total	801.3	708.3
Total Sales		
Product	Jan-Jun 21	Jan-Jun 20
Polyethylene	817.3	550.7
Polypropylene	611.7	508.7
Total	1429.0	1059.4

Turkey was the largest destination for Russian exports of polypropylene in the first six months in 2021, taking 104,500 tons, followed by Poland with 57,800 tons and China 33,400 tons.

## SIBUR polyolefins Jan-Jun 2021

SIBUR's revenue in the olefins and polyolefins sector rose by 110.3% in the first half in 2021. The result was largely due to higher polyethylene and polypropylene sales facilitated by a higher utilisation rate at ZapSibNeftekhim.

The olefin and polyolefin segment's EBITDA margin for SIBUR rose to 42.7% versus 27.1% for the same period in 2020. SIBUR's revenues from sales of polyethylene increased in the first half to 76.681 billion roubles (\$1.043 billion) against 29.929 billion roubles (\$407.5 million) in the first half in 2020 whilst polypropylene revenues rose from 33.985 billion roubles (\$462.7 million) to 67.268 billion roubles (\$915.9 billion). SIBUR's

polyethylene sales increased so significantly due to the higher HDPE and LLDPE production at ZapSibNeftekhim, mainly in a rise in export activity.

<b>SIBUR Polyolefin Sales Revenue and Volume</b>			
<i>Revenues (Million roubles)</i>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>	<b>Change</b>
PP	67.268	33.985	97.9%
PE	76.681	29.929	156.2%
BOPP-films	12,829	9,265	38.5%
<b>Production (ktons)</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>	
PP	644.075	504.435	27.7%
PE	875.787	645.049	35.8%
BOPP-films	73.127	76.971	(5.0%)

Production of polyethylene by SIBUR increased from 645,049 tons in the first six months in 2020 to 875,787 tons in the same period this year whilst polypropylene rose from 506,400 tons to 644,100 tons. The share of export sales fell 57.2% of total polyethylene revenue from 33.7% in 2020 versus 76.6% in the same period last year. SIBUR sold 627,000 tons of polyolefins on the domestic market in January to June 2021 which was significantly down against 351,100 tons in the same period in 2020.

<b>Russian PVC Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Bashkir Soda	140.5	130.7
Kaustik	43.2	36.5
RusVinyl	175.3	177.1
Sayanskkhimplast	156.9	165.0
Total	515.9	509.3

#### **Russian PVC market Jan-Jun 2021**

Russian PVC production amounted to 515,900 tons in the first half of 2021 versus 509,300 tons in the same period in 2020. RusVinyl reduced production from 177,100 tons to 175,300 tons and Sayanskkhimplast reduced from 165,000 tons to 156,900 tons.

Bashkir Soda Company increased production by 8% to 140,500 tons and Kaustik increased production from 36,500 tons to 43,200 tons. Sayanskkhimplast resumed operation of facilities on 12 July after a ten-day maintenance shutdown, whilst Bashkir Soda Company also underwent maintenance between 10-28 July.

### **Russian Paraxylene-PTA**

<b>Russian Paraxylene Exports (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Gazprom Neft	25.1	35.0
Kirishinefteorgsintez	26.4	19.8
Ufaneftekhim	0.0	4.6
Total	51.5	59.4

#### **Russian paraxylene exports Jan-Jun 2021**

Russian paraxylene exports amounted to 51,500 tons in the first half of 2021 against 59,400 tons in the same period in 2020. Average prices per ton increased for Russian exports from \$471.9 in the whole of 2020 to \$617 in the first half of 2021. Exports in the first six months were divided between Belarus (6,122 tons for \$5.125 million) and Finland (45,029 tons for \$25.955 million).

<b>Russian PTA Imports by Country (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Belgium	0.0	8.0
China	134.5	135.9
South Korea	0.0	7.0
Poland	0.0	3.0
Others	0.4	1.9
Total	134.8	155.8

#### **Russian PTA imports, Jan-Jun 2021**

PTA imports into Russia amounted to 134,800 tons in the first six months in 2021 versus 155,800 tons in the same period in 2020. China was responsible for all of the deliveries in 2021 tons compared to accounting around 90% of imports in 2020.

Average prices for PTA imports amounted to \$627.1 per ton in January to June 2021 against \$619.3 per ton in the same period in 2020. Although PTA costs per ton for imports rose slightly for the first six months it was the second quarter where prices rose sharply averaging around \$700 per ton.

#### **Polief-PTA production and paraxylene purchases**

PTA production at Blagoveshchensk totalled 145,000 tons in the first six months in 2021 against 116,000 tons in the same period in 2020. Higher production of PTA at Polief has enabled its owning group SIBUR to export small volumes this year amounting to 5,800 tons in the first six months. SIBUR upgraded the PTA plant in 2019 including an expansion of capacity.

Higher PTA production also meant that SIBUR was required to purchase 116,000 tons of paraxylene in the first half of 2021 against only 64,000 tons in the same period in 2020. This meant that paraxylene costs for SIBUR rose to 5.8 billion roubles (\$78.967 million) against 1.7 billion roubles (\$23.145 million) in the first half of 2020, with prices higher in addition to higher volumes.

<b>SIBUR's PTA &amp; PET Production (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Paraxylene Purchases	116	64
PTA Production	145.0	116.0
PTA Domestic Sales	1.3	4.5
PTA Exports	5.8	0.0
PET Production	142.5	130.8
PET Domestic Sales	141.0	126.8
PET Exports	1.3	3.0

Polief is still receiving criticism locally for the environmental damage caused by the release of effluents into the Izyak River in 2019. This incident resulted in large volumes of fish being killed in addition to posing a risk to drinking water. The management of SIBUR promised to compensate for the damage caused but it is alleged that SIBUR provided only minimal sums to cover the damage. Despite the controversy residents of Blagoveshchensk, where the PTA plant is located, have recently been noticing improvements in the environmental situation. The company is developing a project for the production of green PET granules, which will contain up

to 25% of recyclables (plastic bottles). Moreover, the company recently began construction of its own solar power plant, designed to reduce the carbon footprint from production.

<b>Russian PTA Imports by region (unit-kilo tons)</b>		
<b>Region</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Kaliningrad	91.6	90.3
Moscow	42.9	59.7
Tyumen	0.0	2.5
Others	0.0	3.4
Total	134.5	155.8

#### **Tatneft's PTA project and Ekopet**

Tatneft's subsidiary Ekopet imported 91,600 tons of PTA in the first six months in 2021 against 90,300 tons in the same period last year. Costs for PTA purchases amounted to \$53 million for PTA purchases in the first half year, and these costs make it difficult for the plant to avoid incurring debts.

Tatneft is looking to construct a PTA plant at Nizhnekamsk adjacent to the pending paraxylene plant which is under construction at the Taneko refinery. Shipping paraxylene to Kaliningrad for PTA production had been contemplated but has been discounted for technical reasons. Ekopet's dependency on imported PTA and MEG has made production unprofitable at the site and therefore an ultimate goal of Tatneft

As the new owners of Ekopet (as from 22 June 2021)

<b>Russian MEG Imports (unit-kilo tons)</b>		
<b>By region</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Kaliningrad	34.1	32.5
Others	2.0	0.8
Total	36.2	33.3
<b>By country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Saudi Arabia	31.2	32.5
Others	5.0	0.8
Total	36.2	33.3

is to complete the full chain of production.

#### **Ekopet-MEG imports Jan-Jun 21**

Regarding MEG Ekopet imports nearly all of its requirements from SABIC in Saudi Arabia. Tatneft could potentially source MEG from Nizhnekamskneftekhim, but it is economically more profitable to buy cheaper MEG abroad. Ekopet accounted for almost all of the 36,200 tons of MEG imported into Russia in the first half of this year.

#### **Russian PET trade Jan-Jun 2021**

PET imports into Russia amounted to 118,900 tons in the first half in 2021, compared to 94,400 tons last year with China acting as the dominant supplier. Exports of PET from Russia amounted to 16,000 tons in the first six months, up from 6,671 tons. Ekopet accounted for 84.6% of exports this year.

<b>Russian PET Imports (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Belarus	4.3	3.2
China	103.3	80.4
Lithuania	5.5	7.3
Vietnam	3.0	0.1
Others	2.9	3.5
Total	118.9	94.4

#### **Titan-Polymer, Pskov**

Titan-Polymer expects to start production at its new PET plant at Pskov in western Russia in the fourth quarter in 2021. The design capacity of the plant is 72,000 tpa of BOPET film which will increase

the demand for PTA and MEG on the Russian market. BOPET films are currently produced in Russia only in small quantities and demand is met mostly by imports.



## Aromatics

Russian Benzene Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Polymer Plant	45.9	45.9
Gazprom Neft	53.5	63.7
LUKoil-Permnefteorgsintez	24.4	28.0
Magnitogorsk MK	17.2	20.9
Nizhnekamskneftekhim	151.7	152.1
Gazprom n Salavat	105.9	111.8
Severstal	14.7	16.5
SIBUR-Holding	43.2	45.8
Slavneft-Yaroslavlorgsintez	34.1	32.8
Surgutneftegaz	11.3	32.3
Ryazan RN Holding	15.0	16.3
Ufaneftekhim	49.4	47.1
Uralorgsintez	44.5	39.6
Zapsib	35.4	30.8
Novokuibyshevsk Petrochemical	10.1	8.2
Others	7.3	30.2
Total	663.4	722.0

## Russian benzene production Jan-Jun 2021

Russian benzene production totalled 663,400 tons in the first six months in 2021 versus 722,000 tons in the same period in 2020. Nizhnekamskneftekhim produced 151,700 tons against 152,100 tons whilst Gazprom neftekhim Salavat reduced production from 111,800 tons to 105,900 tons. Reductions were reported by a number of producers, the largest of which was Gazprom Neft at the Omsk refinery dropping from 63,700 to 53,500 tons.

Sales of benzene on the domestic market, including imports, amounted to 369,400 tons versus 394,400 tons in the same six months in 2020. A number of factors contributed to the lower sales volumes on the domestic market this year including plant outages and increased internal processing.

SIBUR-Kstovo reduced sales from 44,500 tons in the first six months in January to June 2020 to 41,900 tons in the same period in 2021, whilst Stavrolen at Budyennovsk did not produce benzene in the first six months in 2021 after shipping 24,000 tons in January to June last year.

Russian Benzene Sales (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Polymer Plant	25.3	29.3
SIBUR-Kstovo	41.9	44.5
Severstal	15.9	16.9
Uralorgsintez	42.4	39.5
Kirishinefteorgsintez	2.7	1.8
West Siberian MC	35.1	30.4
Ryazan NPZ	13.9	15.0
Slavneft-Yanos	33.1	27.3
Gazprom Neft (Omsk)	51.1	40.9
Gazprom neftekhim Salavat	21.1	24.0
Nizhnekamskneftekhim	11.1	15.8
Karpatneftekhim	7.1	1.5
Naftan	15.0	2.9
Atyrau	3.1	20.2
Novolipetsk MK	1.5	0.0
Chelyabinsk MK	8.4	3.4
Altay-Koks	2.7	13.2
Koks	14.3	9.7
Magnitogorsk MK	17.8	22.3
Nizhny Tagil MK	4.6	8.6
Others	1.4	27.2
Total	369.4	394.4

Regarding import activity, the Atyrau refinery in Kazakhstan reduced benzene sales on the Russian market to 3,100 tons in the first six months in 2021 against 20,200 tons in the same period in 2020. The Atyrau refinery encountered technical problems in the first quarter which has since restricted exports of benzene and paraxylene. The Belarussian refineries increased deliveries to the Russian market to 15,000 tons in the first six months in 2021 against 2,900 tons in January to June 2020 whilst from Ukraine Karpatneftekhim increased shipments from 1,500 tons to 7,100 tons.

Regarding caprolactam producers Kuibyshevazot reduced benzene purchases from 95,000 tons to 77,400 tons in January to June this year whilst Azot at Kemerovo increased purchases from 52,500 tons to 72,400 tons. Shchekinoazot reduced purchases from 44,500 tons to 38,200 tons.

For the production of cumene Kazanorgsintez purchased 34,600 tons of benzene in January to June 2021, versus 35,600 tons in the same period in 2020. Kazanorgsintez buys benzene from a range of suppliers including Nizhnekamskneftekhim. Other phenol producers saw Omsk Kaucuk reducing purchases from 23,400 tons to 12,400 tons and Novokuibyshevsk Petrochemical reducing from 25,500

tons to 19,900 tons. In the styrene sector SIBUR-Khimprom at Perm purchased 51,900 tons of benzene in January-June 2021 against 51,100 tons in the same period in 2020.

For producers, the Angarsk Polymer Plant undertook an outage in July whilst Gazprom neftekhim Salavat started its own outage in the second half of the month which affected merchant market sales. For

consumers, the Novokuibyshevsk Petrochemical Company resumed processing benzene in July after the completion of repairs at the phenol and acetone plant. Due to short supply Kazanorgsintez was looking for additional volumes of benzene in July after only purchasing 3,300 tons in June.

<b>Russian Benzene Consumers (unit-kilo tons)</b>		
<b>Consumer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Kuibyshevazot	77.4	95.0
Azot Kemerovo	72.4	52.5
Shchekinoazot	38.2	44.5
Kazanorgsintez	34.6	35.6
Omsk Kaucuk	12.4	23.4
Novokuibyshevsk Petrochemical	19.9	25.5
Zapsib	19.0	23.0
SIBUR-Khimprom	51.9	51.1
Ufaorgsintez	4.8	3.6
Uralorgsintez	24.7	34.9
Zavod im Ya M Sverdlova	3.6	1.4
<b>Total</b>	<b>358.7</b>	<b>390.6</b>

Despite the Paramax unit (with a capacity of 133,000 tpa of benzene) at the Atyrau refinery in Kazakhstan was said to be idle until the end of 2021, the refinery found a technical opportunity to release the product at the reforming unit. Benzene supplies from Kazakhstan resumed at the end of June. Other useful supplies in July included the Novolipetsk Metallurgical Combine which signed a contract with Kuibyshevazot for the supply of 1,000 tons of product per month until March 2022.

#### **Russian caprolactam production, Jan-Jun 2021**

Russian caprolactam production amounted to 193,200 tons in January to June 2021 against 185,600 tons in the same period in 2020. Kuibyshevazot reduced caprolactam production from 99,700 tons to 97,600 tons whilst SDS Azot at Kemerovo increased production from 56,600 tons to 66,800 tons. In August, repair work was carried out at two caprolactam plants. This included Shchekinoazot whereby production was stopped on 15 August for eight or ten days. At the Kemerovo Azot, repair work lasted from 1 August to 20 August.

<b>Russian Caprolactam Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Kuibyshevazot	97.6	99.7
Shchekinoazot	28.8	29.3
SDS Azot	66.8	56.6
<b>Total</b>	<b>193.2</b>	<b>185.6</b>

#### **Russian orthoxylene & toluene market, Jan-Jun 2021**

Orthoxylene domestic sales on the Russian market rose in the first six months in 2021 to 96,600 tons from 79,300 tons in the same period in 2020. Gazprom Neft increased shipments to 53,400 tons against 40,100 tons in the same period in 2020 whilst Ufaneftkhim reduced sales from 35,800 tons to 24,700 tons. Kirishinefteorgsintez increased domestic sales from 3,400 tons to 18,400 tons in January to June 2021.

<b>Russian Orthoxylene Domestic Sales (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Gazprom Neft	53.4	40.1
Ufaneftkhim	24.7	35.8
Kirishinefteorgsintez	18.4	3.4
<b>Total</b>	<b>96.6</b>	<b>79.3</b>

The main reason for increased domestic sales this year has been the rise in phthalic anhydride production. Kamteks-Khimprom increased production to 47,900 tons from 37,300 tons whilst Gazprom neftekhim Salavat increased production from 4,800 tons

to 6,400 tons. In addition, the Roshalsky Plasticizer Plant started the production of phthalic anhydride in 2021, producing 4.400 tons in the first six months.

<b>Russian Phthalic Anhydride Production (unit-kilo tons)</b>		
<b>Consumer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Gazprom neftekhim Salavat	6.4	4.8
Kamteks-Khimprom	47.9	37.3
Roshalsky Plasticizer Plant	4.4	0.0
<b>Total</b>	<b>58.8</b>	<b>42.1</b>

Russian toluene production dropped from 150,400 tons in the first six months in 2020 to 130,800 tons in the same period in 2021. Gazprom Neft at the Omsk refinery reduced production from 41,500 tons to 32,500 tons whilst Ufaneftkhim reduced production from 21,000 tons to 7,300 tons.

Toluene sales on the domestic merchant market rose from 65,300 tons in the first half of 2020 to 69,900 tons in the same period in 2021. The two largest suppliers included Gazprom Neft which shipped 26,300 tons against 19,800 tons last year and Lukoil-Perm which shipped 20,600 tons versus 13,500 tons.

#### **Russian phenol market, Jan-Jun 2021**

Russian phenol production amounted to 127,700 tons in the first six months in 2021 against 126,600 tons in the same period in 2020. Novokuibyshevsk Petrochemical produced 30,900 tons of phenol against 36,100 tons in 2020 whilst Ufaorgsintez increased production from 32,000 tons to 38,300 tons.

Russian Phenol Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Ufaorgsintez	38.3	32.0
Kazanorgsintez	42.6	40.4
Novokuibyshevsk Petrochemical	30.9	36.1
Omsk Kaucuk, Omsk	15.9	20.1
Total	127.7	128.6

Kazanorgsintez increased production from 40,400 tons to 42,600 tons. Omsk Kaucuk has been forced this year to reduce production due to technical problems, dropping from 20,100 tons to 15,900 tons.

Kazanorgsintez consumes nearly all phenol in the production of Bisphenol A leaving the other three producers to serve the merchant market in Russia.

Sales of phenol totalled 67,500 tons in the first half this year against 61,100 tons in the same period in 2020 with Ufaorgsintez increasing shipments from 18,000 tons to 31,300 tons. Omsk Kaucuk reduced shipments from 13,100 tons to 12,900 tons due to technical problems whilst Novokuibyshevsk Petrochemical reduced sales from 29,800 tons to 23,300 tons.

Russian Domestic Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Omsk Kaucuk	12.9	13.1
Novokuibyshevsk Petrochemical	23.3	29.8
Kazanorgsintez	0.0	0.1
Ufaorgsintez	31.3	18.0
Total	67.5	61.1

Russian Phenol Exports (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Omsk Kaucuk	2.4	5.1
Ufaorgsintez	7.6	15.3
NNK	2.7	1.0
Total	12.7	21.4

Supply on the merchant market has been tightened by outages and increased captive consumption at Omsk Kaucuk. Novokuibyshevsk Petrochemical undertook maintenance work at the phenol and acetone for most of June. From 2 August to 25 August phenol production at Kazanorgsintez was stopped for maintenance whilst Omsk Kaucuk is hoping to return to full production in the third quarter but is facing challenges at present to comply with domestic safety regulations. Ufaorgsintez may have needed to reduce capacity utilization in August due to the suspension of benzene production at Ufaneftkhim. It is expected that Ufaorgsintez will receive aromatic raw materials from other Rosneft plants.

Kuibyshevazot-Production (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Polyamide-6	88.4	70.6
Caprolactam	103.9	99.7
Ammonia	555.5	544.0
Urea	176.7	184.4
Ammonium Nitrate	359.4	375.6
Ammonium Sulphate	261.3	245.6

#### Kuibyshevazot Jan-Jun 2021

Kuibyshevazot achieved a net profit of 7.4 billion roubles (\$100.8 million) in the first half of 2021 which is more than 4 times higher than in the same period last year. The increase was achieved due to an increase in the volume of production of marketable products, the restoration of market conditions and demand after the fall in 2020 due to the coronavirus pandemic COVID-19. The volume of sales of marketable products of Kuibyshevazot for the six months of 2021 amounted to 35.9 billion roubles (\$488.8 million), which is 51% more than in the same period in 2020. The production of ammonia increased by 2.1%, to 555,500 tons, ammonium sulphate by 6.4% to 261,300 tons, and caprolactam by 4.2% to 103,900 tons. The production of polyamide-6 increased by 25.4%, to 88,400 tons.

Russian Synthetic & Natural Rubber Market (unit-kilo tons)		
	Jan-Jun 21	Jan-Jun 20
Production	860.0	727.0
Exports	553.7	437.4
Imports	114.0	95.6
Supply/Demand Balance	420.3	385.2

### Synthetic rubber

#### Russian rubber production and market balance Jan-Jun 2021

Synthetic rubber production in Russia totalled 860,000 tons in the first six months in 2021 against 727,000 tons in the same period in 2020. Both exports and imports of rubber increased in the first half year whilst overall domestic consumption of rubber amounted to 420,300 tons versus 237,900 tons in the first six months in 2020.

Russian Tyre Production (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Car Tyres	22.1	15.6
Lorry tyres	3.5	3.4
Agricultural tyres	0.7	0.8
Total	26.3	19.9

The production of tyres in Russia in the first half of the year increased in annual terms by 32.5% to 26.3 million units with car tyres rising from 15.6 million pieces to 22.1 million pieces.

<b>Russian C4 Purchases (unit-kilo tons)</b>		
<b>Consumer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Omsk Kaucuk	50.3	47.9
Nizhnekamskneftekhim	98.6	46.0
Togliattikaucuk	84.6	121.6
Sterlitamak Petrochemical	11.6	7.4
<b>Total</b>	<b>245.1</b>	<b>222.8</b>

C4 rail shipments to the Russian market amounted to 245,200 tons in the first half in 2021 against 221,000 tons in the same period in 2020. A total of 98,600 tons of C4s were shipped to Nizhnekamsk against 46,000 tons in the same period in 2020.

The largest suppliers of C4s to the synthetic rubber producers in Russia included Tomskneftekhim,

SIBUR-Kstovo and Stavrolen. Ufaorgsintez plant resumed deliveries of C4s in June to the Russian market after five-month break shipping 605 tons to Nizhnekamskneftekhim.

### **Railway discounts for rubber transportation**

The Board of the Russian Railways has approved a 50% discount on the transport of synthetic rubber from the station Kombinatetskaya (Omsk region) which will help Omsk Kaucuk. From 19 July to 31 December 2021, Russian Railways has offered a 50% discount on the transportation of synthetic rubber from the Kombinatetskaya station (Omsk region). In order to use it, Omsk Kaucuk will need to provide a total

<b>Russian Synthetic Exports by Destination (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Belarus	17.5	12.1
Brazil	14.2	7.6
China	84.7	110.7
Czech	16.3	11.5
Germany	18.5	12.9
Hungary	26.4	13.8
India	53.2	49.1
Mexico	20.7	10.4
Poland	60.6	39.3
Romania	17.9	12.3
Serbia	7.0	6.1
Slovakia	18.8	14.6
Turkey	49.0	26.1
Ukraine	13.8	7.6
US	26.1	16.9
Others	109.3	86.4
<b>Total</b>	<b>553.7</b>	<b>437.4</b>

guaranteed volume of traffic from the station in the amount of 452,200 tons, including MTBE in tanks, synthetic rubber in covered wagons, propane, butane or mixtures of butane in tanks, and isopropyl alcohol.

### **Russian synthetic rubber exports, Jan-Jun 2021**

Russian exports of synthetic rubber amounted to 553,700 tons in the first two quarters in 2021, up from 437,400 tons in the same period in 2020. Average prices for Russian synthetic rubber exports rose from \$1302 per ton in January to June 2020 to \$1601 in the same period in 2021.

Regarding shipment destinations China represented the largest market for Russian exporters in 2020 and remains the largest this year. Exports to China amounted to 84,700 tons in the first six months in 2021 against 110,700 tons in the same period in 2020. This was followed by Poland, rising from 39,300 tons to 60,600 tons, and India rising from 49,100 tons to 53,200 tons.

Isoprene rubber exports increased from 93,600 tons to 128,600 tons whilst polybutadiene exports increased from 104,800 tons to 128,100 tons. As a result of higher volumes Russian synthetic rubber exports rose from \$569 million in January to June 2020 to \$886.4 million in January to June 2021.

and prices, revenues from synthetic rubber exports rose from \$569 million in January to June 2020 to \$886.4 million in January to June 2021.

<b>Russian Synthetic Rubber Exports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
E-SBR	26.1	17.3
Block	41.0	29.3
SSBR	4.5	3.0
SBR	64.8	56.0
Polybutadiene	128.1	104.8
Butyl rubber	67.1	59.0
Halogenated butyl	69.0	51.3
NBR	18.8	16.3
Isoprene	128.6	93.6
Others	5.6	6.8
<b>Total</b>	<b>553.7</b>	<b>437.4</b>

### **Nizhnekamskneftekhim-rubber exports Jan-Jun 2021**

Nizhnekamskneftekhim's exports of synthetic rubbers rose in the first six months to 302,100 tons from 89,800 tons in the same period in 2020. Isoprene rubber exports rose from 75,400 tons to 99,400 tons whilst butadiene rubber exports increased from 71,600 tons to 94,700 tons. Revenues from synthetic rubber exports rose from \$337.2 million to \$489.6 million. Isoprene export revenues jumped to \$153.1 million in January to June 2021 from \$99.3 million.

Nizhnekamskneftekhim reduced its share in the global isoprene rubber market from 43.9% to 37.8% in 2020 but remained the global leader in production.



Nizhnekamskneftekhim Rubber Exports (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Isoprene Rubber	99.4	75.4
Butyl Rubber	34.3	37.4
HBR	69.0	51.3
Polybutadiene	94.7	71.6
Others	4.7	4.7
Total	302.1	240.4
Nizhnekamskneftekhim Rubber Exports (\$ million)		
Product	Jan-Jun 21	Jan-Jun 20
Isoprene Rubber	153.1	99.3
Butyl Rubber	60.4	50.1
HBR	145.1	110.0
Polybutadiene	118.6	77.8
Others	12.4	8.6
Total	489.6	337.2

The company's share in the global butyl rubber market decreased from 17.5% to 16.3% in 2020, and for the global butadiene rubber market from 5.3% to 4.7%.

Overall, around 40% of Nizhnekamskneftekhim's revenues stem from rubber sales and around 33% from plastics. In the structure of the company's sales synthetic rubber accounted for 41% of Nizhnekamskneftekhim's revenues in 2020 followed by plastics with 34%. The main share in the structure of sales of synthetic rubbers is in Europe 35.4%, Asia 31.4%, and North America 10.7%.

#### Togliattikaucuk exports Jan-Jun 2021

Togliattikaucuk exported 72,700 tons of synthetic rubber in the first six months in 2021 against 39,400 tons in the same period in 2020.

Togliattikaucuk Rubber Exports (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
Isoprene Rubber	10.7	1.8
Butyl Rubber	32.7	21.8
SBR	27.1	15.7
Others	2.3	0.2
Total	72.7	39.4
Togliattikaucuk Rubber Exports (\$ million)		
Product	Jan-Jun 21	Jan-Jun 20
Isoprene Rubber	13.3	3.9
Butyl Rubber	50.3	33.1
SBR	35.4	18.1
Others	3.3	0.3
Total	102.4	55.4

Butyl rubber exports from Togliattikaucuk rose from 21,800 tons to 32,700 tons and SBR exports rose from 15,700 tons to 27,100 tons. Revenues from synthetic rubber exports for Togliattikaucuk increased in the first six months from \$55.4 million in 2020 to \$102.4 million in the same period in 2021.

Togliattikaucuk can produce up to 90,000 tpa of isoprene, 120,000 tpa of MTBE; 82,000 tpa of isoprene synthetic rubbers (SKI); 165,000 tpa of isobutylene-isobutane fraction (IIF) and isobutylene up to 60,000 tpa. The plant's capacity for copolymer rubbers (SBSK) is up to 60,000 tpa; synthetic butyl rubber (BC) - up to 75,000 tpa; butadiene 80,000 tpa; high-octane gasoline additives 39,000 tpa.

Togliattikaucuk is implementing a long-term comprehensive programme of measures aimed at reducing the impact on the environment, which excludes sources of emissions, turns waste into products, increases the quality of wastewater treatment and the degree of transformation of raw materials, and is engaged in resource saving.

#### SIBUR synthetic rubber production and exports Jan-Jun 2021

SIBUR's synthetic rubber production increased in the first half of 2021 to 187,000 tons against 157,000 tons in the same period in 2020. Sales of rubber were higher than production after SIBUR made third party purchases.

Commodity production rose in the first half of

SIBUR-Synthetic Rubber Production (unit-kilo tons)		
	Jan-Jun 21	Jan-Jun 20
Commodity Rubber	105.7	88.4
Speciality Rubber	24.1	18.3
Thermoplastic elastomers	57.2	50.3
Total	187.0	157.00
SIBUR-Synthetic Rubber Domestic Sales (unit-kilo tons)		
	Jan-Jun 21	Jan-Jun 20
Commodity Rubber	40.2	44.0
Speciality Rubber	4.6	3.9
Thermoplastic elastomers	26.0	16.4
Total	70.8	64.3
SIBUR-Synthetic Rubber Export Sales (unit-kilo tons)		
	Jan-Jun 21	Jan-Jun 20
Commodity Rubber	71.7	84.3
Speciality Rubber	21.4	39.3
Thermoplastic elastomers	39.4	24.5
Total	132.4	148.1

2021 to 105,700 tons against 88,400 tons in the same period in 2020, whilst speciality rubber production by SIBUR increased from 18,300 tons to 24,100 tons.

<b>Voronezhsintezkaucuk Exports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Polybutadiene	45.4	28.9
SBR	39.3	39.2
Others	0.0	0.1
<b>Total</b>	<b>84.7</b>	<b>68.2</b>

With the launch of a new production facility, Voronezhsintezkaucuk is now able to produce new brands of thermoplastic elastomers, which are in demand in the shoe industry, automotive industry, the packaging segment, as well as in the production of household products (for example, hygiene products and products that come into contact with food).

SIBUR's revenue from elastomers sales in the first half of 2021 increased by 33.1% to 25.439 billion roubles (\$356.4 million) from 19.117 billion roubles (\$260.3 million) in the same period in 2020. In the first half of 2021 export sales accounted for 66.0% of total elastomers revenue. Turnover from the sales of TEPS increased by 96.2% in the first half of 2021 to 8.623 roubles (\$117.4 million) of which 60.6% came from exports.

#### **Lukoil-polymer binder plant at Nizhny Novgorod**

Lukoil has started the production of polymer-bitumen binders at the Nizhny Novgorod refinery (Lukoil-Nizhgorodnefteorgsynthesis). The capacity of the new unit in the production season exceeds 150,000 tpa. The use of these products, as well as the unique technology of production of rubber asphalt concrete with the use of rubber crumbs from recycled car tyres, contributes to a significant increase in the durability of the road surface.

<b>Russian Methanol Production (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Shchekinoazot	496.4	480.4
Sibmetakhim	501.9	453.1
Metafrax	633.2	625.3
Akron	53.2	43.9
Azot Novomoskovsk	137.3	97.8
Angarsk Petrochemical	17.1	29.6
Azot Nevinnomyssk	61.3	56.2
Tomet	233.0	459.4
Ammoni	69.1	38.6
<b>Totals</b>	<b>2202.4</b>	<b>2284.3</b>

2020, followed by Sibmetakhim rising from 453,100 tons to 501,900 tons and Shchekinoazot rising from 480,400 tons to 496,400 tons.

<b>Russian Methanol Exports by Producer (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Azot Nevinnomyssk	3.6	0.0
Azot Novomoskovsk	48.2	32.8
Akron	5.0	6.1
Metafrax	227.3	296.0
Sibmetakhim	260.9	262.1
Tomet	74.3	192.1
Shchekinoazot	354.5	360.9
Ammoni	0.0	0.0
<b>Total</b>	<b>973.9</b>	<b>1150.0</b>

The two plants which are owned by the Evrokhim Group produced 137,300 tons at Novomoskovsk and 61,300 tons at Nevinnomyssk respectively. Ammoni in Tatarstan increased methanol production from 38,600 tons in January to June 2020 to 69,100 tons.

#### **Russian methanol exports, Jan-Jun 21**

Export shipments of Russian methanol from producers totalled 973,900 tons in the first six months in 2021 against 1.150 million tons in the same period last year. Average prices of Russian exports rose from \$189 per ton in January-June 2020 to \$307 in the same period in 2021. Tomet reduced exports from 192,100 tons in January to June 2020 to 74,300 tons in the same period

### **Methanol**

#### **Russian methanol production Jan-Jun 2021**

Russia produced 2.202 million tons of methanol in the first six months in 2021 against 2.284 million tons in same period in 2020. The decline was due primarily to the lower production from Tomet, which fell from a total of 459,400 tons in January-June 2020 to 233,000 tons in the same period this year. Metafrax produced 633,200 tons of methanol in the first six months in 2021 against 625,300 tons in the same period in

this year although other producers compensated with higher volumes taking advantage of higher prices. Tomet reduced export sales by more than twice than in the same period of 2020, which partially led to an increase in product prices in Russia. It also led to a redistribution of spot volumes of methanol from other producers from export to the domestic market.

<b>Russian Methanol Export Destinations (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-Apr 21</b>	<b>Jan-Apr 20</b>
Belarus	63.5	47.9
Finland	514.6	542.7
Germany	1.1	1.1
Kazakhstan	11.5	21.3
Latvia	7.5	6.3
Lithuania	35.8	36.6
Netherlands	39.7	89.3
Poland	156.6	187.1
Romania	32.5	32.1
Slovakia	121.9	74.3
Spain	0.0	5.5
Turkey	6.4	19.3
UK	0.0	37.5
Ukraine	35.1	16.0
Others	12.0	5.6
<b>Total</b>	<b>1038.5</b>	<b>1131.9</b>

Metafrax exported 227,300 tons of methanol in the first six months in 2021 versus 296,000 tons last year, whilst Gazprom Methanol (Sibmetakhim) reduced shipments from 262,100 tons to 260,900 tons. Shchekinoazot, Russia's current largest exporter of methanol, reduced shipments from 360,900 tons to 354,500 tons in January-June 2021. Apart from the impact of lower production at Tomet, Russian exports were affected in June by the Euro 2020 football championships which halted shipments through the Leningrad region.

Metafrax Trading International has made its first shipment of methanol in barrels to Africa. Methanol is delivered by sea in standard 200-litre barrels to one of the company's new partners.

Finland accounted for nearly half of Russian methanol exports in the first half of 2021, with almost all product sent on to other locations after reaching the Hamina-Kotka terminals. The largest end-destination for Russian methanol exports is Poland which accounted for 156,600 tons in the first half of 2021 against 187,100 tons.

<b>Russian Methanol Domestic Sales (unit-kilo tons)</b>		
<b>Producer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Azot Nevinnomysk	11.2	8.2
Azot Novomoskovsk	87.0	58.1
Metafrax	208.2	159.4
Sibmetakhim	216.5	159.6
Tomet	145.8	206.0
Shchekinoazot	95.9	75.4
Ammoni (Mendeleevsk)	41.4	18.1
<b>Total</b>	<b>806.0</b>	<b>684.8</b>

#### **Russian methanol domestic sales, Jan-Jun 2021**

Sales of methanol on the domestic market amounted to 806,000 tons in the first six months in 2021 against 684,800 tons in the same period in 2020. Despite a drop in sales by Tomet from 206,000 tons to 145,800 tons, sales from several other producers increased.

<b>Russian Methanol Domestic Buyers (unit-kilo tons)</b>		
<b>Consumer</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Nizhnekamskneftekhim	152.9	93.7
Togliattikavuk	61.9	74.1
Uralorgsintez	26.7	30.7
SIBUR-Khimprom	12.6	9.7
SIBUR Tobolsk	16.9	19.7
Omsk Kaucuk	44.9	38.2
Novokuibyshevsk NPZ	15.3	21.3
Uralkhimplast	11.5	9.1
Metadynea	47.6	35.0
Kronospan	61.5	38.8
Gazprom	102.9	67.7
Khimsintez	12.0	5.5
Others	232.5	224.3
<b>Total</b>	<b>806.0</b>	<b>670.5</b>

Metafrax increased domestic merchant sales from 159,400 tons to 208,200 tons whilst Gazprom Methanol (Sibmetakhim) increased shipments to domestic customers to 159,600 tons from 216,500 tons. Shchekinoazot increased merchant domestic sales from 75,400 tons to 95,900 tons and in Ammoni was able to increase sales from 18,100 tons to 30,800 tons.

Nizhnekamskneftekhim increased methanol merchant purchases from 93,700 tons in the first six months in 2020 to 152,900 tons in the same period in 2021. The rise in purchases was due mainly to increased production of isoprene monomer.

Gazprom increased purchases of methanol for gas hydrates in Siberia from 67,700 tons in

January-June 2020 to 102,900 tons this year. Most of the methanol purchased by Gazprom is sourced from Gazprom Methanol.

In the formaldehyde resin sector Metadynea increased methanol purchases from 35,000 tons to 47,600 tons whilst Kronospan increased purchases from 38,800 tons to 61,500 tons. The Novomoskovsk methanol plant is the major supplier to both Metadynea and Kronospan. Over the next three years Metadynea to increase the production of phenol formaldehyde resins by around a third at its Orekhovo-Zuyevo plant. Uralkhimplast purchased 11,500 tons of methanol in the first six months in 2021 against 9,100 tons last year, most of which was supplied by Metafrax.

**Shchekinoazot-expansion of resins and methanol processing**

As part of the strategy to increase methanol processing and to reduce the dependence on merchant sales to the export and domestic market Shchekinoazot has outlined plans to increase the production of resins sevenfold by 2030. By 2025, the company plans to complete the construction of new production facilities and expand the range of resins including the production of concentrated low-methanol formalin, urea-formaldehyde resins and urea-melamine-formaldehyde resins.

As part of its development programme for methanol and resins Shchekinoazot started construction in May of two plants to produce 525,000 tpa of ammonia and 700,000 tpa of urea. Neither of these products are currently produced by the company and thus the intention is to create a full chain of production.

The ammonia and urea project is being constructed by China National Chemical Engineering with licenses provided by Haldor Topsoe and Stamicarbon. Some of the equipment will go from Europe, some from China to the port of St. Petersburg. However, the transport of equipment from the ports to Shchekino represents the most difficult part of logistics.

**Shchekinoazot-methanol project update**

Shchekinoazot is rapidly approaching completion of its third methanol plant M-500 and has made the necessary logistical arrangements for shipping methanol to both the domestic and export markets. Staffing of the workshop is underway to ensure the export of finished products and the delivery of raw materials of production, taking into account future increasing volumes.

The company's transport division depends on close cooperation with the local Kaznacheevka station which is the starting point for most shipments. Shchekinoazot is completing the construction of 26 km of tracks in order to cope with the extra production and transportation through the Kaznacheevka station.

For the M-500 plant specifically a new park has been created involving 7.6 km of tracks which is almost ready to be put into usage. Shchekinoazot is expecting delivery of 132 new-generation tank cars from the wagon company OVK (TikhvinKhimMash) for methanol transportation by the end of the third quarter.

**Skovorodino methanol project update**

Construction of the Skovorodino methanol plant has probably received less opposition than any other methanol project in Russia and has widely been seen from a positive light. The production of methanol in the Russian Far East will stimulate the development of production of further rework, as well as taking into account the plans of the Russian government to increase the production of wood processing in Russia will allow the development of production of DSP and furniture in the territory of the DFO (Far Eastern Federal District).

The methanol plant at Skovorodino is being built by Technolizing, which is part of the ESN group owned by Grigory Berezkin. The launch of the plant is scheduled for 2024; the capacity is 1 million tpa with a possible expansion to 2 million tpa. Up to 500,000 tpa of this volume has already been contracted by the Japanese Marubeni for a period of twenty years. The project possesses a number of ready-made logistics alternatives, including the transportation of products to China by pipeline and road transport. However, the recent decision of the board of Russian Railways to provide a discount makes the delivery of methanol by rail economically expedient. Natural gas from the Power of Siberia gas pipeline, which runs 15 km from the plant. The plant's products are also planned to be exported to China, Korea and other countries in the Asia-Pacific region.

**Russian Railways to offer discounts for methanol shipments from Far East plants**

For future methanol plants to be constructed in the Far East, Russian Railways has agreed to provide discounts for shipments. In particular, the rail company will reduce the tariff for the transportation of methanol from the ESN plant under construction at Skovorodino by almost a third (30.4%) from 2024 to 2030 as long as specific volume targets are met.





The company ESN states that it has a pipeline and road alternative, but the discounts make the railway efficient. Furthermore, deferred discounts are a good tool for Russian Railways as it reduces competition for popular routes and gives the company a guarantee of the cargo base, as well as the ability to plan investments in infrastructure expansion.

Russian Railways intends to offer a reduction in the tariff for export transportation of methanol in tanks from Skovorodino in the Amur Region at the Nakhodka-Vostochnaya and Blyukher stations in the

Primorsky Territory. Nakhodka-Vostochnaya is the largest port railway station on the Far Eastern Railway and deals with freight operations for the Eastern Port and other ports based in the Wrangel Bay. The discount is given for 2024-2030 inclusive, subject to the transportation by the shipper of at least 800,000 tpa.

Russian N-Butanol Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Petrochemical Company	15.6	7.5
Azot Nevinnomyssk	7.4	13.9
Gazprom neftekhim Salavat	32.3	25.0
SIBUR-Khimprom, Perm	12.7	10.6
Total	68.1	57.0
Russian Isobutanols Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Angarsk Petrochemical Company	9.0	7.6
Gazprom neftekhim Salavat	17.6	16.1
SIBUR-Khimprom, Perm	13.8	26.3
Total	40.4	50.0

Salavat was the largest Russian producer, producing 32,300 tons against 25,000 tons in January to June 2020.

Russian Butanol Consumption (unit-kilo tons)		
Consumer	Jan-Jun 21	Jan-Jun 20
Akrlat	6.9	8.3
Dimitrievsky Chemical	11.0	10.4
Volzhskiy Orgsintez	4.8	4.2
Roshalsky Plant of Plasticizers	1.5	0.9
Others	5.8	6.3
Total	30.0	30.1

tons from 30,100 tons in the same period in 2020.

Russian Butanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Gazprom n Salavat	5.1	2.3
SIBUR-Khimprom	9.5	12.6
Angarsk Petrochemical Company	15.6	13.7
Azot Nevinnomyssk	0.3	1.3
Totals	30.6	29.9

and Gazprom neftekhim Salavat direct almost the entire volume of n-butanol produced to internal processing. The Angarsk Petrochemical Plant does not supply isobutanol to the free domestic market and finds it more economical to ship almost all products for export.

The same discount policy will apply to the Nakhodka methanol and fertiliser plant under construction, although locationally the railway is much less likely to be used. Overall Russian Railways is looking to replace coal and other low-yield cargoes and sees that by making early discount offers it helps to ensure volumes.

## Organic chemicals

### Russian butanol production Jan-Jun 2021

Russian normal butanol production totalled 68,100 tons in January to June 2021, against 57,000 tons in the same period in 2020. Gazprom neftekhim

Isobutanol production in Russia dropped from 50,000 tons to 40,400 tons in January to June 2021. Gazprom neftekhim Salavat increased production to 17,600 tons from 16,100 tons, and SIBUR-Khimprom reduced from 26,300 tons to 13,800 tons.

### Russian domestic butanol sales, Jan-Jun 2021

Merchant normal butanol sales on the Russian domestic market dropped in the first six months in 2021 to 30,000 tons from 30,100 tons in the same period in 2020. The largest butanol buyer on the domestic market remains Dimitrievsky Chemical which took 11,000 tons whilst Akrlat at Dzerzhinsk reduced purchases from 8,300 tons to 6,900 tons.

Angarsk Petrochemical was the largest supplier of normal butanols in the first six months shipping 15,600 tons versus 13,700 tons in the same period in 2020 whilst SIBUR-Khimprom reduced sales from 12,600 tons to 9,500 tons. Both SIBUR-Khimprom

**Russian acetone production & exports, Jan-Jun 2021**

Russian acetone production amounted to 80,000 tons in the first six months in 2021 against 79,700 tons in the same period in 2020. Omsk Kaucuk produced 9,800 tons of acetone down from 11,500 tons in the same period in 2020 due to technical problems. Conversely, Ufaorgsintez increased production from 20,100 tons to 24,000 tons whilst Kazanorgsintez increased from 25,600 tons to 27,000 tons.

Russian Acetone Production (unit-kilo tons)		
Producer	Jan-Jun 21	Jan-Jun 20
Ufaorgsintez	24.0	20.1
Kazanorgsintez	27.0	25.6
Novokuibyshevsk Petrochemical	19.1	22.4
Omsk Kaucuk	9.8	11.5
Total	80.0	79.7

Exports of acetone from Russia amounted to 32,600 tons in the first six months in 2021 against 28,800 tons in the same period in 2020. The Netherlands was the major destination for Russian acetone exports in the first six months this year, accounting for 13,400 tons, followed by Latvia with 7,300 tons.

Russian Acetone Exports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Belarus	5.7	5.5
Netherlands	13.4	9.6
Turkey	1.8	6.4
Latvia	7.3	0.8
Others	2.9	6.5
Total	32.6	28.8

**SIBUR's organic chemicals Jan-Jun 2021**

SIBUR's sales of the plasticizer DOTP in value terms rose from 3.262 billion roubles (\$44.4 million) in January to June 2020 to 6.202 billion roubles (\$85.4 million) in the same period in 2021. Production of DOTP at Perm rising to 49,500 tons from 46,700 tons in the same period in 2020. Domestic sales of DOTP rose from 34,900 tons to 39,700 tons whilst exports dropped from 12,800 tons to 9,900 tons.

SIBUR's Organic Chemical Production (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
DOTP	49.5	46.7
Oxo Alcohols	71.9	74.4
Acrylates	24.6	24.7
SIBUR's Organic Chemical Domestic Sales (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
DOTP	39.7	34.9
Oxo Alcohols	11.4	22.3
Acrylates	15.4	16.5
SIBUR's Organic Chemical Exports (unit-kilo tons)		
Product	Jan-Jun 21	Jan-Jun 20
DOTP	9.9	12.8
Oxo Alcohols	14.2	13.4
Acrylates	18.9	12.6

The flooring market has been stable in 2020, despite coronavirus consumption and the decline in production during quarantine in April-May has been able to catch up by working on increased loading to meet deferred demand in the second half of the year. In the future, SIBUR aims to start supplying DOTP to manufacturers of lubricants, the use of plasticizer in which increases the efficiency of additives up to 30%.

For organic chemicals SIBUR's oxo alcohol production amounted to 71,900 tons in January to June versus 74,400 tons in January to June 2020. The oxo alcohol and plasticizer division operates at SIBUR-Khimprom at Perm.

The acrylates' division at Dzerzhinsk reduced production from 24,700 tons to 24,600 tons in the first half in 2021, whilst domestic sales amounted to 15,400 tons from 16,500 tons and export sales rose from 12,600 tons to 18,900 tons.

Revenues from domestic and export sales of acrylates rose from 2.035 billion roubles (\$27.7 million) in the first half last year to 7.268 billion roubles (\$99.9 billion) in January to June 2021.

**SIBUR-maleic anhydride project to be launched by end of 2021**

SIBUR plans to launch Russia's first butane based maleic anhydride plant located at Tobolsk by the end of 2021. At present, 98% of the installation of all metal structures on the construction site has been completed. In July 2021, start-up work of the revolving water supply unit, built into a single system of closed water cycle of oil and gas production of ZapSibNeftehim, will start.

Maleic anhydride consumption in Russia amounts to around 5,000 tpa and thus SIBUR will need to export large volumes in order to achieve reasonable operating rates. Over long distances maleic anhydride is quite difficult to transport in liquid form and thus there may be technical challenges in shipping to export markets. The launch of the maleic anhydride plant in Russia is hoped to open up additional opportunities for the development of consuming domestic industries and stimulate a more intensive development of the construction industry.

## Russian TDI-MDI Imports

Russian TDI Imports (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Belgium	0.362	0.109
China	9.745	1.177
France	0.001	0.118
Germany	1.461	6.511
Hungary	4.422	5.000
Netherlands	1.181	0.900
Saudi Arabia	1.037	2.731
South Korea	6.210	1.483
Turkey	0.170	0.126
US	3.713	1.100
Others	0.057	1.200
Total	28.515	20.857

Russian TDI Imports (\$ million)		
Country	Jan-Jun 21	Jan-Jun 20
Belgium	1.130	1.042
China	23.488	2.964
France	0.010	0.268
Germany	4.708	9.200
Hungary	13.768	8.800
Japan	0.473	1.452
Netherlands	2.503	1.359
Saudi Arabia	3.328	7.700
South Korea	14.236	1.062
Turkey	0.740	0.450
US	9.252	8.011
Others	0.116	0.000
Total	73.760	42.411

Russian Imports of MDI (unit-kilo tons)		
Country	Jan-Jun 21	Jan-Jun 20
Belgium	10.442	6.820
China	20.839	15.762
Germany	10.771	9.040
Hungary	3.518	1.838
Japan	0.978	0.801
Netherlands	17.605	12.099
Portugal	3.126	0.000
Saudi Arabia	16.770	18.885
South Korea	0.942	0.337
Others	0.971	0.000
Total	86.049	65.694

### Russian TDI-MDI imports, Jan-Jun 2021

Russian TDI imports amounted to 28,515 tons in the first six months in 2021 against 20,857 tons in the same period in 2020. Values of Russian TDI imports rose from a total of \$42.411 million in January to June 2020 to \$73.760 million, with average prices per ton rising from \$1855 to \$2496. The upward trend in pricing started in the third quarter last year and averaged \$2564 per ton in the first six months versus \$1664 in the same period in 2020.

China supplied 9,745 tons to Russia in the first six months in 2021 against 1,177 tons in the same period in 2020, whilst Hungary reduced shipments from 5,000 tons to 4,422 tons. Germany reduced sales to Russia to 1,461 tons from 6,511 tons and Saudi Arabia reduced shipments from 2,731 tons to 1,037 tons.

MDI imports into Russia rose to 86,049 tons in January to June 2021 from 65,694 tons in the same period in 2020. Values of Russian MDI imports amounted to \$191.493 million in the first six months rising more than double from the from \$88.652 million in the same period last year. Values were boosted by the increase in both volumes imported and average prices per ton which rose from \$1358 to \$2208.

The Netherlands was the largest supplier of MDI to the Russian market, shipping 17,605 tons in the first six months against 12,099 tons last year, whilst Saudi Arabia reduced shipments to 16,770 tons from 18,885 tons. Germany and Belgium are also major suppliers to the Russian market.

Portugal has been a new MDI supplier to the Russian market this year shipping 3,126 tons in the first six months for a value of \$6.3 million. The largest region for Russian MDI imports remains the Vladimir Oblast followed by Moscow. In the first six months in 2021 the Vladimir Oblast accounted for 41.2% of MDI imports into Russia.

## Ukraine

### Ukrainian polymer imports & production, Jan-Jun 2021

Polypropylene imports into the Ukrainian market amounted to 59,500 tons in the first half of 2021, which is 3% less than the 61,100 tons in 2020.

Imports of homopolymer grade dropped 8% to 44,100 tons whilst block copolymer imports amounted to 5,900 tons against 5,700 tons in 2020. The total volume of PP random imports amounted to 7,800 tons against 7,700 tons for the same period in 2020.

Polyethylene imports to the Ukrainian market amounted to 121,800 tons in the first half of 2021, which is 11% lower than in 2020. HDPE imports dropped from 54,300 tons to 39,700 tons whilst LDPE imports dropped 7% to 36,500 tons. LLDPE imports amounted to 37,100 tons against 36,400 tons in January to June 2020. Only small volumes of Russian polyethylene were imported into Ukraine this year.

Imports of PVC into Ukraine dropped 41% in the first half of 2021 to 12,700 tons against 21,400 tons a year earlier. Exports of PVC increased slightly from 102,400 tons to 102,800 tons.

<b>Ukrainian Polymer Imports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
PVC	12.7	19.8
PET	84.3	73.0
LDPE	36.6	31.6
LLDPE	37.1	36.8
HDPE	39.7	56.4
Other Polyethylene	0.0	0.0
PP	59.5	61.2

PET imports into to Ukraine increased by 15% to 84,300 tons in the first half this year against 73,000 tons in January to June 2020. The volume of supplies of bottled PET from China to Ukraine for six months more than doubled: from 21,300 tons in January-June 2020 to 48,100 tons. The key suppliers of injection moulded Chinese PET granulate to the Ukrainian market include producers Dragon, Yisheng Petrochemical and China Resources Chemicals.

PET imports from Lithuania dropped by 32% in the first half of 2021 to 29,300 tons. The main supplier of Lithuanian material is the manufacturer Neo Group (26,600 tons). The key Ukrainian buyers of bottled PET from Lithuania include Retal and Coca-Cola Ukraine Limited.

### **Karpatneftekhim Jan-Jun 2021**

Karpatneftekhim increased purchases of LPG in January-June by 33,500 tons, to 61.900 tons, due to more attractive prices compared to naphtha.

<b>Karpatneftekhim Petrochemical Exports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Jun 21</b>	<b>Jan-Jun 20</b>
Propylene	52.0	53.4
Benzene	45.6	35.4

Karpatneftekhim exported 52,000 tons of propylene in the first six months in 2021 against 53,400 tons in the same period in 2020, whilst benzene imports rose from 35,400 tons to 45,600 tons. The largest share of propylene shipments was exported to Poland.

<b>Ukrainian methanol imports (unit-kilo tons)</b>	
<b>Period</b>	<b>Vol (Ktons)</b>
Jan-Jun 21	48.6
Jan-Jun 20	41.7
Jan-Jun 19	30.5

### **Ukrainian methanol market Jan-Jun 2021**

The major consumers of methanol in Ukraine include Ukratnafta for use in fuels, Ukrgasvydobuvannya in gas supply and KarpatSmol in resin manufacture. In June Ukratnafta purchased 1,590 tons from Metafrax against 1,850 tons in May whilst Ukrgasvydobuvannya purchased 767 tons from Metafrax versus 1,471 tons in the previous month. From Shchekinoazot Ukrgasvydobuvannya purchased 975 tons in June versus 1,560 tons in May whilst Ukratnafta did not buy in June after buying 65 tons in May. The resin producer KarpatSmol purchased 1,491 tons of methanol from Shchekinoazot in June versus 845 tons.

## **Central Asia/Caucasus**

### **SOCAR Methanol**

SOCAR Methanol produced 98,400 tons of methanol in the first six months in 2021, after resuming production in May following the four-month shutdown which started in January. In the first half of 2020 production totalled 243.200 tons. As of 1 June, the company was holding 28,500 tons of methanol in its warehouses and 34,700 tons from 1 July.

In 2020, SOCAR Methanol produced 476,600 tons of methanol, 24.4% higher than in 2019. In June this year, Azerbaijan exported methanol worth \$8.6 million which is 79.2% more than in the same month last year. SOCAR Methanol achieved 100% of production capacity in July and expects a solid second half of 2021.

<b>Azerbaijan polymer exports Jan-Jun 2021</b>
Azerbaijan exported 173,635 tons of polyolefins in the first half of 2021. Polyethylene in the primary form accounted for 65,640 tons for \$75.631 million, whilst polypropylene exports amounted to 40,480 tons for \$51.951 million. Exports of propylene copolymers totalled 11,871 tons for \$19.953 million. SOCAR Polymer plants are designed to produce ten types of polypropylenes and 4 types of high-density polyethylene.

Besides its plant in Azerbaijan SOCAR has acted as a technical consultant for the project of the methanol plant in Vysotsk in Russia (in the Vyborg district of the Leningrad region). For the



construction of a methanol plant in Vysotsk, all design work was completed, negotiations are underway to implement this project on a turnkey basis. Hyundai acts as the general contractor.

### **Turkmenistan polyolefin exports Jan-Jun 2021**

Sales of polypropylene and polyethylene from Turkmenistan decreased significantly in the first half of the year compared to the same period of 2020. Problems with the supply of raw materials and equipment affected production. Only 3,000 tons of polypropylene was sold in the period January-June, compared to 33,500 tons in the same period in 2020. Polyethylene sales dropped from 47,700 tons to 20,700 tons.

#### **Shurtan Gas-Chemical, production 2021**

The Shurtan gas chemical complex (part of Uzbekneftegaz) processed 1.96 billion cubic metres of natural gas in January-June, which is 8% higher than the same period in 2020. Polyethylene production rose 7% in the first half in 2021 to 62,300 tons, followed by 54,500 tons of liquefied gas, 1.65 billion cubic metres of commercial gas, and 47,800 tons of gas condensate.

Uzbekneftegaz is aiming to increase production capacity at Shurtan for polyethylene up to 430,000 tpa from the current 130,000 tpa, and up to 280,000 tpa of polypropylene. Gazprombank's \$300 million loan has been raised to finance the project. The licensees of the project include Chevron Phillips Chemical (polyethylene production) and McDermott (polypropylene production). To implement the project, a contract has been signed with Singapore's Enter Engineering for detailed design and construction of equipment.

worth ten times more than the price of gas from Kazakhstan's oil and gas fields. According to Kazakh data, the cost of propane in the domestic market is about \$130 per ton, when as export prices for polypropylene vary in the corridor \$1,000-1 500 per ton. The most likely export markets would appear to be China where consumption is estimated at 3.5-4 million tons and Turkey which is a strong trade partner of Kazakhstan.

### **Kazakh polypropylene plant market targets**

As completion of the polypropylene project at Atyrau is expected in early 2022 attention is turning to where the 500,000 tpa plant can send its output. The Kazakh market consumes about 40-45,000 tpa of polypropylene which would account for around 10% of the capacity of the new plant.

KazMunayGaz sees the polypropylene plant as a win-win stating that polypropylene could be

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