

# CIREC MONTHLY news

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

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

Issue No: 389, 21 April 2023

## Key points from this issue:

### Central European petrochemical markets

- PKN Orlen cancels Russian oil contract at end of February; Unipetrol and MOL continue to purchase crude from Russia at lower prices due to price cap
- PKN Orlen updates its investment strategy to 2030 with emphasis on petrochemicals, in addition to developing green hydrogen
- Polimery Police received its first shipment of ethylene, whilst registering propane under REACH
- Slovak chemical sector recorded a 36% rise in revenues in 2022 but costs meant that many companies stopped producing
- The large-scale equipment of MOL Petrochemical's propylene plant under construction arrived at Tiszaújváros at the end of March

### Central European polymer and organic chemical markets

- Overall the supply/demand balance for Polish polypropylene dropped from 181,700 tons in the first two months in 2022 versus 134,200 tons in the same period this year
- Imports of propylene into Poland dropped in the first two months in 2023 to 16,604 tons against 33,760 tons in the same period in 2022
- HDPE imports into Poland dropped from 75,334 tons to 65,745 tons in January to February 2023 whilst LDPE imports dropped from 57,259 tons to 50,881 tons.
- Values and volumes for Polish trade in organic chemicals fell for both exports and imports in the first two months, as recessionary trends took effect. Import revenues dropped from €820.2 million in the first two months in 2022 to €687.3 million in the same period in 2022, whilst export revenues dropped from €386.1 million to €275.3 million
- PTA exports from Poland amounted to 37,181 tons in the first two months in 2023 against 74,123 tons in the same period in 2022

### Russian chemical production & trade

- Whilst Russian petrochemical production overall remains relatively stable, the producers could be facing the prospects of a windfall tax in order to finance military expenditure.
- Russian propylene production amounted to 488,200 million tons in the first two months in 2023 against 518,400 tons in the same period in 2022
- Russian production of synthetic rubber dropped to 226,000 tons in the first two months in 2023 versus 290,000 tons in the same period in 2022 and 296,000 tons in January to February 2021
- Russia produced 608,312 tons of methanol in the first two months in 2023 against 866,360 tons in the same period in 2022
- Russian producer exports of methanol fell from 413,600 tons in the first two months in 2022 to 293,400 tons in the same period in 2023
- PET imports into China amounted to \$56.0 million in the first two months in 2023 against \$13.0 million in the same period in 2022

# CENTRAL and SOUTH EAST EUROPE

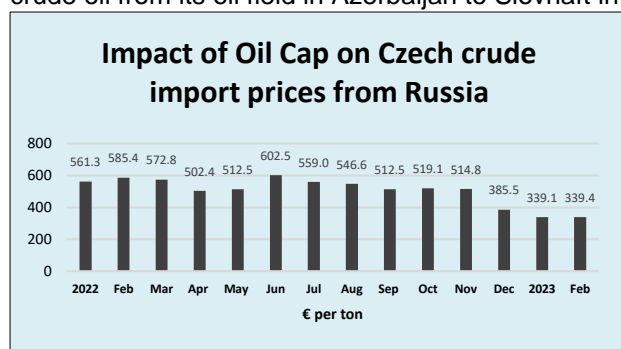
## Central European crude supply

### MOL starts supplying Azeri crude to Slovnaft

Hungary's average price for crude imports in January amounted to €386 per ton, mainly helped by the price cap on Russian crude. Purchases of crude from Russia in January amounted to 227,753 tons from the total of 360,769 tons. The Russian price of €325.056 per ton compared against the next lowest price of €420.695 per ton from Iraq from where Hungary bought 54,993 tons in January. Volumes from Kazakhstan, delivered by the Druzhba, amounted to 73,678 tons at a price of €540.105 per ton. A small volume was purchased from Croatia at €644.185 per ton.

Country	Vol (ktons)	€ per ton
Croatia	4.345	644.185
Iraq	54.993	420.695
Kazakhstan	73.678	540.105
Russia	227.753	325.056
Total	360.769	386.008

Although Russia accounted for 63% of crude imports for Hungary in January, the country is actively looking to become independent of Russian crude as soon as possible. MOL has started transporting crude oil from its oil field in Azerbaijan to Slovnaft in Bratislava via the Adria oil pipeline. MOL said that the new transport route, originating from the Azeri-Chirag-Gunashli field off the Azeri coast in the Caspian Sea, to Bratislava is a major step in efforts to make their crude oil supply more flexible.



### Price cap on Russian crude exports to EU

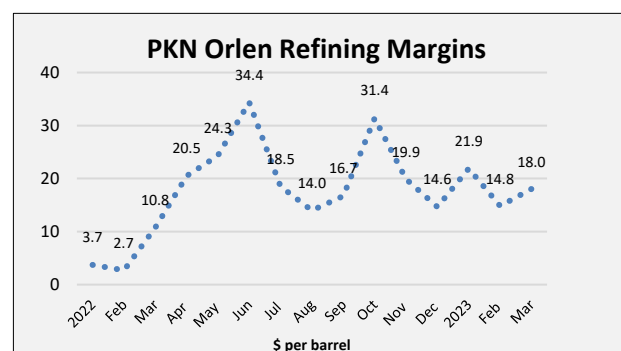
The Czech Republic imported 400,073 tons of crude from Russia in February this year at €339.4 per ton compared to 189,478 tons from Azerbaijan at €622.405 per ton. Another 47,000 tons was purchased from Kazakhstan. The EU

price cap of \$60 per barrel for Russian crude took effect from 5 December last year. Although supplies from Russia accounted for two thirds of Czech crude imports in February, this represents a short-term trend that has a limited time-span due to EU sanctions.

Country	Vol (million tons)	€ per ton
Saudi Arabia	2.045	577.7
Lithuania	0.006	591.5
Russia	1.150	316.4
Nigeria	0.393	620.5
Norway	0.706	562.4
US	0.185	629.0
UK	0.408	604.6
Total	4.894	521.7

### Polish imports of crude oil 2023

Poland imported 4.894 million tons in the first two months in 2023 at an average price of €521.7 per ton. Saudi Arabia supplied 2.045 million tons at an average price of €577.7 per ton followed by Russia which supplied 1.150 million tons at an average price of €316.4 per ton.



The price cap on Russian crude means that Russian volumes were supplied to Poland at borderline margin prices or possibly at numbers which do not cover total extraction and transport costs.

Despite the price cap it does look good to purchase Russian crude and thus Orlen terminated the contract in late February with Tatneft for the supply of oil through the Druzhba oil pipeline. Orlen's contract with Tatneft provided for the supply of 200,000 tons of oil per

month until 2024.

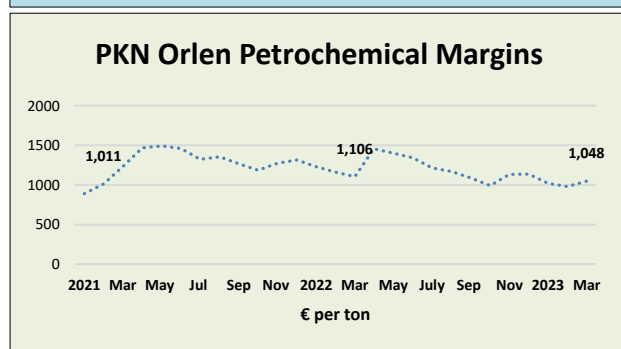
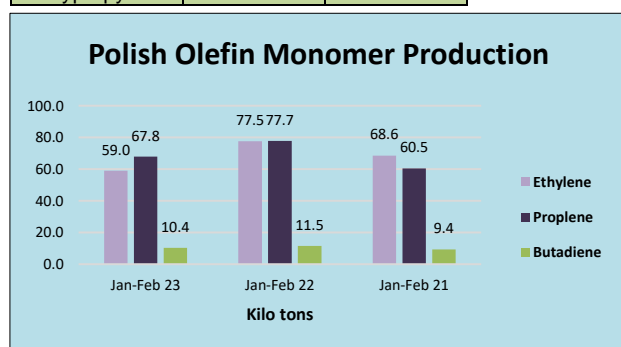
## Central European petrochemical production and trade

PKN Orlen Production (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Ethylene	59.0	77.5
Propylene	67.8	77.7
Butadiene	10.4	11.5
Toluene	0.4	2.1
Phenol	8.6	9.0
Polyethylene	50.3	51.6
Polypropylene	49.3	56.6

### PKN Orlen-petrochemical production Jan-Feb 2023

PKN Orlen reduced ethylene production in the first two months in 2023 to 59,000 tons from 77,500 tons in the same period in 2022. Propylene dropped from 77,700 tons to 67,800 tons.

The decrease in olefin production meant that polyethylene production dropped from 51,600 tons in the first two months in 2022 to 50,300 tons this year whilst polypropylene production fell from 56,600 tons to 49,300 tons.



Petrochemical margins for PKN Orlen remain relatively high despite the weaker performance in the past few quarters. Positive margins helped to offset the high energy costs in 2022 which affected European petrochemical producers. Although costs have since softened, they remain one of the major concerns in 2023.

### MOL's propylene project deliveries

The large-scale equipment of MOL Petrochemical's propylene plant under construction arrived at Tiszaújváros at the end of March. The weight of the three trainsets, each almost 40 metres long, about 5 metres high and 4 metres wide. The first shipment crossed the Slovak border before delivery to Miskolc.

Foundations for MOL Petrochemicals' new propylene plant was laid and started at Tiszaújváros in March 2022. The plant, built with a Ft 65 billion (€175 million) greenfield investment, is being designed to produce 100,000 tpa of propylene, thus significantly covering MOL's demand for raw materials in the chemical industry and increasing the company's self-sufficiency. This plant will partly provide propylene for the polyol complex under construction, which will enable Tiszaújváros.

### Orlen Group-green hydrogen

The European Commission has approved co-financing the Lotos Green H2 project at the Gdansk refinery. The company will receive €158 million for the production of renewable hydrogen. Green H2 is a Lotos project initiated before the company was incorporated into the Orlen Group. The money will be spent on an electrolyser for hydrogen production with a capacity of 100 MW, as well as the construction of a photovoltaic power plant with a capacity of 50 MW and an energy storage with a capacity of 20 MWh. The electrolyser is to be launched in 2027.

Lotos and Orlen already produce hydrogen, but the so-called grey hydrogen through steam reforming, which generates CO<sub>2</sub> emissions. The planned Green H2 installation at the Gdansk Refinery is expected to avoid emissions of up to 2.5 million tpa of carbon dioxide. The investment is also to have a balancing function in the power system.

### Orlen petrochemical investments

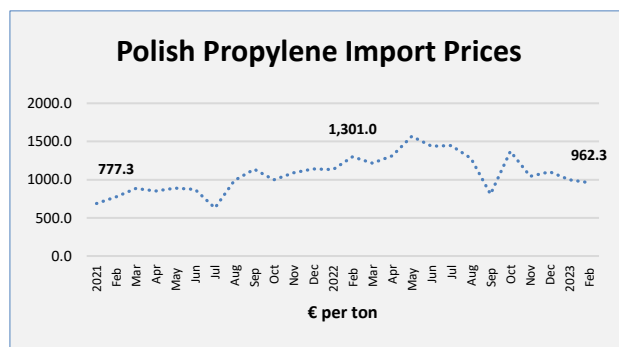
A main feature of the Orlen Group's strategy up to 2030 is focused on a transformation from oil processing group into becoming a more important producer of petrochemicals in Central Europe. From Orlen's updated strategy, announced in the first quarter this year, the emphasis on petrochemicals is aimed at increasing the Group's resistance to unfavourable market trends in traditional hydrocarbon-based fuels. The expansion of production is aimed at tackling part of the deficit in petrochemicals and polymers in the Polish economy. In 2022 PKN Orlen's profits from the petrochemical division dropped from

€732.9 million in 2021 to €474.0 million. Revenues increased from €3.835 billion in 2021 to €6.337 billion in 2022, whilst costs rose from €3.507 billion to €5.861 billion.

### Polimery Police-first ethylene shipment received

The first ethylene delivery under the Polimery Police project took place at the Maritime Gas Terminal at Police on 27 March. The Gaschem Rhone gas carrier delivered the first 3,500 tons of ethylene to Grupa Azoty Polyolefins, for which annual demand is estimated at 13,000 tpa. Ethylene will be used first for the cooling processes, commissioning and testing of the above-ground tank and associated installations located at the terminal. Ethylene will be stored in an above-ground tank with a capacity of 12,000 m<sup>3</sup> in a state cooled to minus 104 degrees Celsius (-104°C).

The process of registration of propane and propylene in accordance with REACH was completed by Grupa Azoty Polyolefins on 7 February 2023. Propylene registration was necessary due to the production and use for the production of polymer. Propane registration facilitates the diversification in supplies from all global sources. The unloading of propane into tanks in the new gas terminal was seen as a symbolic beginning of the completion of the new chemical complex.



### Polish propylene imports Jan-Feb 2023

Imports of propylene into Poland dropped in the first two months in 2023 to 16,604 tons against 33,760 tons in the same period in 2022. Average prices dropped from €1131.6 per ton in January to February 2022 to €979.9 per tons in the first two months in 2023. Although propylene monomer has not been sanctioned specifically by the EU to date, Russia stopped

exporting to Poland in the latter part of 2022.

Polish Propylene Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Bulgaria	1.867	0.000
Germany	10.674	7.784
Russia	0.000	9.908
Ukraine	0.000	14.107
Serbia	0.972	0.000
Netherlands	3.085	0.981
Others	0.005	0.981
Total	16.604	33.760
Av price € per ton	979.9	1131.6

To compensate for the drop in imports from Russia and Ukraine (where production was suspended at Karpatneftekhim following the Russian invasion), Poland started to receive deliveries from Bulgaria, Croatia and Hungary. Propylene from Bulgaria came from the Bourgas refinery which is owned by Lukoil and has somehow avoided the effects of sanctions, even if it is a Russian company. Germany is now the main supplier of propylene to Poland, shipping 10,674 tons in the first two months. The Netherlands increased shipments from 981 tons in the first two months last year to 3,085 tons in the same period in 2023.

Polish Butadiene Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Austria	7.224	6.085
Germany	0.913	3.328
Hungary	4.055	7.217
Total	12.191	16.630
Av price € per ton	916.6	961.1

### Polish butadiene imports Jan-Feb 2023

Poland imported 12,191 tons of butadiene monomer in the first two months in 2023, versus 16,630 tons in the same period in 2022. Imports from Hungary dropped from 7,217 tons last year to 4,055 tons in January to February 2023, whilst shipments from Austria increased from 6,085 tons to 7,224 tons.

### Czech monomer trade, Jan-Feb 2023

Propylene imports into the Czech Republic increased from 5,773 tons in January to February 2022 to 9,074 tons in the same period in 2023. Germany supplied 5,129 tons in the first two months for €4.820 million. Other suppliers included Bulgaria from which the Czech Republic purchased 1,918 tons for €1.787 million and Romania where volumes amounted to 1,048 tons for €987,000.

Czech Petrochemical Imports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Ethylene	9.033	8.138
Propylene	9.074	5.773
Butadiene	15.528	12.315

Average prices for Czech propylene imports dropped from €1210 per ton in the first two months in 2022 to €936 per ton in 2023.



Czech Petrochemical Exports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Ethylene	2.163	2.016
Propylene	0.006	0.003
Butadiene	0.000	0.079

Ethylene exports from the Czech Republic amounted to 2,163 tons in the first two months in 2023 against 2,016 tons in the same period last year, whilst ethylene imports rose from 8,138 tons to 9,033 tons. Germany supplied 23,062 tons to the Czech Republic in January to December 2022, supplied from the Boehlen plant to Litvinov.

Polish Styrene Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Belgium	0.000	2.685
Czech Republic	4.995	0.215
Finland	0.214	0.072
Netherlands	3.131	10.450
Germany	2.853	2.328
Others	1.229	1.630
Total	12.422	17.380
Av price € per ton	1282.5	1316.8

Czech imports of butadiene in the first two months this year increased from 12,315 tons to 15,528 tons, supplementing production at Kralupy. Germany supplied 11,453 tons for €10.079 million, followed by Hungary which supplied 4,075 tons for €3.520 million.

### Central European styrene trade Jan-Feb 2023

Poland imported 12,422 tons of styrene in the first two months in 2023 versus 17,380 tons in the same period in 2022. The Netherlands reduced shipments from 10,450 tons to 3,131 tons whilst imports from Germany rose from 2,328 tons to 2,853 tons. Costs averaged €1282.5 per ton in January to February 2022 against €1316.8 per ton in the same period in 2022. The main importer of styrene monomer into Poland is Synthos for polystyrene and synthetic rubber production at Oswiecim.

Czech Styrene Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Belgium	0.249	0.494
Germany	0.355	0.001
Netherlands	1.748	2.770
Poland	0.000	0.000
Others	0.199	0.043
Total	2.551	3.309
Av price per ton €	1163.5	1375.1

Styrene imports into the Czech Republic amounted to 2,551 tons in the first two months in 2023, falling from 3,309 tons in January to February 2022. At the same time exports of styrene monomer from the Czech Republic amounted to 5,049 tons in January to February 2023.

## Central European polyolefins

Polish PE Supply/Demand Balance (unit-kilo tons)		
	Jan-Feb 23	Jan-Feb 22
Production	50.3	51.6
Exports	48.1	61.0
Imports	190.5	226.4
Market Balance	192.8	217.0

### Polish polyethylene production & trade Jan-Feb 2023

Polyolefin trade into and out of Poland experienced partial declines in the first two months in 2023, with nearly all grades of polyethylene and polypropylene affected. Based on production and trade polyethylene consumption amounted to 192,800 tons in the first two months in 2023 against 217,000 tons in January to February 2022.

Polish PE imports (unit-kilo tons)		
Type	Jan-Feb 23	Jan-Feb 22
LDPE	50.881	57.259
LLDPE	35.058	43.100
HDPE	65.745	75.534
EVA	2.293	3.436
EAC	27.871	36.737
Other	8.688	10.287
Total	190.535	226.353
Av price € per ton	1494.4	1737.5

PKN Orlen produced 50,300 tons at Plock in the first two months in 2023 against 51,600 tons in the same period last year. In terms of the annual supply/demand balance Poland's consumption of polyethylene amounted to 1.291 million tons in 2022 versus 1.350 million tons in 2021.

Polyethylene imports into Poland totalled 190,535 tons in January and February 2023 versus 226,353 tons in the same period in 2022, with average prices dropping from €1737.5 per ton to €1494.4 per ton this year.

HDPE imports into Poland dropped from 75,334 tons to 65,745 tons in January to February 2023 whilst LDPE imports dropped from 57,259 tons to 50,881 tons. LLDPE imports declined from 43,100 tons to 35,058 tons. Imports of LLDPE dropped from 255,430 tons in 2021 to 238,186 tons which were sourced mostly from West Europe, including France, the Netherlands and Germany.

Polish PE Exports (unit-kilo tons)		
Type	Jan-Feb 23	Jan-Feb 22
LDPE	7.448	9.939
LLDPE	3.804	3.103
HDPE	33.010	43.283
EVA	1.063	0.393
EAC	2.175	4.553
Other	0.577	0.460
Total	48.077	60.953
Av price € per ton	1502.1	1552.7

Polyethylene exports from Poland dropped from 60,953 tons in the first two months last year to 48,077 tons in the same period in 2022, with average prices dropping from €1552.7 to €1502.1.

In addition to comprising the largest category of polyethylene imports, HDPE was also Poland's largest export grade amounting to 33,010 tons in the first two months against 43,283 tons in January to February 2022.

#### Polish polypropylene production & trade Jan-Feb 2023

Polypropylene production at Plock dropped from 56,600 tons in January and February 2022 against 49,300 tons this year. Overall, the supply/demand balance for Polish polypropylene dropped from 181,700 tons in the first two months in 2022 versus 134,200 tons in the same period this year.

Polish PP Supply/Demand Balance (unit-kilo tons)		
	Jan-Feb 23	Jan-Feb 22
Production	49.3	56.6
Exports	41.3	54.7
Imports	126.2	179.8
Market Balance	134.2	181.7

Imports of polypropylene into Poland dropped from 179,779 tons in the first two months in 2022 versus 126,207 tons in the same period in 2023, with average prices dropping from €1746.1 to €1553.6 per ton. Homo grade imports dropped from 118,735 tons in the first two months last year to 79,609 tons.

Polish PP Imports (unit-kilo tons)		
Type	Jan-Feb 23	Jan-Feb 22
PP homo	79.609	118.735
Polyisobutylene	0.351	0.998
Propylene copolymers	43.815	57.248
Other	2.433	2.798
Total	126.207	179.779
Av price € per ton	1553.6	1746.1

Poland imported 609,740 tons of polypropylene homo grade in the whole of 2022 for a total value of €1027.504 million. Homo grade PP imports into Poland dropped from 727,232 tons in January to December 2021 partly due to higher production at Plock.

The major difference this year in terms of sources involves the complete absence of imports from Russia. The leading supplier of homo grade to the Polish market in the first two months was Germany shipping 24,101

tons for €36.278 million.

Russia provided 51,179 tons of homo grade for €75.955 million in 2022, which was exceeded by Germany with 142,855 tons for €253,368 million. Imports from Russia were last undertaken in July following the imposition of EU sanctions. In 2021 Poland imported 155,805 tons of polypropylene homo grade from Russia for a total grade €198.656 million. Shipments from Russia accounted for 21% of total Polish imports in 2021 but dropped to 8.5% in 2022.

Copolymer imports into Poland fell from 57,248 tons in the first two months in 2022 to 43,815 tons in the same period this year, with costs dropping to €70.586 million against €107.879 million in the same period in 2022. Germany was the largest supplier of propylene copolymers to the Polish market in 2022 transporting 82,907 tons for €156.748 million. In the first two months in 2023 Germany supplied 13,753 tons of copolymers to the Polish market for €22.939 million.

Polish PP Exports (unit-kilo tons)		
Type	Jan-Feb 23	Jan-Feb 22
PP homo	26.791	36.823
Polyisobutylene	0.132	0.046
Propylene copolymers	13.759	17.259
Other	0.634	0.596
Total	41.316	54.724
Av price € per ton	1523.6	1695.7

Polish exports of polypropylene dropped from 54,724 tons in the first two months in 2022 to 41,316 tons in the same period in 2023.

In particular, exports of polypropylene homo grade from Poland dropped from 36,823 tons to 26,791 tons in January to February 2023 for €37.235 million. The largest destination for Polish exports was Germany, taking 6,718 tons in the first two months in 2023 for €9.201 million.

Czech Polyethylene Exports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
LDPE	1.978	1.946
LLDPE	0.329	0.300
HDPE	25.987	27.446
EVA	0.402	0.277
Other	0.725	0.740
Total	29.422	30.709
Av price € per ton	1441.8	1546.5

### Czech polyethylene trade Jan-Feb 2023

Czech exports of polyethylene amounted to 29,422 tons in the first two months in 2023 from 30,709 tons in 2022 with average prices falling from €1546.5 per ton to €1441.8. HDPE represents the largest category of Czech polyethylene falling from 27,446 tons to 25,987 tons. Lacklustre demand has been one of the main drivers of lower polyethylene prices this year combined with feedstock stability, although the latter may be challenged by the recently announced OPEC oil price cuts.

Czech Polyethylene Imports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
LDPE	16.098	20.390
LLDPE	3.034	3.422
HDPE	18.060	21.087
EVA	1.557	1.060
Other	6.282	5.580
Total	45.031	51.538
Av price € per ton	1736.0	1898.7

Polyethylene and polypropylene values started to see some stability towards the end of 2022 with greater stability in the feedstock situation. Weakening demand fundamentals in the Central European region also exerted a bearish pressure on prices.

Imports of polyethylene into the Czech Republic dropped from 51,538 tons in the first two months in 2022 to 45,031 tons in 2023, with revenues dropping from €97.853 million to €78.175 million. Average prices dropped from €1898.7 per ton to €1736.0 per ton.

Czech Polypropylene Exports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
PP	21.875	21.146
Propylene Copolymers	4.174	3.944
Other	0.353	0.053
Total	26.402	25.143
Av price € per ton	1530.7	1675.9

HDPE imports dropped from 21,087 tons to 18,060 tons, whilst LDPE imports dropped from 20,390 tons to 16,098 tons.

Polypropylene exports from Orlen Unipetrol rose slightly in the first two months from 25,143 tons in 2022 to 26,402 tons in 2023. Values dropped from €42.137 million to €40.413 million. The largest market for Czech polypropylene exports in the first two months in 2023 was Poland, taking 10,820 tons followed by Germany with 10,398 tons.

Czech Polypropylene Imports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
PP	23.162	24.575
Propylene Copolymers	15.975	16.328
Other	1.354	1.485
Total	40.491	42.389
Av price € per ton	1693.7	1842.3

Polypropylene imports into the Czech Republic dropped from 42,389 tons in the first two months last year to 40,491 tons in the same period in 2023, with average prices falling from €1842.3 per ton to €1696.7 per ton. Copolymer imports dropped from 16,328 tons to 15,975 tons whilst homo polymer imports dropped from 24,575 tons to 23,162 tons. Total costs for polypropylene imports totalled €68.579 in January to February 2023 against €78.094 million in the same period in 2022.

Hungarian polyethylene Imports (unit-kilo tons)		
Product	Jan-23	Jan-22
LLDPE	1.923	1.735
LDPE	3.701	4.824
HDPE	5.553	7.461
EAO	0.527	0.848
EVA	0.299	0.529
Other	3.041	1.650
Total	15.044	17.047

### Hungarian polyolefin trade Jan 2023

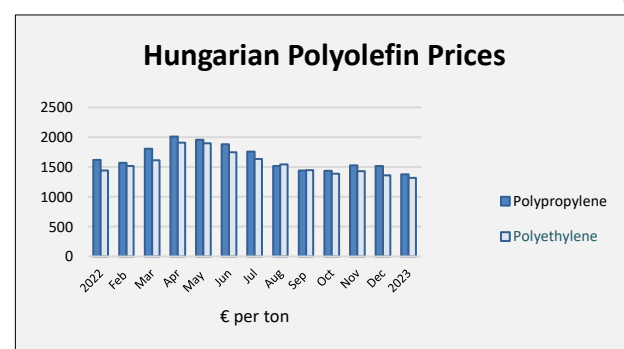
Hungarian imports of polyethylene dropped from 17,047 tons in January 2022 to 15,044 tons in the same month this year. LDPE imports dropped from 4,824 tons to 3,701 tons whilst HDPE dropped from 7,461 tons to 5,553 tons in January this year.

Import costs dropped from €30.619 million for polyethylene imports in January 2022 to €26.850 million in January this year, with average prices dropping from €1796 per ton to €1785 per ton. Hungarian export prices dropped from €1439 per ton in January 2022 to €1316 per ton. Prices have fallen this year due above all to lower demand but also due to flatlining crude numbers.

Hungarian polyethylene exports (unit-kilo tons)		
Product	Jan-23	Jan-22
LLDPE	0.552	0.443
LDPE	8.040	9.017
HDPE	18.785	23.508
EAO	0.038	0.017
EVA	0.009	0.011
Other	0.670	7.269
Total	28.094	40.265

Hungarian Polypropylene Imports (unit-kilo tons)		
Product	Jan-23	Jan-22
PP homo	8.292	11.556
Propylene copolymers	3.999	6.093
Others	1.828	2.234
Total	14.119	19.883

Hungarian Polypropylene Imports (€ million)		
Product	Jan-23	Jan-22
PP homo	12.951	19.791
Propylene copolymers	5.820	10.906
Others	3.983	4.169
Total	22.754	34.866



Hungarian polypropylene exports (unit-kilo tons)		
Product	Jan-23	Jan-22
PP homo	10.535	10.473
Propylene copolymers	8.286	0.005
Others	1.165	8.656
Total	19.987	19.133

Hungarian butadiene rubber Imports (unit-kilo tons)		
Product	Jan-23	Jan-22
Indonesia	5.214	0.000
Russia	0.605	1.681
Others	1.607	2.914
Total	7.426	4.595

Export volumes from Hungary amounted to 28,094 tons in January this year versus 40,265 tons in January 2022. HDPE exports dropped from 23,508 tons to 18,785 tons and LDPE dropped from 9,017 tons to 8,040 tons. Polyethylene exports from Hungary have been affected by lower production by MOL at Tiszaújvaros.

#### Hungarian polypropylene trade Jan-2023

Propylene copolymer imports into Hungary amounted to 3,999 tons in January this year versus 6,093 tons in January 2022, whilst polypropylene homo grade inward shipments dropped from 11,556 tons to 8,292 tons.

Overall import costs for polypropylene dropped to €22.754 million from €34.866 million. Average prices dropped from €1754 from €1612 this year as demand took effect.

Export prices for Hungarian polypropylene dropped in January this year to €1376 per ton to €1894 in January 2022.

By volume there was little change Hungary exported a total of 19,987 tons of polypropylene in January this year versus 19,133 tons in January 2022.

As a result of the lower prices, it meant that revenues from Hungarian polypropylene exports amounted to €27.503 million this year versus €36.233 million in January last year. Homo grade polypropylene revenues decreased from €17.470 million to €14.458 million and copolymer exports dropped from €15.967 million to €11.664 million.

### Central European Rubber Markets

#### Hungarian butadiene rubber imports Jan 2023

Hungary imported 7,426 tons of butadiene rubber in January this year against 4,595 tons in January 2022. The main change to market sources in recent months has come from Indonesia from where Hungary imported 5,214 tons in January. Costs of purchases from the Indonesian producer Chandra Asri Petrochemical amounted to €12.155 million from the total import costs for the month which were €16.653 million.

Imports of butadiene rubber from Russia amounted to 605 tons in January this year versus 1,681 tons in the same month last year. EU sanctions on butadiene rubber trade with Russia, introduced in July last year, have since been loosened under the pressure of European tyre manufacturers.



Hungarian synthetic rubber imports (unit-kilo tons)		
Product	Jan-23	Jan-22
Butadiene Rubber	7.426	4.595
HBR	1.275	2.196
Other	5.454	5.656
Total	14.156	12.448
Hungarian synthetic rubber imports (€ million)		
Product	Jan-23	Jan-22
Butadiene Rubber	16.653	8.262
HBR	3.564	5.411
Other	15.110	11.846
Total	35.327	25.519

**Hungarian synthetic rubber trade Jan 2023**

Hungarian imports of synthetic rubber amounted to 14,156 tons in January for total costs of €35.327 million against 12.448 tons in January 2022 for total costs of €25.519 million.

Regarding export activity, shipments from Hungary amounted to 3,271 tons in January this year for revenues of €10.502 million. Exports of SBRs amounted to 1,387 tons for €5.449 million, supplied from MOL's plant at Tiszaújváros, and for butadiene 816 tons for €1.885 million. HBR exports from Hungary totalled 726 tons for €2.327 million.

**Synthos production at Oswiecim 2022**

Synthos stated that it was ready to restart production of butadiene rubber at its facility in Schkopau in March. The aim is to partially replace the Russian product which has been sanctioned. However, Synthos produces only certain grades of rubber. Tyre manufacturing involves a wider spectrum of grades, many of which are produced mainly in Russia and will be difficult to replace.

Synthos Production in Poland (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Polystyrene	11.3	12.1
EPS	14.3	18.0
Synthetic Rubber	38.7	47.3

Polish Synthetic Rubber Imports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
ESBR	5.159	2.169
Block SBR	3.524	9.488
S-SBR	4.633	1.632
Butadiene Rubber	9.285	7.316
Butyl Rubber	0.559	0.514
HBR	2.718	2.239
NBR	0.508	2.425
Isoprene Rubber	1.113	5.569
EPDM	6.750	7.609
Others	5.459	8.831
Total	39.709	47.791
Av price € per ton	2,314.6	2,297.8

**Polish synthetic rubber trade, Jan-Feb 2023**

Imports of synthetic rubber into Poland amounted to 39,709 tons in January to February 2023 against 47,791 tons in the same period in 2022. Butadiene rubber imports rose from 7,316 tons to 9,285 tons and EPDM imports dropped from 7,609 tons to 6,750 tons.

Import costs for synthetic rubber increased from €109.8 million in January to February 2022 to €91.3 million in 2023, including an increase in butadiene rubber costs from €10.1 million to €18.2 million and EPDM costs increased from €8.4 million to €13.5 million.

43,008 tons in the period January to February 2023 for revenues of €75.254 million. Volumes in 2022 dropped from 335,845 tons in 2021 for €521.184 million with prices rising from €1552 per ton to €2026 per ton in 2022.

Czech Trade in Butadiene Rubber (unit-kilo tons)		
	Jan-Feb 23	Jan-Feb 22
Exports	16.941	18.823
Imports	4.151	4.583
Czech Trade in Butadiene Rubber (€ million)		
	Jan-Feb 23	Jan-Feb 22
Exports	32.828	35.043
Imports	11.420	8.502

**Czech butadiene rubber trade Jan-Feb 2023**

Czech exports of butadiene rubber comprised 16,941 tons in the first two months in 2023 against 18,823 tons in the same period in 2022. Revenues from butadiene exports dropped from €35.043 million to €32.828 million.

The largest customer for Czech butadiene rubber is India which took 2,106 tons in the first two months in 2023 for €3.616 million. The largest European consumer was Poland taking 2,531 tons for €4.536 million followed by Slovakia with 1,895 tons for €3.603 million.

## Central European aromatics

Polish Imports of Aromatics (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Ethylbenzene	20.653	18.235
Paraxylene	0.000	10.625
Phenol	13.853	17.880
Phthalic Anhydride	2.973	4.607
PTA	1.153	0.532
Styrene	12.422	17.353
TDI	10.346	11.787
Toluene	5.648	3.172

ethylbenzene imports rose from 18,235 tons to 20,653 tons. Nearly all of the ethylbenzene imports come from the Czech Republic.

Poland exported 26,243 tons of benzene in the first two months for €21.822 million. Poland shipped 169,144 tons of benzene in 2022 against 142,418 tons in January-December 2021. Germany and the

Polish PTA Exports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Belarus	0.000	2.156
Belgium	0.198	0.000
Germany	32.801	63.037
Lithuania	0.000	7.072
Switzerland	1.781	1.858
Others	2.401	0.000
Total	37.181	74.123
Av price € per ton	936.2	891.5

## Polish aromatics trade Jan-Feb 2023

In the aromatics sector phenol imports into Poland amounted to 13,853 tons in the first two months in 2023 against 17,680 tons in the same period last year. Supplies from Russia were sanctioned by the EU and from August no deliveries were made to Poland. In the period August to December Imports from Spain started to fill the gap left by Russian exporters.

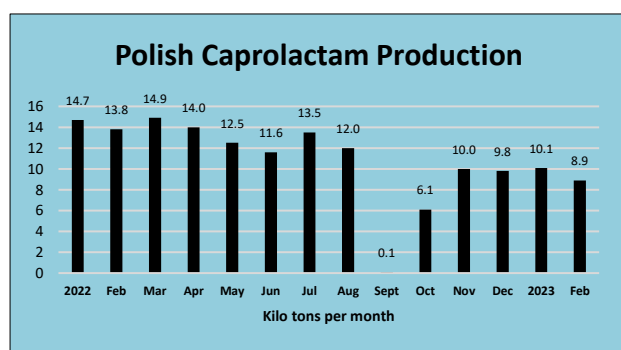
In other product areas, styrene imports amounted to 12,422 tons in the period January to February 2023 versus 17,353 tons in the same period in 2022 whilst

Czech Republic were the two largest destinations for Polish exports in 2022. Export revenues increased from €116.625 million in 2021 to €171.992 million.

Paraxylene imports into Poland were not required by Poland in the first two months against imports of 10,625 tons in the same period in 2022. Paraxylene imports from Russia were replaced last year by inward shipments from Turkey, which amounted to 7,552 tons.

## Polish PTA sales and production Jan-Feb 2023

PTA exports from Poland amounted to 37,181 tons in the first two months in 2023 against 74,123 tons in the same period in 2022. Average prices for Polish PTA exports amounted to €936.2 per ton in 2022 against €891.5 in the same period in 2021. Exports to Germany fell from 63,037 tons in January to February 2022 to 32,801 tons in the same period in 2023.



Spolana Caprolactam Exports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Germany	0.173	2.537
Italy	2.448	2.730
Slovenia	0.525	1.284
Others	1.293	1.520
Total	4.501	8.071
Av price € per ton	1983.8	2277.9

Czech Benzene Trade (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Exports	0.000	12.509
Imports	8.637	13.257

## Central European caprolactam trade

Caprolactam production in Poland has dropped since the middle of 2022 due to Azoty's decision to try to reduce losses by continued plant activity. Spolana has also lowered production this year which meant that caprolactam exports from the Czech Republic fell in the first two months this year to 4,501 tons against 8,071 tons in the same period in 2022. Average prices dropped from €2277.9 per ton to €1983.8 per ton.

## Czech aromatic trade Jan-Feb 2023

Czech exports of ethylbenzene amounted to 20,649 tons in the first two months versus 19,879 tons in 2022, whilst styrene jumped from zero to 5,050 tons. Benzene exports were not undertaken in the first two months in 2023 against 12,509 tons in January to February 2022, whilst imports of benzene dropped to 8,637 tons from 13,257 tons.

## Central European Organic Chemicals

Polish Organic Chemical Trade		
Exports	Jan-Feb 23	Jan-Feb 22
Vol (kilo tons)	202.4	284.3
Value (€ million)	275.3	386.1
Imports	Jan-Feb 23	Jan-Feb 22
Vol (kilo tons)	385.6	492.9
Value (€ million)	687.3	820.2

### Polish organic chemical trade Jan-Feb 2023

Values and volumes for Polish trade in organic chemicals fell for both exports and imports in the first two months, as recessionary trends took effect. Import revenues dropped from €820.2 million in the first two months in 2022 to €687.3 million in the same period in 2023, whilst export revenues dropped from €386.1 million to €275.3 million. Volumes for exports dropped from 284,300 tons to 202,400 tons whilst imports fell from 492,900 tons to 385,600 tons.

Polish Organic Chemical Imports (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Acetic Acid	6.683	7.809
Acetone	0.812	0.887
Adipic Acid	2.607	2.024
Butadiene	12.191	16.631
DEG	4.546	4.583
DINP/DOP	2.829	5.559
Ethyl Acetate	3.879	2.214
Ethylene Glycol	17.043	8.239
Ethylene Oxide	3.419	2.631
Isopropanol	1.580	1.579
Maleic Anhydride	12.576	14.825
Methanol	87.071	133.557
Propylene	16.604	32.783
Propylene Glycol	3.055	3.137
Propylene Oxide	0.000	0.452
VAM	4.376	3.274

Ethylene glycol was one of the few products showing an increase in imports, rising in the first two months from 8,239 tons in the first two months last year to 17,043 tons in the same period in 2023. Belgium was the main supplier, providing 14,973 tons for €9.888 million. Poland exported 2,674 tons of ethylene glycol in the first two months this year.

Methanol imports into Poland dropped from 133,557 tons in the first two months in 2022 to 87,071 tons in the same period in 2023, with volumes from Russia constrained by sanctions.

### Polish solvent imports, Jan-Feb 2023

Acetic acid imports into Poland dropped from 7,809 tons to 6,683 tons in January to February 2023. The main suppliers to the Polish market this year include the UK, which delivered 1.659 tons versus 3,192 tons in January to February 2022, and the US which increased shipments from 3,007 tons to 3,264 tons.

### Polish solvent exports, Jan-Feb 2023

Solvent exports from Poland are concentrated mostly on acetone and normal butyl acetate. Acetone exports in the first two months this year amounted to 2,927 tons against 2,164 tons in January to February 2022. Exports were spread largely though Europe, including the Czech Republic, Germany, Hungary, Italy and Romania. N-butyl acetate exports fell from 2,958 tons in January to February 2022 to 2,523 tons in the same period in 2023. Germany was the largest destination for Polish butyl acetate exports last year, amounting to 8,999 tons followed by Italy with 3,763 tons.

acrylonitrile, etc.

Ethyl acetate imports into Poland increased from 2,214 tons in January to February 2022 to 3,879 tons in the same period in 2023. Supplies were diversified between Belgium, Germany, UK and the Netherlands. Vinyl acetate imports increased from 3,274 tons in January to February 2022 to 4,376 tons the same period in 2023.

### Hungarian organic chemical trade 2022

Hungary exports a range of organic chemicals including propylene, isocyanates, maleic anhydride, etc, whilst imports include styrene, methanol,

Hungarian acrylonitrile imports (unit-kilo tons)		
Country	Jan-23	Jan-22
Netherlands	0.980	1.618
Russia	0.000	0.989
Others	0.158	0.000
Total	1.138	2.607
Av price € per ton	2068.2	2133.9

Acrylonitrile imports into Hungary amounted to 1,138 tons in January versus 2,607 tons in January last year. Average prices dropped from €2133.9 per ton against €2068.2 per ton in January 2023.

The largest supplier of acrylonitrile to Hungary in 2022 was the Netherlands, accounting for 22,953 tons for €55.452 million.

Hungarian aniline imports (unit-kilo tons)		
Country	Jan-23	Jan-22
Belgium/	3.821	0.000
China	4.108	0.000
Czech Republic	5.940	10.291
Others	0.000	0.000
Total	13.869	10.291
Av price € per ton	1396.6	1625.7

year to €1396.6 this January.

Aniline imports into Hungary amounted to 13,869 tons in January this year against 10,291 tons in the same month in January last year. Imports of aniline from China reappeared in Hungary in January and amounted to 4,108 tons whilst other sources included Belgium which shipped 3,821 tons to BorsodChem against zero activity last January. Imports from the BorsodChem Ostrava plant continue to be imported for MDI production in Hungary but dropped in January this year to 5,940 tons against 10,291 tons in January 2022. Average prices for aniline imports into Hungary dropped from €1625.7 per ton in January last

## Central European Isocyanates & polyols

Czech MDI Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
China	0.336	0.335
Belgium	1.529	1.908
Germany	0.813	1.581
Hungary	1.996	0.628
Netherlands	0.763	0.539
Others	0.138	0.143
Total	5.574	5.134
Av price € per ton	2652.0	2321.2

### Central European MDI trade Jan-Feb 2023

MDI imports into the Czech Republic totalled 5,574 tons in the first two months in 2023 against 5,134 tons in the same period in 2022. Total costs for MDI imports rose from €6.879 million in January to February 2022 to €7.835 million in the same period in 2022, with average prices rising from €2321.2 per ton to €2652.0 per ton.

Polish MDI Imports (€ million)		
Country	Jan-Feb 23	Jan-Feb 22
Germany	14.982	20.335
Netherlands	5.011	7.032
Hungary	14.631	16.911
Belgium	8.391	11.678
Saudi Arabia	0.000	0.230
Others	3.887	3.487
Total	46.902	59.673
Ktons	18.899	25.320
Av price € per ton	2482.0	2357.0

MDI imports into Poland dropped from 25,320 tons in the first two months in 2022 to 18,899 tons in the same period this year. Hungary and Germany remain the two largest import sources with average prices comprising €2482.0 per ton in January and February 2023 against €2357.0 per ton last year. The main difference between 2023 and 2022 is that this year prices look to be heading lower.

Polish TDI Imports (€ million)		
Country	Jan-Feb 23	Jan-Feb 22
Belgium	1.200	0.305
Germany	7.814	7.923
Hungary	17.575	18.471
Netherlands	2.006	2.450
Saudi Arabia	2.277	0.335
South Korea	2.218	0.000
Others	1.792	2.940
Total	34.881	32.425
Ktons	10.346	13.245
Av price € per ton	3371.5	2448.1

### Central European TDI trade Jan-Feb 2023

Hungary remains the largest supplier of TDI to the Polish market, although volumes fell from 7,054 tons in the first two months in 2022 to 5,153 tons in the same period this year.

Costs for imports dropped from €18.471 million to €17.575 million this year. Overall Polish TDI import costs rose from €32.425 million in the first two months in 2022 to €34.881 million.

Despite the fall in volumes from 13,245 tons to 10,346 tons average prices for TDI increased from €2448.1 per ton to €3371.5 per ton this year. Although European demand is faced by recessionary trends

and slowly declining feedstock costs global capacity constraints may help to sustain prices.



Hungarian Polyol Imports 2022		
Country	Ktons	€ mil
Austria	0.530	1.156
Belgium	5.839	13.558
China	11.091	27.395
Germany	4.815	17.500
Italy	0.524	1.979
Netherlands	10.746	27.367
Poland	4.188	9.550
Romania	5.021	11.591
Others	1.644	8.353
Total	44.398	118.449

### Hungarian polyol imports Jan-Dec 2022

Hungarian polyol imports amounted 44,398 tons in 2022 for total values of €118.449 million. MOL is currently constructing its new plant at Tiszaújváros which should have probably been on stream now but has been held back from commissioning due to the weak state of the European market.

Major suppliers of polyols to Hungary in 2022 included China with 11,091 tons and the Netherlands with 10,746 tons. Average prices amounted to €2667.9 per ton. Regional suppliers included Romania which supplied 5,021 tons from the Chimcomplex plant at Ramnicu Valcea, and Poland which supplied 4,188 tons from PCC Rokita's plant at Brzeg Dolny.

Czech Polyol Imports		
	Jan-Feb 23	Jan-Feb 22
Volume ktons	7.016	7.684
Value € million	18.885	21.437
Av price € per ton	2691.8	2789.64

### Czech polyol imports Jan-Feb 2023

Czech polyol imports amounted to 7,016 tons in the first two months in 2023 against 7,684 tons in the same period in 2022. The major sources of imports came from Belgium, France and Germany. Polyol import costs dropped in the first two months to €18.885 million from €21.437 million in January to February 2022 with average prices dropping from

€2789.7 per ton to €2691.8 per ton.

Polish Polyol Imports		
Country	Jan-Feb 23	Jan-Feb 22
Belgium	2.930	5.721
China	1.631	0.096
Germany	5.175	5.476
Netherlands	3.890	3.004
South Korea	2.402	5.953
Romania	1.848	4.928
Others	3.731	2.878
Total	21.606	28.056
Price	2229.438	2484.447

### Polish polyol imports Jan-Feb 2023

Polish polyol imports amounted to 21,606 tons in the first two months in 2023 against 28,056 tons in the same period in 2022. The major sources of imports came from Belgium, Germany and the Netherlands. Polyol import costs dropped in the first two months to €18.885 million from €21.437 million in January to February 2022 with average prices dropping from €2484.5 per ton to €2229.4 per ton. The largest source of imports came from Germany in the first two months, amounting to 5,175 tons against 5,476 tons in the same period in 2022.

Polish exports of polyols from PCC Rokita amounted to 9,864 tons in the first two months this year against 8,949 tons in the same period in 2022, but prices dropped from €2864 per ton to €2305. As a result, revenues from polyol exports dropped from €25.625 million in January to February 2022 to €22.742 million. The largest destinations for Polish polyol export include Hungary, Italy and Denmark.

## Central European Methanol

Polish Methanol Exports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Austria	7.632	14.987
Czech	11.143	9.575
Germany	13.061	18.077
Romania	2.890	0.000
Slovakia	8.064	0.072
Ukraine	6.257	0.000
Hungary	2.067	0.000
Others	0.063	0.990
Total	51.176	43.701
Av price € per ton	395.6	408.8

### Central European methanol trade Jan-Feb 2023

Exports of methanol from Poland totalled 51,176 tons in the first two months in 2023 against 43,701 tons in January to February 2022. Exports to Germany fell from 18,077 tons to 13,061 tons, whilst substantial increases were reported for shipments to Central and South East Europe. Ukraine has also started to purchase methanol from Poland taking 6,257 tons in the first two months in 2023. Even if the price is higher than Russian sources Ukrainian buyers prefer to buy from the other suppliers.

Other destinations include the Czech Republic where Polish exports rose from 9,575 tons to 11,143 tons whilst deliveries to Austria dropped from 14,987 tons to 7,632 tons.

Polish Methanol Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Azerbaijan	4.981	0.000
Belarus	0.000	0.000
Finland	0.000	17.184
Lithuania	0.000	0.489
Germany	8.736	14.807
Netherlands	1.125	0.000
Norway	6.300	0.000
Russia	65.881	101.073
Others	0.049	0.003
Total	87.071	133.557
Av price € per ton	308.9	344.0

Imports of methanol into Poland totalled 87,071 tons in January to February 2023 versus 133,557 tons in the same period in 2022. The average price for Polish imports comprised €308.9 per ton in the first two months against the average price of €343.9 per ton in January to February 2022.

From 8 January this year EU sanctions have applied to methanol from Russia although any contracts concluded prior to 7 October 2022 have been given up to 18 June for completion. As a result, imports have continued to arrive in the first few months in this year.

Russia reduced exports to Poland in January to February 2023 to 65,881 tons from 101,073 tons. Norway shipped 6,300 tons in the first two months to Poland whilst Germany reduced exports to 8,736 tons from 14,807 tons. Import prices averaged €308.9 against €395.6 per ton for exports.

Czech methanol Imports (unit-kilo tons)		
Country	Jan-Feb 23	Jan-Feb 22
Germany	1.664	1.271
Norway	0.793	0.144
Russia	2.148	4.682
Poland	8.682	4.567
Others	0.215	0.343
Total	13.501	11.007

Czech imports of methanol amounted to 13,501 tons in the first two months in 2023 against 11,007 tons in the same period in 2022. Russia accounted for 2,148 tons in January-February 2023 against 4,862 tons in 2022, followed by Poland which increased from 4,567 tons to 8,682 tons.

Hungarian imports of methanol totalled 7,349 tons in January versus 10,766 tons in January last year. Prices averaged €488 per ton in the first month last year against €443.0 per ton in the same period in 2023. Imports from Russia were not undertaken in January this year against 5,895 tons in January 2022. Germany was the largest supplier in January, shipping 3,946 tons versus 1,237 tons in January last year.

Hungarian methanol imports (unit-kilo tons)		
Country	Jan-23	Jan-22
Austria	0.046	0.173
Germany	3.946	1.237
Netherlands	1.102	0.991
Poland	0.411	0.048
Russia	0.000	5.895
Slovenia	0.000	0.120
Slovakia	1.843	2.204
Others	0.002	0.097
Total	7.349	10.766
€ per ton	442.965	488.007

The drop in exports from Russia was due to war in Ukraine and the difficulties in shipping product by rail. The disruption to rail shipments has also affected imports from Slovakia where volumes declined from 2,204 tons to 1,843 tons.

#### Ukrainian methanol supply

The warehouses of Ukrainian gas company Ukgazvydobuvannya received the third batch of 600 tons of methanol at the end of March as part of donor assistance from the United States Agency for International Development (USAID). The USAID provided Ukgazvydobuvannya with 6,000 tons of methanol, the first batch arrived at the company's warehouses in February and the second in early March.

In February 2023, Ukgazvydobuvannya signed a contract with a Polish company for the purchase of 12,000 tons of methanol (almost half of the company's annual demand) at the prices given at the level of pre-war prices.

## Central European chemical production

### Grupa Azoty reduces production in March

Grupa Azoty reduced fertiliser production by more than a third in March attributable to high gas prices, but also the focus on the "green transition" inside the EU. Under these conditions, products from China and the US are much cheaper.

<b>Polish Chemical Production (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-Feb 23</b>	<b>Jan-Feb 22</b>
Caustic Soda Liquid	62.5	73.2
Caustic Soda Solid	13.6	14.2
Caprolactam	19.0	28.5
Acetic Acid	0.3	0.3
Ammonia (Gaseous)	14.3	431.0
Ammonia (Liquid)	340.0	17.9
Pesticides	9.1	12.1
Nitric Acid	347.0	408.0
Nitrogen Fertilisers	284.0	350.0
Phosphate Fertilisers	34.4	59.9
Potassium Fertilisers	38.7	52.0

Azoty highlights that due to high energy prices many European chemical producers are struggling to compete against sources such as from China. Some players have even raised questions over whether it is worth producing fertilisers in Europe whilst gas prices remain so high.

Grupa Azoty reduced production of nitrogen fertilisers in February this year to 196,000 tons against 297,000 tons in February 2022, whilst production of compound fertilisers rose from 25,000 tons to 37,000 tons. Besides fertilisers Grupa Azoty reduced the production of chemicals in February, affecting products such as Oxoplast, polyamide, and pigments also decreased compared to the same period in 2022.

<b>Grupa Azoty Production (unit-kilo tons)</b>		
<b>Product</b>	<b>Mar 23</b>	<b>Mar 22</b>
Nitrogen Fertilisers	211.	325.0
Compound Fertilisers	46.0	35.0
Potassium Fertilisers	19.0	26.0
Pigments	2.0	1.0
Urea	53.0	115.0
Oxo alcohols	3.0	5.0
Polyamide	11.0	17.0

In March the trend of lower production continued. Grupa Azoty reduced its nitrogen fertiliser production by 35.1% in March to 211,460 tons. Production of compound fertilisers rose from 35,190 tons to 46,000 tons. Production was reduced in the segment of chemicals (urea and oxo alcohols), as well as in polyamide. Urea production fell to 53,000 tons from 115,000 tons in March 2022 whilst pigment production increased to 2,000 tons from 1,000 tons.

Grupa Azoty started last year the process of production stops at its melamine and caprolactam facilities. After stopping all three melamine plants in the summer the Melamine III unit resumed operation in October, which accounted for approximately one third of the maximum production capacity of 270,000 tpa.

Grupa Azoty has launched a new concentrated nitric acid unit with a production capacity of 40,000 tpa, doubling the production capacity. The value of the investment amounted to zł 57.1 million (€12.3 million). This is the second production line for concentrated acid with a concentration above 98% at Tarnow, increasing the capacity to 80,000 tpa. Grupa Azoty is the only producer of concentrated nitric acid in Poland.

### **Slovak chemical industry outlook**

Revenues for the Slovak chemical industry and pharmaceutical industry recorded an increase of 36% in 2022, rising from €10.767 billion to €14.691 billion. Sales growth was recorded in almost every chemical and pharmaceutical sector except the paints sector, where they fell by 5%. Sales grew the most in the refined petroleum products sector, by around 55%, and in the chemicals and chemical products sector, by around 43%. The pharmaceutical manufacturing sector recorded a 22% increase.

However, the growth in sales was mainly due to higher output prices, which reflected increased input costs of the industry and a high inflation rate. Rising energy prices and high inflation rates are worsening companies' future prospects. The development of supplies of some essential commodities that are on the sanction lists looks equally unfavourable. Companies have to deal with energy prices and inflation, in addition to challenges in their sustainability strategy, carbon tariffs and transition to greener paths. It will take some time to recover from the effects of the war in Ukraine and the associated sanctions.

The statistics reported from the Slovak chemical sector are replicated in other parts of Europe. BASF announced plans in March to wind down several of its plants in Germany due to high energy costs in Europe. BASF stated that it would close one of its two ammonia plants at its home site in Ludwigshafen as well as the units producing caprolactam and TDI. The plans, which are expected to lower the group's annual costs by €200 million by the end of 2026, will also lead to reduced production of adipic acid. BASF stated that the plans would lead to a significant reduction in its demand for natural gas, reducing its CO<sub>2</sub> emissions by 900,000 tpa which amounts to around 4% of what it emits globally.

## RUSSIA

Russian Petrochemical Production (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Ethylene	759.9	774.7
Propylene	488.3	518.4
Benzene	217.0	247.0
Butanols	50.8	46.7
Methanol	607.7	866.4
Acetone	24.6	31.5

### Russian petrochemical production Jan-Feb 2023

Russian ethylene production decreased in the first two months this year to 759,900 tons from 774,700 tons in January to February 2022. Propylene production dropped from 518,400 tons to 488,300 tons. Methanol production dropped sharply from 866,400 tons in the first two months last year to 607,700 tons, whilst butanol production rose from 46,700 tons to 50,800 tons. Butanols is one of the few chemical products where production has increased since the first introduction of sanctions. Whilst Russian petrochemical production overall remains relatively stable, the producers could be facing the prospects of a windfall

tax in order to finance military expenditure. Other forms of taxation are also being applied and widened as the government seeks to secure funds to replace lost revenues through sanctioning.

Russian Polymer Production (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Plastics in Bulk	1,729.0	1,858.0
Polyethylene	606.0	610.0
Polystyrene	93.6	97.0
PVC	147.5	181.0
Polyamide	21.9	32.7
Synthetic Rubber	226.0	290.0
Synthetic Fibres	29.6	32.1

### Russian polymer production Jan-Feb 2023

The production of bulk plastics in Russia in the first two months this year amounted to 1.729 million tons versus 1.858 million tons in the same period in 2022. Polyethylene production dropped slightly from 610,000 tons to 606,000 tons whilst PVC fell from 181,000 tons to 147,500 tons.

Synthetic rubber was significantly affected in 2022 from the closure of European market, particularly for categories such as butadiene rubber and butyl rubbers. Production fell from 290,000 tons in January to February 2022 to 226,000 tons in the same two months this year. Tyre production dropped by

21.4% in 2022 versus 2021 amounting to a total of 51.8 million tyres.

Russian Base Chemical Production (unit-kilo tons)		
Product	Jan-Feb 23	Jan-Feb 22
Caustic Soda	195.0	215.0
Soda Ash	584.0	595.0
Ammonia	2,900.0	3,400.0
Nitrogen Fertilisers	2,090.0	2,009.0
Phosphate Fertilisers	744.0	681.0
Potash Fertilisers	1,117.0	1,722.0

### Russian base chemical production Jan-Feb 2023

Russian production of potash fertilisers fell to 1.117 million tons in the first two months in 2023 versus 1.722 million tons in the same period in 2022, whilst rises were recorded for both phosphate and nitrogen fertilisers. Ammonia production fell from 3.4 million tons to 2.9 million tons.

Ammonia exports from Russia dropped by around 60% last year. The main drop was due to the closure of the Togliatti-Odesa pipeline which Togliattiazot has traditionally used for exports. Partly in compensation for the loss of exports through Odesa exports increased by 22% to Uzbekistan and Kazakhstan.

#### Taman terminal for ammonia

Togliattiazot is building an offshore complex for transshipment of ammonia in Taman, the first stage for 2 million tpa is planned to be launched at the end of this year. Investments in the construction of Russia's first terminal for transshipment of ammonia in the port of Taman will amount to 60 billion roubles, the bulk is being financed by Togliattiazot. The transshipment complex in the port of Taman is of high importance for the stable supply of ammonia and fertilisers to foreign and domestic markets. This is the first such facility in Russia, which is among the priorities for the country's infrastructure.

### Transport rules could be loosened in order to create more terminal facilities

Due to difficulties in ammonia and methanol transportation since the introduction of sanctions last year has led to the Ministry of Industry and Trade preparing amendments to the legislation allowing the placement of such products in the water protection zones of seaports. Previously, there was no urgent need for new facilities, as historically transshipment of ammonia and methanol went through

Ukraine and the Baltic States without problems.



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**Russian petrochemical project update**


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**Ruskhimalliance-Linde**

Ruskhimalliance wants to recover from Linde 972.3 million euros and 7.61 billion roubles as compensation for losses under the contract for the construction of facilities for the processing of ethane-containing gas in Ust-Luga. The Russian company transferred an advance to Linde, but in the middle of 2022, Linde notified Ruskhimalliance of the suspension of work. Linde had stopped participating in projects in Russia due to sanctions imposed by the EU and does not intend to resume work in Russia in the foreseeable future.

In December last year, the same court seized the property of Linde GmbH in Samara, shares in the authorized capital of Linde Gas Rus, Linde Uraltechgaz, Linde Gas Novotroitsk, Linde Gas Lipetsk, Gazprom Linde Engineering, Linde Engineering Rus and other assets. According to the calculations of RusHimAlyans, the total value of the seized property is 35 billion roubles, and according to Linde's estimates, it "far exceeds one billion euros."

**Prospects for Baltic Chemical Complex complicated on numerous fronts**

Prospects for construction of the Ust Luga gas processing and gas-chemical complex in north west Russia have been affected by sanctions on imported technology and shortage of alternatives, feedstock questions in relation to Nord Stream 2 pipeline and general security as industrial units are faced with the potential of sabotage.

The main question that arises is does it make sense to continue the construction of such a huge and expensive complex. Despite the fact that some alternative technologies are available, and China may be able to provide some support it looks more than likely that the whole complex will not be able to fulfill its original function.

The large-scale project that provides for the possibility of processing up to 45 billion cubic metres of gas per annum with the production of 13 million tpa of LNG, as well as up to 4 million tpa of ethane and 2.2 million tpa of liquefied petroleum gases. About 18 billion cubic metres of gas after processing is planned to be sent to the gas transmission system of Gazprom.

Gazprom and RusGazDobycha in equal shares created the company Ruskhimalliance, which creates a complex for processing ethane-containing gas and producing liquefied natural gas (started in 2021). This complex was intended to become the largest in Russia using ethane-rich gas from Siberian fields. The petrochemical division RusGazDobycha which was established by Gazprom and its partners was to establish the Baltic Chemical Complex at Ust Luga in order to produce over 3 million tpa of polymers.

**Irkutsk Polymer Plant-polyethylene project**

Petrochemical project uncertainty extends to Irkutsk Polymer Plant in East Siberia for the production of polymers from ethane. The plant was originally scheduled to start in 2023, but construction has been slowed by Japanese sanctions, although still has the possibility to be completed.

Since 2014, Irkutsk Oil Company (INK) has been creating a gas chemical cluster in the north of the Irkutsk Region. The project includes three stages, the third of which is the launch of a plant for the production of polymers from ethane in Ust-Kut. The CPI will be provided with its own ethane. Capacities for the production of polyethylene will be about 650,000 tpa. 2024 is the earliest stage that the plant can be started but this is likely to be extended.

Polyethylene capacities include 1.6 million tpa of HDPE, 900,000 tpa of LLDPE and 400,000 tpa of metallocene LLDPE. This would make the complex the largest single capacity for the production of polyethylene in the world. Such a megaproject is unlikely to be abandoned by Gazprom for political reasons, but at the very least the project is facing significant delays.

**Gazprom Neft-polyolefin feasibility study at Omsk refinery**

Gazprom Neft intends to complete a feasibility study on the creation of polyethylene and polypropylene production facilities at the Omsk oil refinery site by the end of the year. The company is also considering the production of polyols, isocyanates and other products at the Omsk refinery. Ideas for petrochemical investments have been put forward before for Omsk and the aim now is to try and decide whether to proceed with investment plans or scrap any plans.

Gazprom Neft is completing the feasibility study by themselves with two of the main tasks involving CAPEX, for which the company is using a Russian institute, and also to understand which licensors are available and have not been sanctioned. Particularly the question of licenses poses the most difficult challenge to the project feasibility study and if resolved this year would allow Gazprom Neft to proceed to the design stage.

## Russian petrochemical markets

Russian Ethylene Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Angarsk Polymer Plant	34.4	39.3
Kazanorgsintez	110.4	112.4
Stavrolen	54.0	56.1
Nizhnekamskneftekhim	106.6	104.8
Novokuibyshevsk Petrochemical	5.3	8.4
Gazprom n Salavat	50.1	61.2
SIBUR-Kstovo	71.1	66.3
SIBUR-Khimprom	10.1	9.5
Tomskneftekhim	48.8	47.8
Ufaorgsintez	17.6	21.7
ZapSibNeftekhim	251.6	247.2
Total	760.2	774.7

66,300 tons. In Bashkortostan Gazprom neftekhim Salavat reduced production from 61,200 tons to 50,100 tons, whilst Ufaorgsintez reduced production from 21,700 tons to 17,600 tons. Stavrolen at Budyennovsk reduced ethylene production to 54,000 tons against 56,100 tons in the first two months in 2022.

Russian Butadiene Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
ZapSibNeftekhim	32.116	52.125
Nizhnekamskneftekhim	22.965	40.745
Togliattikaucuk	8.080	7.310
Sterlitamak Petrochemical Plant	4.465	6.891
Omsk Kaucuk	7.775	5.770
Total	75.401	112.841

Russian butadiene production amounted to 75,401 tons in the first two months in 2023 against 112,841 tons in the same period in 2022. ZapSibNeftekhim reduced production from 52,125 tons in January to February 2022 to 32,116 tons this year, whilst Nizhnekamskneftekhim reducing production from 40,745 tons to 22,965 tons. Butadiene production has fallen this year in line with lower production of synthetic rubber.

Russian Propylene Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Angarsk Polymer Plant	17.7	22.3
Kazanorgsintez	9.1	9.4
Lukoil-NNOS	42.4	58.6
Stavrolen	21.5	22.0
Nizhnekamskneftekhim	55.4	54.5
Novokuibyshevsk	4.9	6.4
Omsk Kaucuk	11.0	10.0
Polyom	26.0	32.4
Gazprom Neftekhim Salavat	22.1	28.0
SIBUR Kstovo	29.2	30.3
SIBUR-Khimprom	16.0	13.9
Tomskneftekhim	26.7	26.7
Ufaorgsintez	24.1	29.0
ZapSibNeftekhim	182.0	175.1
Total	488.2	518.4

tons whilst Ufaorgsintez reduced production from 29,000 tons to 24,100 tons. In the Nizhny Novgorod

### Russian ethylene production, Jan-Feb 2023

Russian ethylene production totalled 760,200 tons in the first two months in 2023 against 774,700 million tons in the same period in 2022. ZapSibNeftekhim at Tobolsk produced 251,600 tons in January and February against 247,200 tons in the same period in 2022.

Other plants compensated for the lower production at Tobolsk. In Tatarstan Nizhnekamskneftekhim produced 106,600 tons of ethylene against 104,800 tons in 2022, whilst Kazanorgsintez reduced from 112,400 tons to 110,400 tons.

Other important ethylene producers included SIBUR-Kstovo which produced 71,100 tons versus

In Siberia the Angarsk Polymer Plant produced 210,500 tons of ethylene in 2022 versus 210,100 tons in the same period in 2021, whilst Tomskneftekhim increased production from 47,800 tons to 48,800 tons. Last year Tomskneftekhim switched to an increased overhaul interval from a two-year to a four-year cycle.

### Russian butadiene production Jan-Feb 2023

Russian propylene production amounted to 488,200 million tons in the first two months in 2023 against 518,400 tons in the same period in 2022. ZapSibNeftekhim increased production from 175,100 tons in the first two months in 2022 to 182,000 tons in the same period in 2023. Nizhnekamskneftekhim produced 55,400 tons of propylene in January-February 2023 against 54,500 tons, whilst Kazanorgsintez reduced production from 9,400 tons to 9,100 tons.

### Russian propylene production Jan-Feb 2023

Russian propylene production amounted to 488,200 million tons in the first two months in 2023 against 518,400 tons in the same period in 2022. ZapSibNeftekhim increased production from 175,100 tons in the first two months in 2022 to 182,000 tons in the same period in 2023. Nizhnekamskneftekhim produced 55,400 tons of propylene in January-February 2023 against 54,500 tons, whilst Kazanorgsintez reduced production from 9,400 tons to 9,100 tons.

In Bashkortostan Gazprom neftekhim Salavat produced 22,100 tons of propylene versus 28,000

region SIBUR-Kstovo reduced production of propylene from 30,300 tons to 29,200 tons. Lukoil-NNOS at Kstovo reduced production from 58,600 tons to 42,400 tons.

Russian Propylene Exports (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Lukoil-NNOS	3.0	11.8
SIBUR-Kstovo	0.0	6.4
Stavrolen	3.5	0.0
Total	6.5	18.2

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	Jan-Feb 23	Jan-Feb 22
Angarsk Polymer Plant	6.0	2.3
SIBUR-Kstovo	25.6	27.4
Lukoil-NNOS	35.6	33.3
Stavrolen	3.3	4.5
Others	1.9	7.4
Total	72.3	74.9

the same period in 2022. The largest propylene supplier to the domestic market was Lukoil-NNOS,

Russian Propylene Domestic Purchases (unit-kilo tons)		
Consumer	Jan-Feb 23	Jan-Feb 22
Saratovorgsintez	31.639	30.589
Volzhskiy Orgsintez	1.769	1.904
Akrilat	4.797	4.016
SIBUR-Khimprom	5.812	5.281
Omsk-Kaucuk	9.766	3.603
Tomskneftekhim	0.000	0.504
ZapSibNeftekhim	12.169	27.250
Moscow refinery	1.132	0.250
Ufaorgsintez	4.489	2.165
Khimprom Kemerovo	0.491	1.241
Plant of Synthetic Alcohol	0.252	0.000
Others	0.000	0.168
Total	72.316	76.971

### Russian propylene sales Jan-Feb 2023

Propylene exports from Russia amounted to only 6,500 tons in the first two months in 2023 against 18,200 tons in the same period in 2022. Lukoil-NNOS reduced export shipments from 11,800 tons to 3,000 tons whilst SIBUR-Kstovo did not ship propylene in the first two months after shipping 6,400 tons in the period January-February last year.

Exports to Europe started to drop in the second half of 2022, and by the end of the year China was the only destination for Russian shipments.

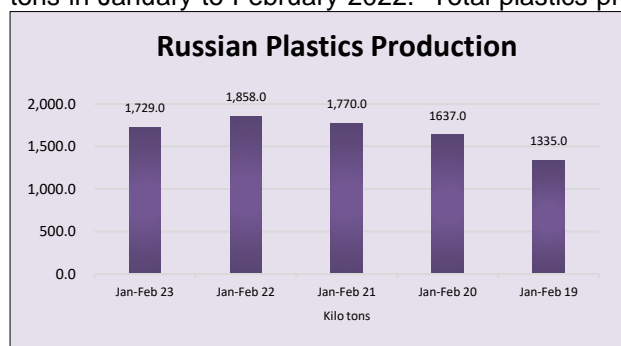
Russian sales of propylene on the domestic merchant market amounted to 72,300 tons in the first two months in 2023 against 74,900 tons in the first two months in 2022 against 33,300 tons in January to February 2022. SIBUR Kstovo reduced domestic sales in the first two months in 2023 to 25,600 tons against 27,400 tons.

Russia's largest merchant consumer Saratovorgsintez increased purchases of merchant propylene from 30,589 tons in the first two months last year to 31,639 tons, followed by SIBUR-Khimprom at Perm which increased purchases from 5,281 tons to 5,812 tons. ZapSibNeftekhim reduced purchases from 27,250 tons to 12,169 tons.

### Russian bulk polymers

### Russian polyethylene production Jan-Feb 2023

Russian polyethylene production totalled 606,000 tons in the first two months in 2023 against 610,000 tons in January to February 2022. Total plastics production dropped from 1.858 million tons to 1.729 million tons, continuing the trend started last year.



production of pipes, primarily aimed at gas and water transportation. The apparent consumption of polyethylene in Russia increased by 12% to the level of 2.3 million tons, mainly influenced by the rise in polyethylene pipe production.

Even though Russian polyethylene export activity to the EU countries was strong until July last year overall production was lower due to plant outages, particularly ZapSibNeftekhim at Tobolsk.

Domestic consumption of polyethylene was helped mainly through the increase in

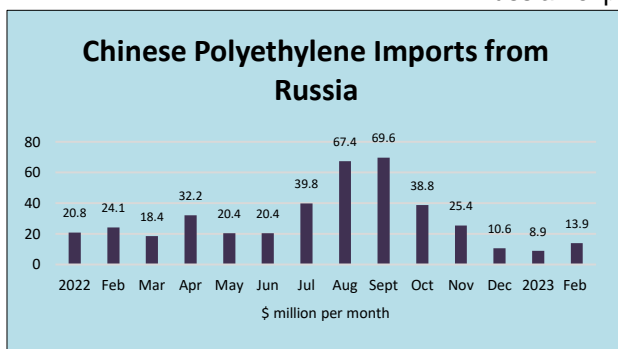
**Russian LLDPE Market (unit-kilo tons)**

	Jan-Dec 22	Jan-Dec 21
Production	630.0	630.0
Exports	409.0	427.8
Imports	128.0	160.4
Market Balance	349.0	362.6

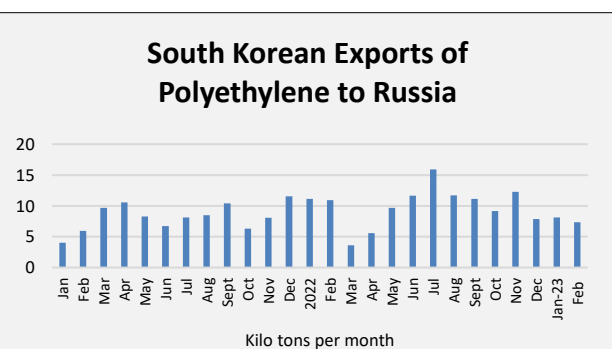
Russian LLDPE production amounted to 630,000 tons in 2022, unchanged from 2021, whilst imports of LLDPE dropped by 25.3% to 128,000 tons. Imports comprised 37% of Russia's market share in 2022 versus 45% in 2021. Russian LLDPE exports decreased by 4.6% in 2022, amounting to 409,000 tons.

**Russian polyethylene trade Jan-Feb 2023**

Russian exports of polyethylene to China in the first two months this year were slightly down on the same period in 2022, whilst imports from China increased sharply.



South Korea was the largest supplier of LLDPE to Russia in 2021, providing 39.4% of the total 61,000 tons of imported product. Other suppliers included Finland with 24% and the US with 15%, but volumes from both of those sources declined in 2022. Exports of polyethylene from South Korea to Russia were lower in the first two months this year.

**Russian polypropylene market**

Russia's trade in polypropylene with China increased over the past year both in terms of import and export activity. Last year Russian consumption of polypropylene was affected far more than polyethylene, dropping 13% against 2021 to 1.1 million tons.

Both exports and imports of polypropylene to and from China increased since the second quarter last year. Trade has risen between the two countries significantly in the first two months in 2023, with Russian shipments comprising mostly homo grade and Chinese shipments consisting of copolymer grades.



Russian exports of homo grade polypropylene to China increased last year as markets in Europe become harder to access, particularly after the fifth wave of sanctions which became effective from 10 July.

At the same time imports of copolymers have become more difficult for Russian consumers. Imports from South Korea increased in the middle part of the year but then declined as South Korean sellers tried to avoid secondary sanctions.

Overall Russian PP exports showed a decrease of 7% and exceeded 1 million tons, whilst imports fell by 35% and amounted to 150,000 tons. The share of imported grades in the total consumption of PP decreased from 19% to 14%.

The emergence of Azerbaijan as a copolymer supplier in 2021 for Russian consumers has helped to reduce the impact of lost EU suppliers. Azerbaijan can produce up to 30,000 tpa of copolymers whilst Russian imports totalled 117,000 tons in 2021 of which EU suppliers provided around 33%.



### SIBUR completes purchase Solvay's stake in RusVinyl at Kstovo

SIBUR has concluded an agreement to purchase Solvay's 50% stake in the JV RusVinyl at Kstovo for €433 million. The plant is a major ethylene consumer for the SIBUR-Kstovo cracker. The transaction is conditional on agreement on the final terms and obtaining the necessary approvals, but the change of shareholder structure will not affect the operating activities of RusVinyl. Technologically, the plant is connected with the Kstovo industrial site of SIBUR. Ethylene supplied from SIBUR-Kstovo is the main raw material for PVC production at RusVinyl.

The transition of RusVinyl to the perimeter of SIBUR opens up additional opportunities for the company in terms of further development and improving the efficiency of the interconnected production facilities of the Nizhny Novgorod cluster. The share of RusVinyl in the volume of both production and sales of PVC in Russia is about 35%. At the same time, the capacity of the enterprise of 330,000 tpa makes it the country's largest producer of material in demand in the segments of housing and communal services, construction, etc. Of the 330,000 tpa, 30,000 tpa comprises emulsion grade and the remainder suspension. Other capacities include 225,000 tpa of caustic soda.

### Russian PVC-E market & tariffs

The production of PVC-E in Russia is available only at the RusVinyl plant (it can produce emulsion and microsuspension PVC, the characteristics of which are close). Its capacity is 30,000 tpa and covers the needs of domestic processors by about a third.

At the end of January this year, the Council of the Eurasian Economic Commission temporarily reset the rate of import customs duty on plasticized PVC for the production of wallpaper until the end of February 2024. Until then the rate on this production was 6.5%. Taking into account the increase in logistics costs for the transportation of products through the countries of Central Asia and the possible risks of secondary sanctions, the rejection of import duties makes PVC-E supplies a little more attractive for foreign competitors of Chinese manufacturers.

### Russian PVC market, the EU and China

Russian production and consumption of PVC have started 2023 both under pressure for weak market conditions. In 2022 Russian PVC consumption decreased by 9% against 2021 and amounted to about 800,000 tons.

Russian PVC Domestic Sales (thousand cubic metres)		
Producer	2022	2021
Plastic doors	1.929	1.279
Plastic windows	27.446	27.827
Linoleum	129.294	166.140

Before 2022 China was a major supplier of PVC suspension grade to Russia, and last year started selling emulsion grade PVC which amounted to 34,000 tons over the twelve months. Emulsion grade imports from Europe dropped in 2022 to 23,000 tons versus 95,000 tons in 2021.

The consumption of polymers of vinyl chloride or other halogenated olefins decreased by 13% in 2022. Conversely the production of plastic doors in 2022 increased by almost 1.5 times, the production of window blocks almost remained at the level of 2021, and the production of materials for floor coverings fell by 22%.

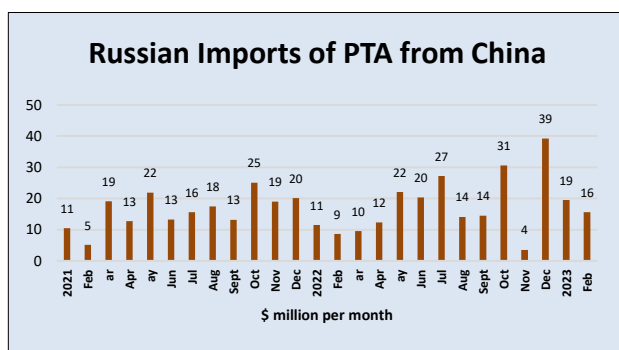


Chinese producers of PVC-S not only replaced European supplies with emulsion grade PVC, but also with additives.

For 2023 Chinese additive prices have started at higher levels due in part to logistical costs whilst Russian companies are filling part of the gap vacated by EU companies.

Bashkir Soda Company confirmed that the lack of polymerisation initiators contributed to the reduction in production volumes at Sterlitamak. However, the company has moved to another type of initiator and is currently operating at full capacity.

## Russian PX-PET Chain

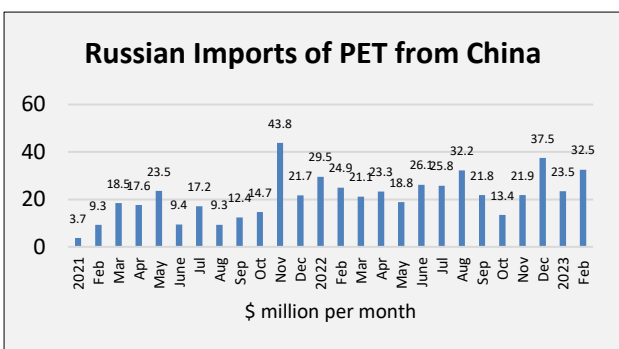


### PTA deliveries from China to Kaliningrad

PTA exports from China to Ekopet in Kaliningrad dropped slightly in January and February 2023 from December levels, due to high inventory levels. PTA imports from China continue to provide the main basis for feedstock supplies for Ekopet at Kaliningrad. Imports amounted to \$213.1 million in value in 2022 versus \$193.1 million in 2021.

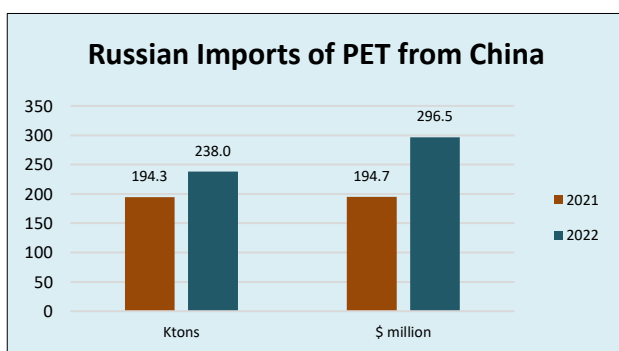
Imports of PTA from China amounted to \$213.1 million in value in 2022 versus \$193.1 million in

2021. Regarding MEG supplies the Ekopet plant has been unable to receive MEG from SABIC since last spring, which until Russia invaded Ukraine had been the traditional supplier over the past few years. SIBUR-Neftekhim promptly replaced the Saudis by setting up monthly deliveries of up to 6,000 tons of the product.



### Russian PET market and imports from China

PET imports into China amounted to \$56.0 million in the first two months in 2023 against \$13.0 million in the same period in 2022. Russian PET imports from China in 2022 amounted to 238,000 tons, which is 34.7% more than in 2021. As a result, the share of Chinese PET in total Russian imports increased from 84% to 95%. Russia imported 194,260 tons of PET from China in 2021 for \$194.690 million, b Import values rose to \$296.478 million.



Already a new BOPET plant has been opened at Pskov thus adding to PET consumption in Russia and Titan-Polymer is now undertaking its own investment into PET to develop the full chain of production. For 2023 Polief is increasing its PET capacity by 34,000 tpa in 2023 through the use of FTR technology (flakes-to-resin) and this may offset some imports.

### Titan-Polymer-BOPET plant

Titan-Polymer opened its BOPET plant near Pskov in the Moglino Special Economic Area in

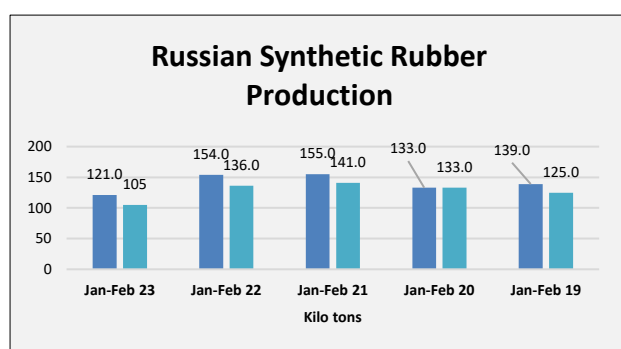
late December. The capacity of the new plant is 72,000 tpa including two lines. Up to 20,000 tpa of BOPET film are imported into Russia, mainly from Egypt, India, and Turkey.

### Titan-Polymer PET plant to be launched in 2024-2025

Titan-Polymer will produce film from domestic and imported PET. Initially, the company expected that about a third of BOPET materials would be exported, primarily to Europe. However, due to sanctions the sales markets are being revised.

The second stage of Titan-Polymers plant for the production of PET for textile and film purposes is currently at the pre-design stage. This involves a PET plant with a capacity of 210,000 tpa which would place the plant third in Russia behind Polief (252,000 tpa) and Ekopet (220,000 tpa). The aim of Titan-Polymer is to be able to supply the BOPET film lines with its own PET.

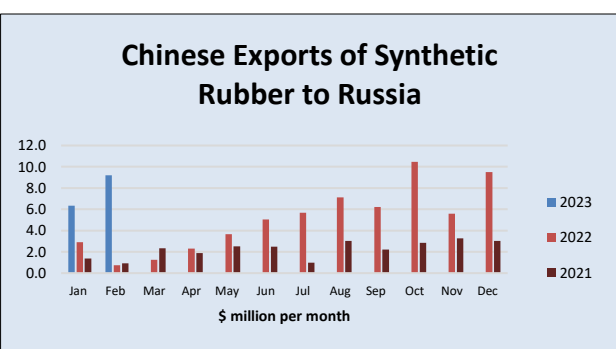
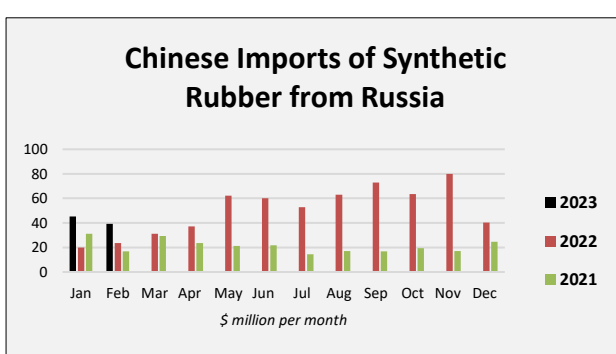
## Russian synthetic rubber



### Russian rubber production and consumption Jan-Feb 2023

Russian production of synthetic rubber dropped to 226,000 tons in the first two months in 2023 versus 290,000 tons in the same period in 2022 and 296,000 tons in January to February 2021. Production was less affected by the pandemic than since the introduction of EU sanctions in July last year, affecting both export activity and domestic consumption. In the first two months this year the Russian tyre plants consumed around 27,000 tons less than in the same period

in 2022.



### Logistical issues for redirected Russian synthetic rubber exports

Both exports to China and imports from China of synthetic rubber have increased sharply in the past twelve months, as producers have been forced to reorient trade away from Europe. Imports from China amounted to 23,944 tons in 2022 against 14,660 tons in 2021, whilst imports from Russia into China increased from 143,716 tons in 2021 to 242,443 tons in 2022. Chinese imports of synthetic rubber from Russia increased from \$252.911 million in 2021 to \$606.835 million in 2022. Trade has continued to grow in 2023 with Russian exports rising to 36,910 tons in the first two months and imports from China rising to 6,745 tons.

For rubber producers, as for all Russian companies, the reorientation to Asian markets is associated with logistical problems. The capacity of Russian railways and Russian Far Eastern ports does not allow to quickly reorient all supplies to Asia. At the same time, new

logistical routes have already been established since the first sanctions were introduced. The sanctions deadline of 30 June 2024 at least buys time for producers to fully adapt to the new markets.

### Most affected and unaffected Russian producers from sanctions

Nizhnekamskneftekhim is the most affected of the Russian synthetic rubber producers by EU sanctions, having felt the impact already for butadiene rubber and halogenated butyl rubber. Even under normal conditions

Nizhnekamskneftekhim Synthetic Rubber	
Product	Capacity (ktpa)
Chlorobutyl rubber	50
Bromobutyl rubber	150
Butadiene rubber	180
Isoprene rubber	330
HBR	200
Divinyl	60
TEPs	10

margins on synthetic rubber exports for Nizhnekamskneftekhim were relatively small. Factors such as raw material costs and natural rubber prices complicate margins.

Before sanctions Nizhnekamskneftekhim sold rubber under long-term contracts to tyre manufacturers such as Goodyear, Michelin, Pirelli, Continental, Bridgestone, etc. Most of these contracts came with zero margins or at a loss in order to fulfil the terms of supply, even if sales themselves brought decent

revenue. As a result, the total revenues for the company rose sharply even if total profitability only hovered around 10%. This explains why Kazanorgsintez, which concentrates on polyethylene and does not produce synthetic rubber, has traditionally recorded higher profit margins.

Until Russia invaded Ukraine Nizhnekamskneftekhim sold nearly of its synthetic rubber exports in the European market, shared with other players. Since the second half of the company has been redirecting exports largely to China.

Isoprene rubber has not yet been affected by EU sanctions and thus exports to Europe still continue despite other difficulties such as transportation. Nizhnekamskneftekhim accounted for 41.6% of global

Nizhnekamskneftekhim Rubber Production 2021	
Product	Share in global market
Butyl rubber	15.4%
Isoprene rubber	41.6%
Butadiene rubber	5.8%

isoprene rubber production in 2021, whilst accounting for 15.4% of butyl rubber in global terms and 5.8% of butadiene rubber. Together with the acquisition of Nizhnekamskneftekhim in 2021, SIBUR is the largest producer of synthetic rubber in Europe but is largely excluded from European markets.

#### Tatneft completes Nokian purchase

At the end of March Nokian Tyres tyre plant in Vsevolozhsk became the property of Tatneft. The Finnish company expected that it would get €400 million from the deal with Tatneft, but the ruling commission agreed only €285 million.

The main asset of Nokian Tyres in the Russian Federation is a plant in Vsevolozhsk (Leningrad Region) with a capacity of 17 million tyres per annum. The whole Russian market is estimated between 30-40 million pieces per annum. In 2021, Russia accounted for 20% of Nokian's sales and 80% of output. Tyre exports from Russia to Europe and North America stopped last July, when the EU imposed an embargo on such shipments.

produced in the Russian Federation were exported, which is about 1 million tpa of finished products. Almost half of exports accounted for European countries.

#### Nizhnekamskneftekhim expansion of HBR capacity

Nizhnekamskneftekhim aims to complete the expansion of capacity for the production of halogenated butyl rubber (HBR) in 2023, rising from 150,000 tpa to 200,000 tpa. Only three companies produce HBR globally and thus Nizhnekamskneftekhim represents a key part of the international supply/demand balance.

#### Russia's role in the global synthetic market

Russia accounts for approximately 9% of the total world output of synthetic rubbers. Historically, 60-70% of synthetic rubbers

#### For some producers the sanctions are not important

For some Russian synthetic rubber producers, such as Omsk Kaucuk there is no need for the reorientation of export shipments as the share of rubber exports to the EU is insignificant. The main export market for synthetic rubber for Titan Group was previously the Asian market.

#### Togliattikaucuk-tertiary dodecyl mercaptan

Togliattikaucuk is developing a component for synthetic rubber production which was previously imported. Tertiary dodecyl mercaptan is an integral part of the production of synthetic butadiene-alphamethylstyrene rubber (SBSC).

Changes in supply chains due to sanctions required looking for an alternative within the country or creating them from scratch. In September 2022 Togliattikaucuk started the production of oxalic acid for the production of isoprene rubbers and is now scaling up production to industrial volumes.

The Sterlitamak based synthetic rubber producers Sintez-Kaucuk and Sterlitamak Petrochemical Complex exported 64% of its total production in 2022, but Europe accounted for only 3.4% of shipments. Growth of deliveries to Asia by 17% in 2022 offset any impact from EU sanctions.

#### Sterlitamak Petrochemical Combine-isoprene rubber contract with Belarus

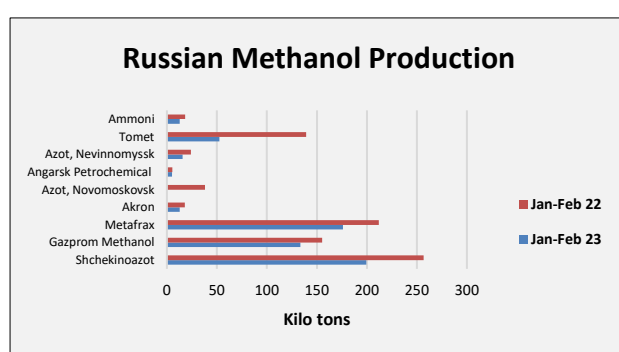
Sterlitamak Petrochemical Combine won the tender for the supply of isoprene rubber to the Belarussian tyre manufacturer Belshina and has already dispatched the first batch of

products. With the Belarussian tyre giant, the company signed a contract for the supply of 23,000 tons of synthetic rubber SKI-3. For the rest of the year monthly deliveries are expected to range from 1,300 tons to 2,000 tons of rubber.



Russian Methanol Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Shchekinoazot	199.458	256.612
Gazprom Methanol	133.600	155.170
Metafrax Chemicals	176.100	212.023
Akron	12.850	17.900
Azot Novomoskovsk	0.000	38.065
Angarsk Petrochemical	5.142	5.424
Azot Nevinnomyssk	15.820	23.962
Tomet	52.450	139.098
Ammoni	12.892	18.106
Totals	608.312	866.360

Tomsk reduced production from 155,170 tons to 133,600 tons.



showed a gradual decline which was a direct result from the invasion of Ukraine and the economic consequences from embargoes, etc. The prospects for 2023 for Russian producers are dominated by the introduction of sanctions by the EU against Russian exports. The ninth package of EU sanctions

Russian Methanol Supply/Demand Balance (unit-kilo tons)		
	Jan-Feb 23	Jan-Feb 22
Production	608.3	866.4
Exports	293.4	413.6
Domestic Merchant	244.0	281.0
Market Balance	70.9	171.8

On average around 70% of exports in the past few years have been directed monthly to the EU. It is

Russian Methanol Exports by Producer (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Azot Nevinnomyssk	0.0	0.0
Azot Novomoskovsk	9.7	8.0
Akron	0.0	3.1
Metafrax Chemicals	77.2	83.8
Gazprom Methanol	73.9	70.0
Tomet	21.0	59.8
Shchekinoazot	111.6	188.9
Ammoni	0.0	0.0
Total	293.4	413.6

59,800 tons. Metafrax Chemicals reduced exports from 83,800 tons in January to February 2022 to 77,200 tons whilst Gazprom Methanol perhaps surprisingly increased exports from 70,000 tons to

## Russian methanol market

### Russian methanol production Jan-Feb 2023

Russia produced 608,312 tons of methanol in the first two months in 2023 against 866,360 tons in the same period in 2022. All producers recorded a decline in production, with Azot at Novomoskovsk idle for the third month running. The largest producer remained Shchekinoazot which produced 199,458 tons against 256,612 tons last year.

Metafrax Chemicals at Gubakha produced 176,100 tons in the first two months in 2023 against 212,023 tons in January-February 2022, whilst Gazprom Methanol at

Tomet reduced production from 139,098 tons to 52,450 tons in January to February 2023 whilst Azot at Novomoskovsk reduced production from 38,065 tons to zero. Ammoni in Tatarstan reduced methanol production from 18,106 tons in the first two months in 2022 to 12,892 tons in 2023.

### Market overview & sanctions

Last year's overall trend for Russian domestic merchant sales for methanol and exports showed a gradual decline which was a direct result from the invasion of Ukraine and the economic consequences from embargoes, etc. The prospects for 2023 for Russian producers are dominated by the introduction of sanctions by the EU against Russian exports. The ninth package of EU sanctions stated that all transactions for contracts concluded prior and to 7 October 2022 need to be completed by 8 January 2023. Since then, an amendment has been added allowing contracts that were concluded prior to 7 October to completed up to 18 June this year. That extension seems to have revived some uncompleted contracts which were assumed to have missed the deadline.

not feasible to be able to replace this trade in the short term and probably even the medium term considering the geographical locations of the plants. New destinations for Russian exports last year have included China and Turkey, but volumes to both countries are limited by logistical hurdles. Most plants in Russia are located in the western parts of the country that make selling to China or the Far East difficult, both logistically and economically.

### Russian methanol exports, Jan-Feb 2023

Russian producer exports of methanol fell from 413,600 tons in the first two months in 2022 to 293,400 tons in the same period in 2023. Tomet reduced exports exported to 21,000 tons of methanol against

73,900 tons. The largest Russian exporter in 2022 was Shchekinoazot shipping 111,600 tons versus 188,900 tons in January to February 2022.

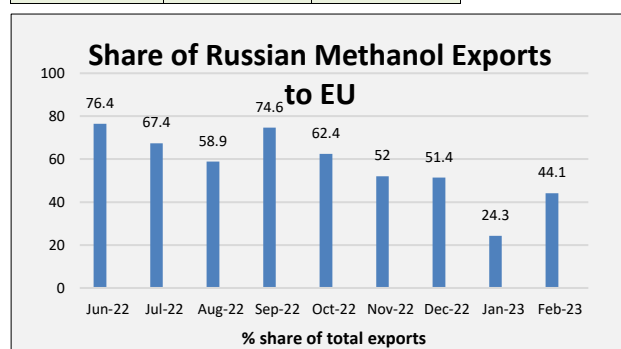
Regarding the supply/demand balance in the first two months, all indicators were down against the same period in 2022. Exports have been given some impetus from the amendment for the sanction date of 18 June, which allows any contract arrangements made prior to 7 October 2022 to be legally completed. Thus, it will not be until the second half of the year before the full impact of sanctions on Russian methanol producers.

Russian Methanol Exports by Destination		
Country	Jan-Feb 23	Jan-Feb 22
Belarus	41.371	41.651
China	115.795	0.000
Finland	45.701	139.011
Kazakhstan	4.470	7.117
Latvia	1.230	2.613
Lithuania	0.000	19.014
Netherlands	20.814	42.352
Poland	33.596	68.559
Romania	0.000	26.488
Slovakia	0.000	49.035
Turkey	29.919	0.000
UK	0.000	8.398
Ukraine	0.000	11.916
Others	0.000	0.547
Total	293.806	417.063

In the first two months this year China represented the largest destination for Russian methanol exports, accounting for 115,795 tons from the total 293,806 tons. Finland shipped 45,701 tons, down from 139,011 tons whilst Poland reduced inward shipments from Russia from 68,559 tons to 33,596 tons and exports to the Netherlands dropped to 20,814 tons from 42,352 tons. Direct exports to Hungary, Romania, Slovakia and Ukraine stopped earlier in 2022.

Logistical connections and cost represent the main challenge to redirecting methanol shipments to Asia. Costs for logistics for delivery to Asian markets for Russian producers are at least a quarter higher than the level of supply costs to Europe.

European markets provide the best profitability for Russian producers, the shortest lead-times, etc, but the actions of the Russian leadership have destroyed this successful market. In February sales to the EU market still accounted for 44.1% of total Russian exports, which was higher than the 24.3% in January, but lower than in any month last year.



Polish traders became very active in 2022 in sourcing Russian methanol for redistribution in Central and South East Europe, but this supply chain is already undergoing significant change in 2023 as the result of sanctions.

#### Russian methanol domestic sales, Jan-Feb 2023

Merchant sales of methanol on the Russian domestic market amounted to 244,223 tons in the first two months in 2023 against 280,955 tons in the same period in 2022. Tomet reduced sales from 74,030 tons to 49,718 tons whilst Gazprom Methanol reduced sales from 67,973 tons to 60,021 tons. Metafrax Chemicals increased shipments to the domestic market from 58,559 tons in January to February 2022 to 64,242 tons in January-February 2023.

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Azot Nevinnomyssk	0.806	5.255
Azot Novomoskovsk	0.000	23.544
Metafrax Chemicals	64.242	58.659
Gazprom Methanol	60.021	67.973
Tomet	49.718	74.030
Shchekinoazot	64.803	41.899
Ammoni (Mendelevsk)	4.633	9.595
Total	244.223	280.955

#### Shchekinoazot delays construction of formalin plant

The timing of the Shchekinoazot project has been delayed for the construction of the second unit of concentrated low-methane formalin KMMF-110, with a capacity of 110,000 tpa and the production of urea and melamine-formaldehyde resins KMFS-220, with a capacity of 220,000 tpa. The largest part of the main equipment has arrived from Shanghai, but the project is being delayed over market uncertainties. Even if the builders have already begun to

install the foundation for the formalin installation Shchekinoazot fears saturating the domestic market which is already under pressure.

Russian Formaldehyde Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Pigment	5.498	6.274
Shchekinoazot	4.773	6.171
Akron	19.411	25.439
Metafrax	46.280	64.530
Sverdlov Plant	1.440	3.342
Khimsintez	4.328	8.940
Uralkhimplast	6.661	7.409
Nizhnekamskneftekhim	25.395	12.461
Metadynea	5.986	8.682
Total	119.772	143.248

#### Metafrax completion of paraformaldehyde plant

Metafrax Chemicals has completed the construction and installation of the paraformaldehyde unit at Gubakha. Commissioning and preparation of the facility for commissioning are underway. The production capacity of the plant is 30,000 tpa. The unit will produce paraformaldehyde intended for the manufacture of plastics, paints, resins, adhesives, and insulating materials.

Paraformaldehyde is also widely used in the production of chipboard and MDF, in the manufacture of herbicides in agriculture and

antiseptics in animal husbandry. Most of the paraformaldehyde production is intended for sale on the domestic market. Paraformaldehyde has been listed under EU sanctions.

Metafrax is in the final stage of launching melamine production with a capacity of 40,000 tpa which is the third part of its Ammonia-Urea-Melamine (AKM) complex. Metafrax began to implement the project for the construction of the AKM complex in 2017 and thus managed to purchase equipment before the sanctions were introduced and is now finishing. The AKM complex also includes capacities of 500,000 tpa for urea and 298,000 tpa of ammonia. The project costs amount to around €1.2 billion.

#### Evrokhim suspends methanol project at Kingisepp

Evrokhim has announced suspension of the construction of the methanol project in the Kingisepp district of the Leningrad region. The capacity of the project was being designed at 2.5 million tpa. The amount of investments in the project was estimated at 132 billion roubles and was planned to put the plant into operation by 2026. Evrokhim's project had slowed down to a standstill

Russian methanol projects planned for North West Russia		
Company	Location	Capacity
Gaz Sintez	Vysotsk	1.6 million tpa
Evrokhim	Kingisepp	2.5 million tpa
Baltic Gas Chemical	Ust Luga	1.7 million tpa

over the past few months after sanctions were introduced preventing the procurement of plant equipment.

#### Other Leningrad region methanol projects effectively suspended

The Evrokhim project is one of three methanol projects for the Leningrad region comprising a total of 5.8 million tpa of capacity. Other projects include Vysotsk (Gaz-Sintez) and Ust Luga (Baltic Gas Chemical) which have not been abandoned officially but remain alive on paper only. In all three cases investors did not have time to start construction before February 2022, and thus did not have time to receive the equipment from the Western suppliers.

The Vysotsk project involved a capacity of 1.6 million tpa of methanol to be located nearby the new terminal for acrylonitrile and methanol exports through the Gulf of Finland. The project started design in 2020 which was undertaken by the Research Institute of Urea from the Nizhny Novgorod region and this process has accordingly been completed. However, the project equipment had not been delivered and in effect thus progress has come to a standstill.

The third project involves the Baltic Gas Chemical Company (BGCC) which was first announced in 2018 involving the methanol plant and also includes a methanol terminal. This project was making slow progress even before Russia's invasion of Ukraine and the introduction of sanctions. Although recent contracts have been concluded for development of the Ust Luga seaport and methanol terminal, the prospects for completing the project will essentially depend on securing a technology license.

## Russian organic chemicals

Russian N-Butanol Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Angarsk Petrochemical company	5.464	6.349
Azot Nevinnomyssk	3.496	2.901
Gazprom neftekhim Salavat	15.985	11.668
SIBUR-Khimprom, Perm	4.876	4.170
Total	29.821	25.088
Russian Isobutanol Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Angarsk Petrochemical Company	3.606	2.463
Gazprom neftekhim Salavat	7.306	2.198
SIBUR-Khimprom, Perm	10.027	3.917
Total	20.939	8.578

### Russian butanol production Jan-Feb 2023

Production of butanols increased in the first two months for both normal and iso grade. Russian normal butanol production rose from 25,088 tons in the first two months in 2022 to 29,821 tons in the same period this year. Gazprom neftekhim Salavat was the largest Russian producer, increasing production from 11,668 tons to 15,985 tons in January to February 2022.

Isobutanol production in Russia increased from 8,578 tons in the first two months in 2022 to 20,939 tons in the same period in 2023. SIBUR-Khimprom increased production from 3,917 tons in January-February 2022 to 10,027 tons in the same period this year.

### Russian acetone & solvents market Jan-Feb 2023

Russian acetone production amounted to 24,600 tons in the first two months in 2023 against 31,500 tons in the same period in 2022. Omsk Kaucuk produced 4,300 tons of acetone against 8,300 tons whilst Kazanorgsintez increased production slightly from 9,000 tons to 9,300 tons. Novokuibyshevsk Petrochemical Combine reduced production from 6,800 tons to 5,500 tons.

Russian Acetone Production (unit-kilo tons)		
Producer	Jan-Feb 23	Jan-Feb 22
Ufaorgsintez	5.5	7.3
Kazanorgsintez	9.3	9.0
Novokuibyshevsk Petrochemical	5.5	6.8
Omsk Kaucuk	4.3	8.3
Total	24.6	31.5

Russia did not import ethyl acetate in February, after only 105.9 tons was imported in January. Prior to the invasion of Ukraine, the main volumes of ethyl acetate imports came from Ineos. After the reduction in shipments of European material, the main volumes of ethyl

acetate have since been imported from India and China despite logistical difficulties. In January the product was supplied to the Russian market by the Chinese company Taizhou Ruibai Chemical (61% of total imports) and the Indian Laxmi Organic Industries (39%). The import buyers this year have included companies Khimintekhno and Ruskhimset.

Russian isopropanol production increased 7.6% in 2022 over 2021. The production of isopropanol in Russia is carried out by the Khimprom (12,000 tpa), Sintez-Acetone 2000 (up to 4,000 tpa), Impexneftekhim at Orsk (up to 21,000 tpa) and Omsk Kaucuk (up to 60,000 tpa). The export of isopropanol since the beginning of 2022 has grown by 32.7%, whilst imports have decreased by 49%. Current demand is fully covered by Russian production.

Russian Plasticizer Trade 2022 (unit-kilo tons)		
Exports	Jan-Feb 23	Jan-Feb 22
DOTP	1.444	3.383
Imports		
DOP	0.055	0.000
DOTP	0.132	1.152
DINP	3.162	4.458
Total	3.349	5.610

### Russian plasticizers market Jan-Feb 2023

Both Russian exports and imports of plasticizers have dropped this year. Exports fell from the SIBUR plant at Perm to 1,444 tons from 3,383 tons in the first two months in 2022. Whilst exports to EU markets dropped in 2022 shipments to Uzbekistan increased from 2,234 tons to 4,384 tons. Imports of plasticizers dropped from 5,610 tons to 3,349 tons in the first two months in 2023, with the sources of inward shipments significantly changed. For the domestic market prices

for plasticizers in Russia have fallen in recent months due weakening demand. Availability is tight also despite low demand which means that producers such as Gazprom neftekhim Salavat and Roshalsky Plasticizer Plant are both quoting higher numbers.



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## Other Russian plant news

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**Shchekinoazot-spunbond expansion**

Shchekinoazot has completed the construction of the production of multilayer nonwoven material using meltblown technology (spunbond, SSMS). The equipment of the new line has been transferred to a round-the-clock mode of operation. The company now has three lines for the production of spunbond following the introduction of plants in 2009 and 2015, respectively, their capacity is 3,600 tpa and 6,240 tpa. The production capacity with the possibility of producing material using the Meltblown technology (spunbond, SSMS) is 8,640 tpa.

**Technonikol-spunbond**

Technonikol Corporation put into operation at the plant in Ryazan a line for the production of spunbond made of polypropylene, which will 100% provide the company with its own raw materials for the production of construction films. The company uses more than half of the spunbond produced for domestic consumption. The remaining part is sold as a final product for the agricultural sector or raw materials for medical masks.

Technonikol has started the installation of the second line for the production of construction films. The commissioning of new capacities will increase the volume of finished product output to 110 million square metres per annum. The next step is to increase the production on the existing spunbond line and launch another one. Thus, the production of nonwoven materials will grow to 15,000 tpa.

**Volzhskiy Orgsintez-potassium butyl xanthate**

Volzhskiy Orgsintez launches an environmental impact assessment procedure for the construction of a new potassium butyl xanthate production facility. It was reported that Volzhskiy Orgsintez signed a contract with GIAP for the design of future production with a capacity of 20,000 tpa. The start of construction was scheduled for 2022. On the territory of Volzhskiy Orgsintez, a similar production of potassium butyl xanthate with a capacity of 26,500 tpa is successfully operating.

Potassium butyl xanthate is a flotation reagent used in the enrichment of heavy, non-ferrous, noble and rare metals, native copper as a collector reagent. Effective for flotation of all sulphide ores, as well as oxidized minerals of lead and copper after their sulfidation in the hydrometallurgical industry. It is used as an ultrasonic accelerator for self-vulcanizing adhesives and low-temperature vulcanisation, as well as in the analytical determination of molybdenum.

**Titan Omsk-polyols**

The Titan Group of Companies has begun designing a complex for the production of polyols, which is planned to be located at the Omsk industrial site. Titan plans to create a complete technological chain from the processing of liquefied petroleum gases, the production of propylene oxide and hydrogen peroxide, to the production of final products simple polyether polyols and propylene glycol. The project of Titan Group of Companies will cover both current and future needs of domestic industries.

**Expansion of Agidol-1 capacity at Sterlitamak**

In the first quarter this year Sterlitamak based companies SNCP and Sintez-Kaucuk started the modernisation of the Agidol-1 crystalline production unit, including a 55% increase in capacity. Demand for Agidol-1 is rising due to increased demand for curing components for epoxy resins, as well as usage in the production of maleic anhydride which has recently started by SIBUR at Tobolsk. Agidol-1 crystalline is used to stabilize polymeric materials used for domestic and food purposes.

**Siberian Titan-TiO<sub>2</sub>**

Siberian Titan plans in 2023 to begin construction of the production of titanium pigment dioxide based on fluoride technology in the Tomsk region. Russia's only production of titanium dioxide currently takes place under Crimean Titan, but should Ukraine retake control of Crimea Russia will no longer be able to state that the plant falls under its territorial control. The construction of titanium dioxide production at Seversk will now cost 4.5 times more expensive than previously estimated to 4.5 billion roubles and so that could represent a problem for the investors. The launch of production is scheduled for 2024 despite the increase in the cost of construction. The production capacity at the initial stage will be 10,000 tpa which will comprise around 10% of the demand of the Russian market.

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**Central Asia**

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**The development of PET capacity in Central Asia**

If the PET projects planned in Central Asia are completed it will result in capacity in excess of 1 million tpa in the next few years which would be far in excess of regional demand. PET projects are planned for both Uzbekistan and Kazakhstan, the first as one of the derivatives of the Uzbek MTO project and the second from the Kazakh aromatics complex at Atyrau.

**Kazakh PTA-PET complex**

A feasibility study has been completed for the construction of a PTA-PET complex in the Atyrau region, using the paraxylene from the existing 496,000 tpa plant at the refinery. Around \$1 billion has been estimated for the project costs and negotiations are underway with potential strategic partners. Project capacities include 600,000 tpa of PTA and 430,000 tpa of PET. Construction of the plant is aimed for 2023-2024 with start-up earmarked for 2026-2027.

**MTO complex to prove PET for Uzbek textile sector**

The gas chemical complex under construction in Uzbekistan will be focused on the production of the textile PET necessary for the country (220,000 tpa from the total 300,000 tpa). According to preliminary data, the demand for PET in Uzbekistan amounted to around 100,000 tpa and in Kazakhstan 92,000 tpa. Total demand for the Central Asian region amounted to around 260,000 tpa for 2022.

The MTO project in the free economic zone Karakul in the Bukhara region of Uzbekistan, the PET plant of 300,000 tpa is under construction for completion in 2025. For Kazakhstan the capacity of the new PET project for the Atyrau aromatics complex is yet to be decided but will either comprise 710,000 tpa or 403,000 tpa. At the same time, the consumption of paraxylene necessary for the production of PTA in both scenarios exceeds the volumes that are currently produced at the Atyrau Refinery (208,000 tons planned for 2023).

**KPI polypropylene outage & exports**

On 3 April 2023, a power failure occurred at the polypropylene plant at Atyrau, which led to a partial shutdown of production. Compressors, pumps, and technological equipment were turned off. Kazakhstan Petrochemical Industries (KPI) plant hopes to achieve full production capacity 519,000 tpa of polypropylene by the end of 2023, the bulk of which will be shipped for export. More than 90% of shipments of polypropylene with KPIs will be shipped in containers,

and to the domestic market in covered wagons.

Reaching full design capacity will allow the company to fully meet the needs of the domestic market in polypropylene, as well as export volumes. Already now direct deliveries of products to China, EU countries, Russia have been established, in the near future it is planned to enter the Turkish market.

KazMunayGaz has been instructed to eliminate comments on the gas chemical project with the participation of SIBUR before the start of warranty tests. Despite the advantages of KazMunayGaz working with SIBUR it fears that it could become embroiled by secondary sanctions.

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