CIREC MONTHLY NEWS

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

Edited by Andrew Sparshott CIREC Limited
Telephone: +441202 959770 Email: support@cirec.net Web: www.cirec.net

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

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Key points from this issue:

Central European petrochemical markets

- Due to increased concerns over crude security on the Druzhba oil pipeline, orders for Russian oil supplies to the EU rose by 16% in June compared to May
- Due to maintenance and lower demand PKN Orlen reduced ethylene production in the first four months in 2023 to 123,200 tons from 162,500 tons in the same period in 2022
- Orlen's Olefin 111 complex at Plock has started foundation work
- Following difficult first quarter results Grupa Azoty is considering the sale of the Pulawy plant to Orlen
- MOL started testing propylene oxide transfer to the pilot polyol plant in June

Central European polymer and organic chemical markets-weak economies affect demand

- Supply/demand balances for Central European polyolefin markets have broadly shown declines in 2023
- Values and volumes for Polish trade in organic chemicals fell for both exports and imports in the first four months, as recessionary trends took effect
- Czech exports of polyethylene amounted to 127,602 tons in the first four months in 2023 from 141,371 tons in 2022 with average prices falling from €1677.4 per ton to €1453.6
- Methanol imports into Poland dropped from 133,557 tons in the first four months in 2022 to 87,071 tons in the same period in 2023. EU sanctions on Russian methanol took full effect from 18 June
- Synthos reduced the production of synthetic rubber from 97,100 tons in the first four months to 81,100 tons in the same period in 2023
- In the first quarter this year PKN Orlen produced 107,000 tons of PTA against 171,000 tons in the same period in 2022

Russian chemical production & trade-increasing role of China

- The current strategy of the export-oriented parts of the Russian chemical industry is to focus on sales to China. This geographical redirection from European markets is recognised by exporters as requiring substantial investment in logistics, including the expansion of rail links coupled with storage facilities
- Russian propylene production amounted to 989,000 tons in the first four months in 2023 against 999,000 tons in the same period in 2022
- Russian production of synthetic rubber dropped to 478,000 tons in the first four months in 2023 versus 568,000 tons in the same period in 2022 and 577,000 tons two years ago in January to April 2021
- Russia produced 1.289 million tons of methanol in the first four months in 2023 against 1.669 million tons in the same period in 2022
- China has become the major export destination for Russian methanol besides other products
- PTA exports from China to Russia totalled 85,412 tons in the first four months in 2023 against 53,434 tons in the same period in 2022 and 100,166 tons in 2021

Eurasian petrochemical projects

- Uzbekistan's Gas Chemical Complex MTO Central Asia signed an industrial gas processing agreement in May this year with Air Products to build a methanol production facility
- An agreement on principles for the polyethylene project in the Atyrau region was signed by KazMunayGaz and Sinopec in mid-May, following the earlier agreement with SIBUR
- Whilst SIBUR is unable to be precise over the completion dates of the Amur Gas Chemical Complex, large-scale equipment for the olefin section arrived from the Far East ports in June

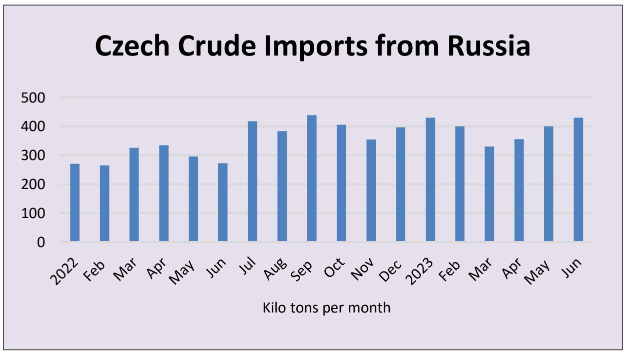
CENTRAL and SOUTH EAST EUROPE

Central European feedstocks

Hungarian crude purchases Jan-Mar 2023		
Country	***Vol (ktons)***	***€ per ton***
Croatia	145.526	602.257
Iraq	185.232	433.529
Kazakhstan	228.331	550.181
Russia	1003.139	316.521
Total	1562.925	390.269

Druzhba supplies to the EU and war complications

Due to increased concerns over crude security on the Druzhba oil pipeline, orders for Russian oil supplies to the EU rose by 16% in June compared to May. Only the southern branch of the Druzhba is currently operating and is key to refinery supplies to Hungary, Slovakia and the Czech Republic. The recent dam explosion at Nova Kakhovka in Ukraine provides warnings over the potential impact of war damage to other infrastructural facilities.



MOL organised a total order of 900,000 tons of oil in June for delivery through the Druzhba to Hungary and Slovakia. As for the Orlen Group Unipetrol is the only member still buying crude from Russia. Unipetrol ordered up to 430,400 tons in June, compared to 400,000 tons in May.

Hungary's average price for crude imports in January to March amounted to €390 per ton, mainly helped by the price cap on Russian crude. Purchases of crude from Russia in January to March amounted to 1.003 million tons from the total of 1.563 million tons, thus accounting for 64% of supply. The Russian average price of €316.521 per ton compared against the next lowest price of €433.529 per ton from Iraq, although volumes from Iraq were small. Volumes from Kazakhstan, delivered by the Druzhba, amounted to 228,331 tons in the first three months at an average price of €550.181 per ton.

Polish Imports of Crude Oil Jan-Apr 2023		
Country	***Vol (million tons)***	***€ per ton***
Saudi Arabia	4.092	567.9
Russia	1.150	316.4
Nigeria	0.645	609.8
Norway	2.052	549.5
US	0.371	611.7
UK	0.486	596.6
Total	8.806	537.3

MOL has started transporting crude oil from its oil field in Azerbaijan to Slovnaft in Bratislava via the Adria oil pipeline. The Adria is seen the key alternative to the Druzhba for Hungary and Slovakia.

Polish imports of crude oil 2023

Poland imported 8.806 million tons in the first four months in 2023 at an average price of €537.3 per ton. Saudi Arabia supplied 4.092 million tons at an average price of €567.9 per ton followed by Norway which supplied 2.052 million tons at an average price of €549.5 per ton.

Partly due abandoning Russian crude, Orlen has predicted lower margins in the refining sector in the second quarter. First quarter profits benefited to some extent from lower Russian crude prices until late February, although the main factor behind increased profits was the consolidation of Lotos and PGNiG into the Orlen Group. Orlen's first quarter revenues increased more than two-fold to zl 110.27 billion (€24.796 billion). Due to consolidation Orlen's total sales volumes in the refining segment rose by 26% to 7.4 million tons, mainly due to higher sales in Poland, while refining margins jumped to $18.3 per barrel of crude oil from $6.0 in the same period in 2022.

Central European refining margins & processing levels

Refining margins for PKN Orlen in the first four months this year remained significantly above the historical averages, rising from $5.4 in the first quarter in 2022 to $18.2 in 2023. However, the trend for the remainder the year indicates lower numbers, with April margins dropping to $11. For the full year of 2023, regional fuel competitor OMV Petrom has forecast that refining margins for 2023 to amount to slightly above $9 per barrel against $16.6 in 2022. Orlen expects that operating profit would decline in the second quarter compared to the first as refining margins and volumes start to drop.

Central European petrochemical production and trade

PKN Orlen Production (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Ethylene	123.2	162.5
Propylene	110.1	155.7
Butadiene	20.9	23.5
Toluene	0.5	3.6
Phenol	14.3	17.2
Polyethylene	103.0	112.9
Polypropylene	92.5	119.3

PKN Orlen-petrochemical production Jan-Apr 2023

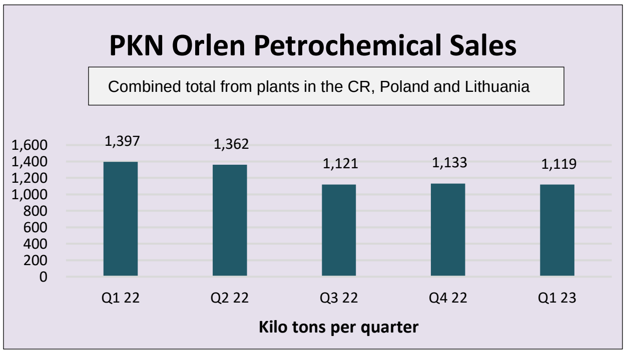
PKN Orlen reduced ethylene production in the first four months in 2023 to 123,200 tons from 162,500 tons in the same period in 2022. Propylene production at Plock dropped from 155,700 tons to 110,100 tons.

Orlen Group utilisation rates

April output continued the trend from the first quarter when all of the plants in the Orlen Group showed lower utilisation rates than in the first quarter in 2022 although better than in the fourth quarter. Utilisation rates this year have been affected by a combination of demand side factors and maintenance.

PKN Orlen Utilisation Rates			
Product	***Q1 22***	***Q4 22***	***Q1 23***
Olefins (Płock)	89%	78%	78%
BOP (Płock)	74%	67%	70%
Metathesis (Płock)	69%	14%	51%
Fertilisers	64%	47%	81%
PVC (Wloclawek)	88%	65%	64%
PTA (Wloclawek)	100%	70%	66%
Olefins (Orlen Unipetrol)	94%	77%	85%
PPF Splitter (Orlen Lietuva)	92%	89%	81%

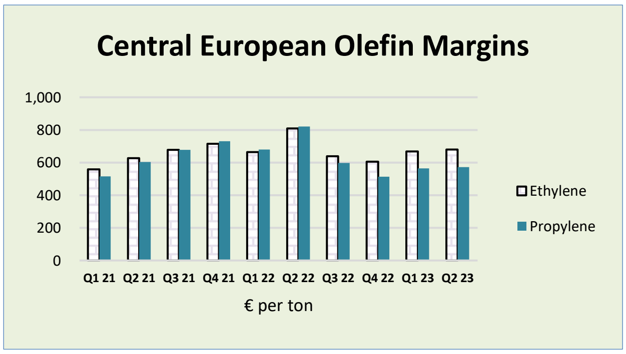
The olefins complex at Plock operated at 78% of capacity in the first three months. This was partly due to the production problems at Anwil's PVC plant which itself only ran at 64% in the first quarter. Other facilities at Plock such as the BOP division ran only at 70% in the first quarter. This was the result of a shutdown, which also affected the metathesis plant where propylene is produced.



As a result of lower production sales of petrochemicals for the Orlen Group dropped to 1.119 million tons in the first quarter against 1.397 million tons in the same period in 2022. PTA production at Wloclawek at 66% of capacity in the first quarter due to weaker demand and maintenance, whilst in the Czech Republic Orlen Unipetrol's olefin complex operated at 85% in the first quarter which was adjusted to the availability of PE2/PE3 installations. In Lithuania the PPF Splitter reported lower utilisation as a result of lower demand.

Orlen Group Petrochemical Sales (€ billion)		
	Jan-Mar 23	***Jan-Mar 22***
Sales revenues	1253.437	1692.461
External revenues	988.027	1426.608
Inter-segment revenues	265.410	265.854
Total operating expenses	-1346.120	-1541.463
Profit/(Loss) from operations	-45.676	61.419
Sales (,000 tons)	1,119	1,397

In terms of revenues from petrochemicals first quarter sales amounted to €1.253 billion against €1.692 billion in the same period last year. Costs of €1.346 billion in the first quarter meant that Orlen recorded an operating loss from petrochemical sakes of €45.676 million versus a profit of €61.419 million in the first three months last year.



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.

Ethylene margins amounted to €668 per ton in the first quarter against €664 in Q1 2022 whilst propylene dropped from €679 per ton to €564 per ton.

Orlen's current ethylene production in Poland

PKN Orlen produces ethylene not only for its own consumption but also for subsidiaries BOP and Anwil and jv partners such as PCC Exol. Ethylene is used to produce ethylene oxide by PCC Exol for the production of surfactants at Brzeg Dolny. The company estimates that in the event of problems with ethylene oxide supplies from PKN Orlen, it would be able to replace about half of the supply of the raw material through supplies from other producers. However, restrictions on the availability of ethylene oxide would cause PCC Exol some difficulties in production.

Orlen petrochemical investments

PKN Orlen is in the early stages of foundation work on its Olefins III investment which exceeds by size the other petrochemical investments being undertaken in Central Europe. Local residents in the Plock region are concerned about the project from numerous angles, in particular environmental and also the employment of several thousand foreigners. By the second half of this year up to 10,000 workers could be employed on the project. In order to accommodate such a large number of employees, a workers' town has already been built next to the investment.

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.

Polish Propylene Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Bulgaria	4.991	0.000
Germany	26.417	20.784
Russia	0.000	20.132
Ukraine	0.000	17.018
Serbia	2.903	0.000
Netherlands	6.045	4.421
Others	0.006	0.000
Total	40.362	62.356
Av price	972.9	1239.5

Polish propylene imports Jan-Apr 2023

Imports of propylene into Poland dropped in the first four months in 2023 to 40,362 tons against 62,356 tons in the same period in 2022. Average prices dropped from €1239.5 per ton in January to April 2022 to €972.9 per tons in the first four 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.

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 other regional countries in East Europe. Propylene from Bulgaria came from the Bourgas refinery which is owned by Lukoil amounted to 4,991 tons in the first four months. Overall Germany is now the main supplier of propylene to Poland, shipping 26,417 tons in the first four months versus 20,784 tons in the same period in 2022. The Netherlands increased shipments from 4,421 tons in the first four months last year to 6,045 tons in the same period in 2023.

Polish Butadiene Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Austria	14.441	12.046
Germany	2.858	9.029
Hungary	8.857	10.274
Total	26.385	31.349
Av price € per ton	904.0	1061.9

Polish butadiene imports Jan-Apr 2023

Poland imported 26,385 tons of butadiene monomer in the first four months in 2023, versus 31,349 tons in the same period in 2022. Imports from Hungary dropped from 10,274 tons last year to 8,857 tons in January to April 2023, whilst shipments from Austria increased from 12,046 tons to 14,441 tons.

Hungarian Propylene Exports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Germany	0.000	3.184
Poland	0.000	0.979
Slovakia	27.266	22.207
Total	27.266	26.370
Av price € per ton	1143.9	1226.5

Hungarian propylene & butadiene imports Jan-Mar 2023

Hungarian propylene exports amounted to 27,266 tons in the first quarter this year, all of which went to Slovakia at a price of €1143.9 per ton. MOL currently produces a surplus of propylene, and is also building a new plant of 100,000 tpa which is intended to cover the new propylene oxide plant. Propylene production by Slovnaft is not sufficient to maintain high utilisation rates for polypropylene and additional supplies need to be purchased. Slovnaft in Slovakia is currently upgrading its steam cracker unit which should increase the capacity for propylene production.

Hungarian Butadiene Exports (unit-kilo tons)		
Country	*Jan-Mar 23*	*Jan-Mar 22*
Czech Republic	6.951	4.088
Germany	1.995	5.035
Poland	7.090	7.201
Total	16.036	16.324
Av price € per ton	882.427	960.659

Hungarian butadiene exports dropped slightly in the first quarter to 16,036 tons versus 16,324 tons in the same period in 2022. Prices per ton have fallen from €960.7 per ton in the first quarter last year to €882.4 per ton. MOL produced 21,000 tons of butadiene in the first quarter, of which around 75% is exported. The remainder consumed in a small plant at Tiszaujvaros for synthetic rubber production.

Czech Petrochemical Imports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Ethylene	18.340	11.161
Propylene	17.516	13.285
Butadiene	35.198	23.958

Czech Petrochemical Exports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Ethylene	3.970	5.039
Propylene	0.012	0.008
Butadiene	0.000	0.114

Czech monomer trade, Jan-Apr 2023

Propylene imports into the Czech Republic increased from 13,285 tons in January to April 2022 to 17,516 tons in the same period in 2023. Germany supplied 12,808 tons in the first four months for €12.978 million. Other suppliers included Bulgaria from which the Czech Republic purchased 2,712 tons for €1.787 million and Romania where volumes amounted to 1,048 tons for €987,000. Average prices for Czech propylene imports dropped from €1323 per ton in the first four months in 2022 to €1063 per ton in 2023.

Ethylene exports from the Czech Republic amounted to 3,970 tons in the first four months in 2023 against 5,039 tons in the same period last year, whilst ethylene imports rose from 11,161 tons to 18,340 tons.

Polish Styrene Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belgium	0.289	5.441
Czech Republic	4.995	1.187
Finland	0.414	0.143
Netherlands	13.878	21.254
Germany	5.632	4.740
Others	1.773	1.653
Total	26.981	34.418
Av price € per ton	1176.1	1457.9

Germany supplied 18,265 tons of ethylene to Czech Republic in the first four months in 2023 at a cost of €16.968 million. This compares against 23,062 tons for the whole of 2022.

Czech imports of butadiene in the first four months this year increased from 23,958 tons to 35,198 tons, supplementing butadiene production at Kralupy. Germany supplied 25,055 tons for €22.449 million, followed by Hungary which supplied 9,097 tons for €8.677 million.

Czech Styrene Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belgium	0.553	1.153
Germany	3.066	0.003
Netherlands	4.763	6.449
Others	1.638	0.170
Total	10.019	7.775
Av price per ton €	1087.0	1553.8

Central European styrene trade Jan-Apr 2023

Poland imported 26,981 tons of styrene in the first four months in 2023 versus 34,418 tons in the same period in 2022. The Netherlands reduced shipments to Poland from 21,254 tons to 13,878 tons whilst imports from Germany rose from 4,740 tons to 5,632 tons. Costs averaged €1176.1 per ton in January to April 2023 against €1457.9 per ton in the same period in 2022.

Styrene imports into the Czech Republic amounted to 10,019 tons in the first four months in 2023, rising from 7,775 tons in January to April 2022. Costs averaged €1087.0 per ton in January to April 2023 against €1553.8 per ton in the same period in 2022.

Hungarian styrene imports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Germany	0.627	0.610
Italy	20.600	25.615
Netherlands	0.575	0.466
Others	0.078	0.057
Total	21.880	26.749
Av price € per ton	1317.3	1175.8

Hungarian styrene imports amounted to 21,880 tons in the first quarter in 2023 against 26,749 tons in the same period in 2022, with average prices rising from €1175.8 per ton to €1317.3 per ton in 2022. Italy supplied 25,615 tons in January to March 2022 which fell to 20,600 tons in the same period this year. Styrene in Hungary is used for the production of polystyrene by Versalis at the Szazhalombatta plant.

Central European polyolefins

Polish PE Supply/Demand Balance (unit-kilo tons)		
	Jan-Apr 23	*Jan-Apr 22*
Production	103.0	112.9
Exports	95.4	124.9
Imports	389.4	490.9
Market Balance	397.0	478.8

Polish polyethylene production & trade Jan-Apr 2023

Polyolefin trade into and out of Poland experienced declines in the first four months in 2023, with nearly all grades of polyethylene and polypropylene affected. Based on production and trade, polyethylene consumption amounted to 397,000 tons in the first four months in 2023 against 478,800 tons in January to April 2022.

Polish PE imports (unit-kilo tons)		
Type	*Jan-Apr 23*	*Jan-Apr 22*
LDPE	104.988	127.521
LLDPE	66.379	89.895
HDPE	137.081	167.558
EVA	4.760	6.502
EAO	59.599	77.694
Other	16.583	21.705
Total	389.389	490.875
Av price € per ton	1485.9	1831.6

PKN Orlen and Basell Orlen Polyolefins (BOP) produced a combined total of 103,000 tons of polyethylene at Plock in the first four months in 2023 against 112,900 tons in the same period last year. 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 389,389 tons in January to April 2023 versus 490,875 tons in the same period in 2022, with average prices dropping from €1831.6 per ton to €1485.9 per ton this year.

HDPE imports into Poland dropped from 167,558 tons to 137,081 tons in January to April 2023 whilst LDPE imports dropped from 127,521 tons to 104,988 tons. LLDPE imports declined from 89,895 tons to 66,379 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-Apr 23*	*Jan-Apr 22*
LDPE	16.416	20.720
LLDPE	6.846	6.847
HDPE	64.740	87.593
EVA	2.048	0.946
EAO	3.992	7.871
Other	1.371	1.751
Total	95.412	124.950
Av price € per ton	1474.6	1643.6

Polyethylene exports from Poland have also dropped this year. Overall imports decreased from 124,950 tons in the first four months in 2022 to 95,412 tons in the same period in 2022, with average prices dropping from €1643.5 to €1474.6. HDPE was Poland's largest export grade amounting to 64,740 tons in the first four months against 87,593 tons in January to April 2022.

Polish polypropylene production & trade Jan-Apr 2023

Polypropylene production at Plock dropped from 119,300 tons in January to April 2022 to 92,500 tons in the first four months this year. Overall, the supply/demand balance for Polish polypropylene dropped from 365,000 tons in the first four months in 2022 to 278,900 tons in the same period this year.

Imports of polypropylene into Poland dropped from 354,094 tons in the first four months in 2022 versus 270,399 tons in the same period in 2023, with average prices dropping from €1839.8 to €1551.6 per ton. Homo grade imports dropped from 232,274 tons in the first four months last year to 170,390 tons.

Polish PP Imports (unit-kilo tons)		
Type	*Jan-Apr 23*	*Jan-Apr 22*
PP homo	170.390	232.274
Polyisobutylene	1.072	1.893
Propylene copolymers	93.067	113.574
Other	5.869	6.353
Total	270.399	354.094
Av price € per ton	1551.6	1839.8

Poland imported 609,740 tons of polypropylene homo grade in the whole of 2022 for a total value of €1027.5 million. Homo grade PP imports into Poland dropped from 727,232 tons in January to December 2021 partly due to higher production at Plock.

Copolymer imports into Poland fell from 113,574 tons in the first four months in 2022 to 93,067 tons in the same period this year, with costs dropping to €154.463 million against €227.539 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 four months in 2023 Germany supplied 27,866 tons of copolymers to the Polish market for €46.858 million.

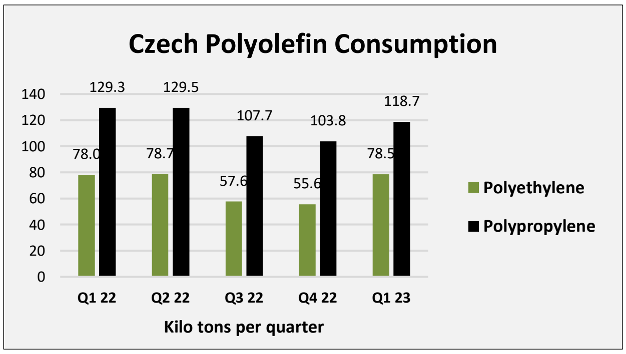
Polish PP Exports (unit-kilo tons)		
Type	***Jan-Apr 23***	***Jan-Apr 22***
PP homo	51.738	74.565
Polyisobutylene	0.237	0.050
Propylene copolymers	27.764	32.672
Other	2.564	1.144
Total	82.302	108.430
Av price € per ton	1486.5	1775.8

Supply sources this year have changed as Russian imports have disappeared from the market. 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. Russia provided 51,179 tons of homo grade to Poland in 2022 for €75.955 million, but there has been no trade this year or expected in the foreseeable future.

Polish PP Supply/Demand Balance (unit-kilo tons)		
	Jan-Apr 23	***Jan-Apr 22***
Production	92.5	119.3
Exports	82.39	108.4
Imports	267.2	354.1
Market Balance	280.6	365.0

Polish exports of polypropylene dropped from 108,430 tons in the first four months in 2022 to 82,302 tons in the same period in 2023. Average prices for exports amounted to €1486.5 per ton in the first four months which was down from €1775.8 per ton last year.

Overall consumption of polypropylene in Poland amounted to 280,600 tons in the first four months against 365,000 tons in the same period in 2022.



Czech polyolefin consumption 2023

Czech consumption of polyethylene amounted to 78,504 tons in the first quarter in 2023 against 78,005 tons in the same period in 2022, whilst polypropylene consumption dropped from 129,307 tons to 118,680 tons. In contrast to the Czech polyolefin market where polypropylene is the dominant polymer Polish polyolefin consumption is dominated by polyethylene.

Czech Polyethylene Exports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
LDPE	8.097	10.961
LLDPE	1.150	1.322
HDPE	113.399	123.307
EVA	1.154	1.241
Other	3.803	4.541
Total	127.602	141.371
Av price € per ton	1453.6	1677.4

Czech Polyethylene Imports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
LDPE	35.110	43.318
LLDPE	7.065	7.515
HDPE	38.900	43.393
EVA	3.386	2.917
Other	13.755	13.491
Total	98.216	110.633
Av price € per ton	1717.1	1947.0

Czech polyethylene trade Jan-Apr 2023

Czech exports of polyethylene amounted to 127,602 tons in the first four months in 2023 from 141,371 tons in the corresponding period in 2022, with average prices falling from €1677.4 per ton to €1453.6. HDPE represents the largest category of Czech polyethylene falling from 123,307 tons to 113,399 tons. Lacklustre demand has been one of the main drivers of lower polyethylene prices this year.

Imports of polyethylene into the Czech Republic dropped from 110,633 tons in the first four months in 2022 to 98,216 tons in 2023. Average prices dropped from €1947.0 per ton to €1717.1 per ton. HDPE imports dropped from 43,393 tons to 38,900 tons, whilst LDPE imports decreased from 43,318 tons to 35,110 tons.

Polypropylene exports from Orlen Unipetrol dropped in the first four months from 106,564 tons in 2022 to 100,797 tons in 2023. Values dropped from €190.5 million to €155 million. The largest market for Czech polypropylene exports in the first four months in 2023 was Poland, taking 10,820 tons followed by Germany with 10,398 tons.

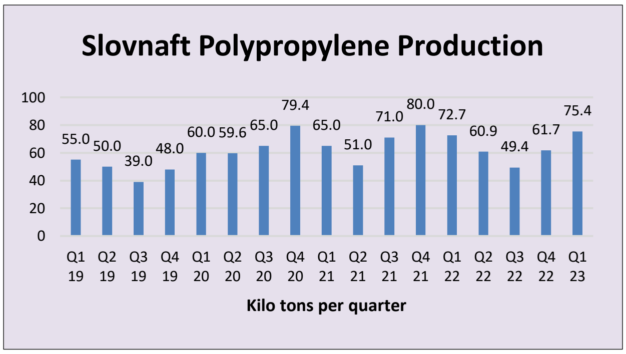
Czech Polypropylene Exports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
PP	81.325	88.210
Propylene Copolymers	17.023	17.603
Other	2.449	0.750
Total	100.797	106.564
Av price € per ton	1530.66	1788.09

Czech Polypropylene Imports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
PP	93.937	106.400
Propylene Copolymers	71.625	68.054
Other	5.129	5.728
Total	170.692	180.183
Av price € per ton	1672.6	1881.1

Polypropylene imports into the Czech Republic amounted to 170,692 tons in the first four months this year against 180,183 tons in the same period in 2023, with average prices falling from €1881.1 per ton to €1672.6 per ton. Copolymer imports increased from 68,054 tons to 71,625 tons whilst homo polymer imports dropped from 106,400 tons to 93,937 tons. Total costs for polypropylene imports totalled €285.491 in January to April 2023 against €338.539 million in the same period in 2022.

Slovnaft polypropylene production 2023

Slovnaft produced 75,440 tons of polypropylene in the first quarter in 2023 against 72,672 tons in the same period in 2022. Homo grade accounted for over 90% of polypropylene production. Poland is one of the major destinations for Slovak exports of polypropylene.



The company is currently investing in the expansion and modernisation of polypropylene production with Linde undertaking the project. The capacity will be increased to 300,000 tpa from 267,000 tpa. The revamp will enable Slovnaft to meet rising demands from the polyolefin processing industry. A further 16 storage silos will be added to the current 45.

Regarding propylene supply Slovnaft commissioned McDermott to expand the cracker. McDermott will provide comprehensive services and leverage its strategic agreement with Lummus Technology, the licensor of the steam cracker unit.

Hungarian polyethylene Imports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
LLDPE	7.296	4.352
LDPE	12.279	15.106
HDPE	21.253	24.445
EAO	1.831	3.209
EVA	0.948	1.620
Other	7.302	4.598
Total	50.910	53.330

Hungarian polyethylene exports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
LLDPE	1.870	0.967
LDPE	25.869	17.952
HDPE	59.904	45.927
EAO	0.090	0.031
EVA	0.034	0.025
Other	3.328	9.762
Total	91.094	74.664
Av price € per ton	1343.3	1474.0

Hungarian polyethylene trade Jan to March 2023

Hungarian imports of polyethylene dropped from 53,330 tons in January to March 2023 to 50,910 tons in the same month this year. LDPE imports dropped from 15,106 tons to 12,279 tons whilst HDPE dropped from 24,445 tons to 21,253 tons in January to March this year.

Import costs dropped from €97.276 million for polyethylene imports in January to March 2022 to €88.685 million in January to March this year, with average prices dropping from €1824 per ton to €1742 per ton. Hungarian export prices dropped from €1474 per ton in January 2022 to €1343 per ton. Prices have fallen this year due above all to lower demand but also due to flatlining crude numbers.

Export volumes from Hungary amounted to 91,094 tons in the first quarter this year versus 74,664 tons in January to March 2022. HDPE exports increased from 45,927 tons to 59,904 tons and LDPE increased from 17,952 tons to 25,689 tons. The rise in polyethylene exports this year has taken place despite the slight decline in production by MOL at

Tiszaujvaros. Exports have been aided by lower demand in the domestic market whereby consumption dropped from around 136,000 tons in the first quarter last year to around 102,000 tons in the same period in 2023.

Hungarian polypropylene exports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
PP homo	34.228	31.454
Propylene copolymers	24.222	29.141
Others	4.727	10.102
Total	63.177	70.697
Av price € per ton	1408.3	1657.9

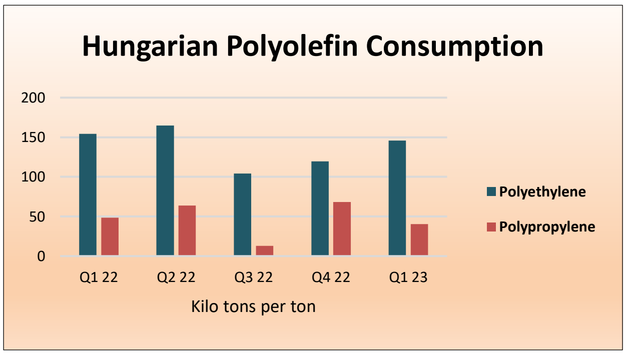
Hungarian Polypropylene Imports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
PP homo	28.757	33.635
Propylene copolymers	14.643	17.403
Others	5.842	7.678
Total	49.241	58.716
Av price € per ton	1611.0	1790.0

Hungarian polypropylene trade Q1 2023

Propylene copolymer imports into Hungary amounted to 14,643 tons in January to March this year versus 17,403 tons in the same period in 2022, whilst polypropylene homo grade inward shipments dropped from 33,635 tons to 28,757 tons. Overall imports of polypropylene dropped from 58,716 tons in the first quarter last year to 49,241 tons in the same period last year. Due to softening prices import costs dropped from €105.111 million to €79.332 million in January to March 2022.

Hungarian polypropylene exports in the first quarter amounted to 63,177 tons against 70,697 tons in the same period in 2022. Export revenues amounted to €88.974 million against €117.209 million last year.

By volume Hungarian homo grade polypropylene exports rose to 34,228 tons from 31,454 tons. Copolymer exports dropped from 29,141 tons to 24,222 tons. Overall average prices dropped from €1658 per ton to €1408.



In terms of consumption Hungarian trends in polyolefins reflect the broader European picture of recessionary factors. Polyethylene recovered slightly in the first quarter against the declines of the third and fourth quarters last year but still remained lower than in Q1 2022. Polypropylene consumption did not recover in the first quarter and demand remains low.

Serbian Chemical Exports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
Polyethylene	29.5	30.1
Polypropylene	3.0	4.5

HIP-Petrohemija polymer exports Jan-Mar 2023

HIP-Petrohemija exported 29,547 tons of polyethylene in the first quarter in 2023 against 30,117 tons in the same period in 2022. From 9 June NIS increased its stake in Petrohemija to 90%, while the state of Serbia has a stake of 10%. NIS is planning the construction of a polypropylene production plant at Petrohemija with a capacity of at least 140,000 tpa, to be constructed within six years.

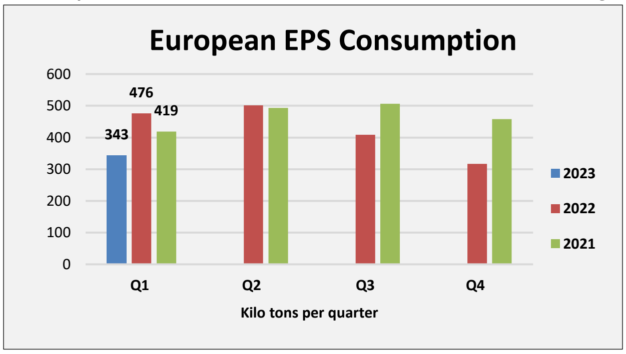
HIP Petrohemija-NIS integration

Serbian production of polypropylene can no longer keep up with the development of the construction industry, which has created the opportunity for constructing a new plant. The increased in the share ownership of NIS in Petrohemija from 20.86% to 90% in June this year came with obligations of monetary recapitalization in the amount of €150 million and the construction of the PP plant. The integration of Petrohemija and NIS represents a fundamental necessity in order that both refining and petrochemicals can coexist and benefit from internal cost advantages. From the commercial angle the integration with NIS is aimed at enabling Petrohemija to be much more flexible with challenges ahead in the current uncertainties in European petrochemicals. The political problem is that NIS is majority owned by Gazprom Neft, and it is not clear how Russian ownership of assets will be affected in the future.

Other bulk polymers

Synthos-expansible polystyrene market 2023

Sales of insulation materials by Synthos fell by 22,000 tons in the first quarter this year against the same period in 2022. The revenues decreased significantly due to the decrease of selling prices after movement of monomer quotation and decrease of volumes.



Synthos is the largest producer of expandable polystyrene in Central Europe but has come been confronted against weak demand in the first quarter this year following the significant fall in Q4 2022 as construction market experienced a difficult environment.

The second half of 2022 was particularly affected by low demand as nearly all factors which affect construction demand were negative. The market is expected by Synthos to continue to be driven by the negative outlook for the new residential and residential renovation sectors although civil engineering is looking still positive.

Central European Rubber Markets

Hungarian synthetic rubber imports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
Butadiene Rubber	15.681	12.133
HBR	2.634	4.690
SBR	11.511	6.493
Other	8.432	14.308
Total	38.259	37.625
Hungarian synthetic rubber imports (€ million)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
Butadiene Rubber	36.073	21.994
HBR	6.850	11.284
SBR	28.301	12.876
Other	22.281	31.887
Total	93.505	78.042
Av price € per ton	2.444	2.074

Hungarian synthetic rubber trade Jan to March 2023

Hungarian imports of synthetic rubber amounted to 38,259 tons in the first quarter this year for total costs of €93.505 million against 37,625 tons in January to March 2022 for total costs of €78.042 million. Average costs per ton rose in the first quarter to €2444 against €2074 per ton last year.

Regarding export activity, shipments from Hungary amounted to 14,070 tons in January to March this year for revenues of €42.576 million. Exports of SBRs amounted to 7,934 tons for €26.844 million, supplied from MOL's plant at Tiszaujvaros, and for butadiene 2,926 tons for €6.342 million.

Halogenated butyl rubber (HBR) exports from Hungary totalled 1,977 tons for €6.239 million, whilst imports totalled 2,634 tons for revenues of €6.850 million. Import sources of HBRs were dominated by Russia which supplied 1,714 tons in the first quarter. Although the sanctions on Russian HBRs to the EU were imposed in July last year the rules were amended in February 2023 when earlier sanctions on synthetic rubber were extended to June 2024.

Hungarian butadiene rubber Imports (unit-kilo tons)		
Product	***Jan-Mar 23***	***Jan-Mar 22***
Indonesia	8.594	0.098
Russia	0.605	5.379
Others	4.862	6.656
Total	14.061	12.133

Hungarian butadiene rubber imports Jan-Mar 2023

Hungary imported 14,061 tons of butadiene rubber in January to March this year against 12,133 tons in January to March 2022. The main change to market sources in recent months has come from Indonesia from where Hungary imported 8,594 tons in the first quarter. Costs of purchases from the Indonesian producer Chandra Asri Petrochemical amounted to €21.989 million from the total import costs for the month which were €33.796 million.

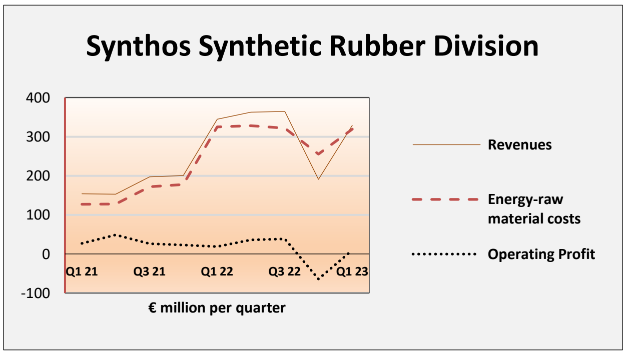
Imports of butadiene rubber from Russia amounted to 1,612 tons in January to March this year versus 5,379 tons in the same period last year. EU sanctions on butadiene rubber trade with Russia, introduced in July last year, have since been loosened under the pressure of European tyre manufacturers but this has not led to much of a revival of purchases from Russia.

Synthos Production in Poland (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Polystyrene	23.6	24.7
EPS	31.6	34.0
Synthetic Rubber	81.1	97.1

Synthos production at Oswiecim Jan-Apr 2023

Synthos reduced the production of synthetic rubber from 97,100 tons in the first four months to 81,100 tons in the same period in 2023.

Sales volumes of rubbers for the Synthos Group, including Oswiecim, Schkopau and Kralupy plants, fell in the first quarter by 28,000 tons compared to the same quarter in 2022. The fall was due predominantly to lower ESBR sales and also lower export sales to Asia. Exports to Asia were made more difficult following energy price increases in Europe.



The gap between operating costs and revenues for Synthos narrowed in the synthetic rubber division in the first quarter in 2023, after the significant drop in the fourth quarter last year. The group was able to record a small but positive operating profit in the first quarter.

Rubber Division Synthos Financial Performance (€ million)		
	Jan-Mar 23	***Jan-Mar 22***
Revenues	328.982	344.877
Production costs	319.248	324.795
Operating Profit	10.177	18.443

Revenues have not changed significantly but the structure is undergoing change with the close of the ESBR plant in the Czech Republic and the restart of the butadiene rubber plant at its Schkopau facility in east Germany. The butadiene rubber plant was restarted in March partially replace the Russian product which has been sanctioned. However, tyre manufacturing involves a wider spectrum of grades, many of which are produced mainly in Russia and some grades will be difficult to replace.

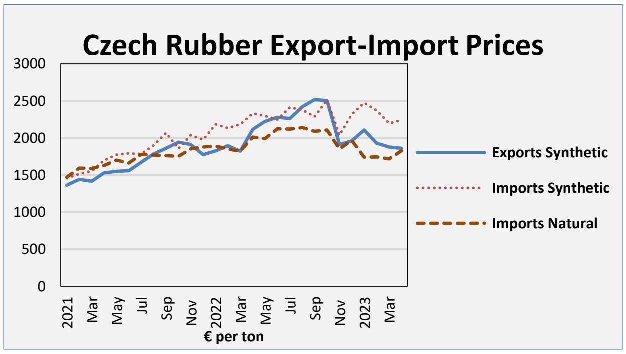
Polish Synthetic Rubber Imports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
ESBR	9.439	5.047
Block SBR	9.299	15.917
S-SBR	9.124	4.395
Butadiene Rubber	21.397	14.859
Butyl Rubber	2.419	1.466
HBR	4.255	5.187
NBR	1.701	4.816
Isoprene Rubber	3.752	13.765
EPDM	14.661	16.599
Others	14.622	19.248
Total	90.669	101.300
Av price € per ton	2,155.2	2,365.9

Synthos announced in March that it intended to close the Kralupy plant by the end of the second quarter. ESBR production is continuing at the Oswiecim plant in Poland. Even in the first half of 2022, the Kralupy unit was still running at full speed and making money. However, due to several times higher gas costs, Synthos was no longer able to compete on non-European markets. More than half of the production was sold in the US and Asia where competitive prices made it very difficult to sell at profitable levels.

Polish synthetic rubber trade, Jan-Apr 2023

Average prices for synthetic rubber imports into Poland dropped in the first four months to €2155.2 per ton against €2365.9 per ton. Imports of synthetic rubber into Poland amounted to 90,669 tons in January to April 2023 against 101,300 tons in the same period in 2022.

Butadiene rubber imports rose from 14,859 tons to 21,937 tons and EPDM imports dropped from 16,599 tons to 14,661 tons. Synthetic rubber exports from Poland totalled 92,872 tons in the period January to April 2023 versus 111,179 tons in the same period last year. SBR formed the largest share of exports.



Czech synthetic rubber market Jan-Apr 2023

Prices for synthetic rubber exports and imports of both synthetic and natural rubber have stabilised since the start of 2023. Prices for Czech exports of synthetic rubber tend to be lower than import prices due to different product grades, with export prices in April consolidating at €1858 per ton and import prices at €2239 per ton. Natural rubber prices tend to range at the lower end of synthetic rubber prices but are influenced by different market dynamics.

Czech Exports of EBSR		
	Jan-Apr 23	*Jan-Apr 22*
Kilo tons	11.850	25.705
€ million	20.825	45.827
Average price	1757.4	1782.8

Exports of synthetic rubber into Czech Republic amounted to 55,827 tons in the period January to April 2023 against 67,559 tons in the same period last year. Imports of synthetic rubber amounted to 42,086 tons in the first four months in 2023 against 50,141 tons in January to April 2022, with natural rubber imports rising slightly from 28,011 tons to 29,066 tons.

Imports of synthetic rubber from Russia into the Czech Republic dropped from 10,973 tons in the first four months in 2022 (for €20.282 million) to 2,337 tons (for €4.264 million). The largest category of imports from Russia this year was for SBR grades where volumes amounted to 1,169 tons. Butadiene rubber imports from Russia amounted to 877 tons against 4,698 tons in the same period in 2022, whilst imports of halogenated butyl rubber fell to 102 tons from 1,928 tons in January to April 2022.

Czech exports of ESBR dropped in the first four months this year to 11,850 tons against 25,705 tons in the same period in 2022. The plant was closed in April and will not produce in future. Prices per ton for ESBR dropped slightly from €1782.8 to €1757.4, but according to Synthos production costs have risen to levels where the Kralupy plant is not able to be profitable.

Czech Trade in Butadiene Rubber (unit-kilo tons)		
	Jan-Apr 23	*Jan-Apr 22*
Exports	36.912	37.009
Imports	7.894	9.818
Czech Trade in Butadiene Rubber (€ million)		
	Jan-Apr 23	*Jan-Apr 22*
Exports	67.846	70.220
Imports	21.365	18.945

Czech butadiene rubber trade Jan-Apr 2023

Czech exports of butadiene rubber comprised 36,912 tons in the first four months in 2023 against 37,009 tons in the same period in 2022. Revenues from butadiene exports dropped from €70.220 million to €67.846 million. Imports of butadiene rubber amounted to 7,894 tons in the first four months which was down from 9,818 tons in the same period in 2022.

The largest customer for Czech butadiene rubber is India which took 5,418 tons in the first four months in 2023 against 7,412 tons last year. South Korea purchased 4,686 tons in the first four months, rising from 2,168 tons. The largest European consumer for butadiene rubber produced by Synthos at Kralupy was Poland taking 4,888 tons followed by Slovakia with 3,915 tons.

Polish Imports of Aromatics (unit-kilo tons)		
Product	*Jan-Apr 23*	*Jan-Apr 22*
Ethylbenzene	42.477	38.864
Paraxylene	0.000	20.389
Phenol	29.132	40.001
Phthalic Anhydride	9.007	10.432
PTA	2.226	0.823
Styrene	26.981	34.365
TDI	22.447	26.486
Toluene	7.232	7.651

Central European aromatics

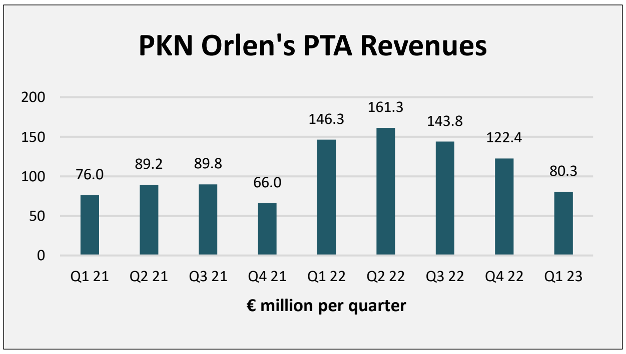
Polish aromatics trade Jan-Apr 2023

Phenol imports into Poland amounted to 29,132 tons in the first four months in 2023 against 40,001 tons in the same period last year. Supplies from Russia were sanctioned by the EU and from August no deliveries were made to Poland. Germany was the largest supplier of phenol to Poland in the first four months, shipping 21,668 tons.

The European phenol market has continued to be affected by lukewarm demand from derivative product sectors. Lower energy costs have to date not translated into improved demand for phenol. Moreover, some downstream markets, including BPA (bisphenol A) with derivatives and the polyamide chain, were additionally under the pressure of imports from outside of Europe.

In other aromatic product areas, styrene imports into Poland amounted to 26,981 tons in the period January to April 2023 versus 34,365 tons in the same period in 2022 whilst ethylbenzene imports rose from 38,864 tons to 42,477 tons. Nearly all of the ethylbenzene imports come from the Czech Republic.

Poland exported 46,439 tons of benzene in the first four months for €39.634 million. Average prices dropped from €1019.4 per ton to €849.8. Germany was the largest destination for Polish benzene exports, taking 35,312 tons against 38,701 tons in the same period in 2022. Exports of benzene from Poland to the Czech Republic dropped from 19,072 tons in January to April last year to 9,885 tons.



Paraxylene imports into Poland were not required by Poland in the first four months against imports of 20,839 tons in the same period in 2022.

Polish PTA Production and Trade		
	Q1 23	***Q1 22***
Production (kilo tons)	107.0	171.0
Total Sales (kilo tons)	98.0	169.0
Total Revenues (€ million)	83.4	149.9
Exports (Kilo tons)	53.0	109.1
Export Revenues (€ million)	46.9	103.5

Polish Exports of PTA (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belarus	0.426	2.156
Belgium	0.270	0.000
Germany	53.430	124.776
Lithuania	0.953	15.544
Switzerland	2.964	2.377
Turkey	2.002	1.496
Others	4.471	0.000
Total	64.516	146.348
Av Price € per ton	887.286	872.9

Polish PTA sales and production Jan-Apr 2023
PTA production at Wloclawek at 66% of capacity in the first quarter due to weaker demand and extended maintenance. In the first quarter this year PKN Orlen produced 107,000 tons of PTA against 171,000 tons in the same period in 2022. As a consequence of lower production and sales, revenues from PTA dropped from €149.9 million in the first quarter in 2022 to €83.4 million in the first quarter this year. Export revenues more than halved from €103.5 million to €46.9 million.

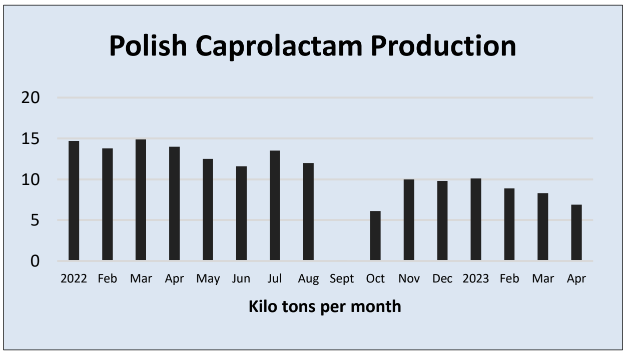
The drop in PTA prices in the quarter view resulted from supply and demand factors. Despite production cuts, the availability of PTA on the European market remained adequate, fully covering limited demand, and a cheaper product imported from Asia was also available.

PTA exports from Poland amounted to 64,516 tons in the first four months in 2023 against 146,348 tons in the same period in 2022.

Average prices for Polish PTA exports amounted to €872.9 per ton in 2022 against €887.3 in the same four-month period in 2023. Exports to Germany fell from 124,776 tons in January to April 2022 to 53,430 tons in the same period in 2023.

Spolana Caprolactam Exports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belgium	0.840	2.539
Germany	0.198	3.203
Italy	4.187	5.715
Slovenia	1.129	2.675
Switzerland	0.983	0.933
Others	0.067	0.038
Total	7.404	15.103
Av Price € per ton	1915.8	2277.9

Central European caprolactam production and 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 four months to 7,404 tons against 15,103 tons in the same period in 2022. Average prices dropped from €2277.9 per ton to €1915.8 per ton.

Market conditions across the entire product segment were shaped by demand and supply factors. The European market has exhibited weak demand for both caprolactam and PA6, and despite lower energy costs it has been difficult for Azoty to produce at full capacity. The average European contract price of liquid caprolactam fell by 10% and 15% quarter on quarter, while the average quarterly contract price of caprolactam on the broad Asian market went down 20% and 3% quarter on quarter.

Czech Benzene Trade (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Exports	1.233	18.278
Imports	14.144	27.035

Imports of cheaper PA6 chain products, especially from Asia, further eroded demand for PA6 and caprolactam.

Czech Toluene Trade (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Exports	4.099	3.845
Imports	2.307	2.655

Czech aromatic trade Jan-Apr 2023

Czech exports of ethylbenzene amounted to 42,572 tons in the first four months versus 38,854 tons in the same period in 2022, whilst styrene jumped from zero to 5,050 tons. Benzene exports were not undertaken in the first four months in 2023 against 18,278 tons in January to April 2022, whilst imports of benzene dropped to 14,144 tons from 27,035 tons.

Czech Styrene Trade (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Exports	5.050	0.000
Imports	10.019	7.758

Unipetrol operates a benzene plant at Litvinov with a capacity of 250,000 tpa, whilst benzene is also produced in the Czech Republic by Deza at Valasske Mezirici. Deza also owns Petrochemia at Blachownia at Kedzierzyn Kozle and possesses a combined capacity of 160,000 tpa for benzene and 25,000 tpa for toluene. Exports of toluene from the Czech Republic amounted to 3,759 tons in the first four months this year.

Polish Organic Chemical Trade		
Exports	***Jan-Apr 23***	***Jan-Apr 22***
Vol (kilo tons)	415.4	597.9
Value (€ million)	540.8	819.5
Imports	***Jan-Apr 23***	***Jan-Apr 22***
Vol (kilo tons)	890.0	1078.0
Value (€ million)	1423.7	1777.0

Central European Organic Chemicals

Polish organic chemical trade Jan-Apr 2023

Values and volumes for Polish trade in organic chemicals fell for both exports and imports in the first four months, as recessionary trends took effect.

Polish solvent exports, Jan-Apr 2023

Acetone exports in the first four months this year amounted to 5,051 tons against 7,739 tons in January to April 2022. N-butyl acetate exports fell from 6,088 tons in January to April 2022 to 4,084 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.

Monochloroacetic acid exports from Poland have been resumed this year after investment and totalled 10,220 tons in the first four months this year. The plant is part of the PCC Group, located at Brzeg Dolny with a capacity of 42,000 tpa.

Import revenues dropped from €1.777 billion in the first four months in 2022 to €1.423 billion in the same period in 2022, whilst export revenues dropped from €819.5 million to €540.8 million. Volumes for exports dropped from 597,900 tons to 415,400 tons whilst imports fell from 1078,000 tons to 890,000 tons.

Ethylene glycol was one of the few products showing an increase in imports, rising in the first four months from 17,881 tons in the first four months last year to 32,624 tons in the same period in 2023.

Belgium was the main supplier, providing 28,846 tons for €18.416 million. Poland exported 6,138 tons of ethylene glycol in the first four months this year. Diethylene glycol imports amounted to 10,169 tons in the first four months versus 10,227 tons.

Polish Organic Chemical Imports (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Acetic Acid	12.803	15.938
Acetone	1.954	2.453
Adipic Acid	4.218	4.004
Butadiene	26.385	31.352
DEG	10.169	10.227
DINP/DOP	6.278	9.403
Ethyl Acetate	5.239	5.295
Ethylene Glycol	32.624	17.881
Ethylene Oxide	6.445	6.070
Isopropanol	3.210	3.657
Maleic Anhydride	4.222	4.513
Methanol	221.902	313.069
Propylene	40.363	64.361
Propylene Glycol	6.564	7.476
VAM	5.630	6.988

Methanol imports into Poland dropped from 133,557 tons in the first four months in 2022 to 87,071 tons in the same period in 2023, with volumes from Russia constrained by sanctions. No further methanol imports from Russia are now legally possible into Poland, with the full sanctions taking effect from 18 June. The impact is probably one of higher costs on consumers, but markets are being controlled by the war in Ukraine.

Polish solvent imports, Jan-Apr 2023

Acetic acid imports into Poland dropped from 16,205 tons to 12,927 tons in January to April 2023. The main suppliers to the Polish market this year include the UK, which delivered 2,404 tons versus 4,912 tons in January to April 2022, and the US which increased shipments from 4,911 tons to 6,777 tons. Average prices for acetic acid dropped from €1176 per ton.

Ethyl acetate imports into Poland fell slightly from 5,295 tons in January to April 2022 to 5,239 tons in the same period in 2023. Supplies were diversified between Belgium, Germany, UK and the Netherlands. Vinyl acetate imports into Poland decreased from 6,988 tons in January to April 2022 to 5,630 tons the same period in 2023.

Hungarian Maleic Anhydride Exports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Austria	0.984	0.839
Germany	0.648	0.330
Italy	0.962	0.996
Poland	0.826	1.743
Others	1.828	2.962
Total	5.248	6.869
Av Price € per ton	1308.8	1927.3

Hungarian organic chemical trade Q1 2023

Maleic anhydride exports from Hungary amounted to 5,248 tons in the first quarter in 2023 against 6,839 tons in the same period in 2022. Most of the exports were delivered in liquid form to customers up to 500 km from the Szazhalombatta plant

Acrylonitrile imports into Hungary amounted to 7,565 tons in January to March this year versus 10,251 tons in the same period last year. Average prices dropped from €2196.1 per ton against €2092.8 per ton in the first quarter in 2023. The largest supplier of acrylonitrile to Hungary in 2022 was the Netherlands, accounting for 22,953 tons for €55.452 million. The Netherlands reduced shipments in the first quarter to 3,871 tons from 6,504 tons.

Hungarian acrylonitrile imports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Netherlands	3.871	6.504
Germany	1.500	0.166
Others	2.194	3.582
Total	7.565	10.251
Av price € per ton	2092.8	2196.1

Aniline imports into Hungary amounted to 43,128 tons in January to March this year against 31,146 tons in the same period in 2022. Imports of aniline from China amounted to 10,061 tons whilst other sources included Belgium which shipped 15,052 tons to BorsodChem against 683 tons last year.

Hungarian aniline imports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Belgium	15.052	0.683
China	10.061	0.019
Czech Republic	18.016	29.177
Total	43.128	31.146

Imports from the BorsodChem Ostrava plant continue to be imported for MDI production in Hungary but dropped in the first quarter to 18,016 tons versus 29,177 tons.

Company news

Orlen Poludnie-propylene glycol

Orlen Południe has recently concluded the first year of operation of its BioPG plant, converting glycerol, into renewable propylene glycol (BioPG). BioPG obtained from glycerin is bio-based and a highly demanded product used to produce polyester resins, polyurethanes, paints and de-icing solutions, solvents for the food industry. It can also be used as an ingredient in deodorant sticks and toothpaste. Compared to fossil-based propylene glycol, BioPG reduces the CO2 footprint by at least 60% whilst offering the same product quality.

Orlen Południe utilised BASF's commercially proven process technology and proprietary H9-66 catalyst. The BioPG plant supports Orlen Group's objective of achieving CO2 neutrality by 2050. With an annual capacity of 30,000 metric tons, Orlen Południe is the first Polish producer of propylene glycol aiming to meet 75% of the demand for the country's propylene glycol.

PCC Exol's sales (unit-kilo tons)		
Product Group	***Jan-Mar 23***	***Jan-Mar 22***
Surfactants for detergents and cosmetics	17.5	18.9
Surfactants for use in industry	9.0	8.7
PCC Exol's sales (€ million)		
Product Group	***Jan-Mar 23***	***Jan-Mar 22***
Surfactants for detergents and cosmetics	27.1	29.4
Surfactants for use in industry	22.1	22.8
PCC Exol's Prices (€ per ton)		
Product Group	***Jan-Mar 23***	***Jan-Mar 22***
Surfactants for detergents and cosmetics	1548.0	1554.4
Surfactants for use in industry	2457.0	2619.0

PCC Exol Q1 2023

PCC Exol recorded lower sales in the first quarter in 2023 due to weak demand combined with oversupply of surfactants on the market. The EBITDA profit of zl 32.9 million was down by 38.2% compared to zl 53.1 million in the first quarter of 2022, although the EBITDA was higher by 8.2% compared to zl 30.4 million in the fourth quarter of 2022. In turn, the net profit amounted to zl 20.3 million and was lower by 48.1% than the first quarter of 2022. Sales volumes were down by 17,500 tons compared to the first quarter of last year, although were higher than in the fourth quarter.

PCC Exol produces in two locations, Brzeg Dolny and Płock. The current production potential capacity is estimated at 139-144,000 tpa including approximately 104,000 tpa at Brzeg Dolny and approximately 35,000-40,000 tpa at Płock, depending on the product range.

Grupa Azoty ZAK oxo markets

Overall Grupa Azoty's chemical division reduced sales to €320.3 million in the first quarter against €543.4 million in the same period in 2022. The EBITDA dropped from a profit of €83.5 million last year to a loss of €13.624 million this year.

Grupa Azoty Chemical Division Performance	
Q1 2023	***(€ million)***
Total sales revenue	320.316
Operating costs	-355.855
EBITDA	-13.624
Q1 2022	**(€ million)**
Total sales revenue	543.364
Operating costs	-464.861
EBITDA	83.469

At Kedzierzyn-Kozle, Grupa Azoty ZAK reduced sales revenues to zl 663 million (€147.7 million) in the first quarter. Lower sales combined with higher costs resulted in a net loss of zl 169 million (€37.6 million) in the first quarter this year and an EBITDA margin of minus 20.1%. The Oxoplast segment was the main factor that affected Grupa Azoty ZAK in the first quarter due to the difficulties from the import of cheaper products plasticizers and oxo alcohols into Europe. The EBITDA margin of the Oxoplast segment in the first quarter of 2023 amounted to minus 14.4%.

The European market was dominated by much cheaper products of Korean and Turkish origin, using cheaper raw materials from Asia and shipped to Europe under conditions of steeply falling logistics rates.

Central European Isocyanates & polyols

Czech MDI Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
China	1.006	0.697
Belgium	3.186	4.352
Germany	1.609	4.070
Hungary	4.283	2.055
Netherlands	1.667	1.159
Others	0.265	0.425
Total	12.016	12.758
Av price € per ton	2678.2	2476.0

Polish MDI Imports (€ million)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Germany	28.172	40.456
Netherlands	14.508	17.223
Hungary	28.424	38.416
Belgium	15.787	26.936
South Korea	5.071	1.008
Others	13.734	9.734
Total	105.697	133.772
Ktons	46.719	55.162
Av price € per ton	2262.4	2425.092

Hungarian MDI Exports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Czech Republic	1.673	2.266
Germany	5.234	5.568
Italy	2.831	1.469
France	2.936	2.212
UK	1.390	2.194
Poland	9.496	11.617
Romania	4.831	6.757
Turkey	1.867	4.480
US	0.000	15.069
Others	9.940	10.699
Total	40.199	62.330
Av price € per ton	2264.3	2479.9

Polish TDI Imports (€ million)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belgium	1.760	1.130
Germany	16.940	20.576
Hungary	35.542	39.326
Netherlands	3.302	5.200
Saudi Arabia	2.436	1.889
South Korea	5.330	0.000
Others	6.015	6.055
Total	71.325	74.175
Ktons	22.447	26.904
Av price € per ton	3177.5	2757.0

Central European MDI trade Jan-Apr 2023

MDI imports into the Czech Republic totalled 12,016 tons in the first four months in 2023 against 12,758 tons in the same period in 2022. Hungary provided the largest share of imports at 4,283 tons followed by Belgium with 3,186 tons. Average MDI prices rose from €2476.0 per ton to €2678.2 per ton.

MDI imports into Poland dropped from 55,162 tons in the first four months in 2022 to 46,719 tons in the same period this year. Hungary and Germany remain the two largest import sources, with overall average prices comprising €2262.4 per ton in January to April 2023 against €2425.1 per ton last year. The main difference between 2023 and 2022 is that this year prices look to be heading lower.

Hungarian MDI exports dropped in January to March 2023 to 40,199 tons versus 62,330 tons in the same period in 2022. Poland represented the largest destination with deliveries amounting to 9,496 tons, down from 11,617 tons, followed by Germany reducing purchases from 5,568 tons to 5,234 tons. The most notable destination fall came from the US where shipments declined from 15,069 tons in January to March last year to zero this year. MDI export prices dropped from €2479.9 per ton in the first quarter in 2022 to €2264.3 this year.

Central European TDI trade Jan-Apr 2023

TDI exports from Hungary amounted to 62,717 tons in the first quarter in 2023 versus 80,972 tons in the first quarter last year, with average prices rising this year to €3110.9 per ton from €2593.1 per ton in January to March 2022.

TDI exports to Turkey amounted to 9,648 tons in the first three months in 2023 against 10,911 tons last year whilst Italy reduced inward shipments from Hungary from 10,992 tons to 8,217 tons. Polish imports dropped from 9,869 tons to 8,005 tons. Belgium took 9,484 tons in January to March this year down from 12,814 tons, whilst Romania reduced purchases slightly from 3,873 tons 3,352 tons.

Hungary remains the largest supplier of TDI to the Polish market, although volumes fell in value from €39.326 million in the first four months in 2022 to €35.542 million in the same period this year.

Overall Polish TDI import costs declined from €74.425 million in the first four months in 2022 to €71.325 million. Despite the fall in volumes from 26,904 tons to 22,447 tons average prices for TDI increased from €2757.0 per ton to €3177.5 per ton this year. European demand for TDI is faced by recessionary trends and slowly declining feedstock costs. In effect only global capacity constraints can help to sustain prices.

Hungarian TDI Exports (unit-ktons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Austria	0.858	0.857
Belgium	9.484	12.814
Germany	2.492	3.945
Italy	8.217	10.992
Poland	8.005	9.869
Portugal	3.898	3.881
Romania	3.352	3.873
Spain	3.061	3.245
Turkey	9.648	10.911
Others	13.702	20.585
Total	62.717	80.972
Av price € per ton	3110.9	2593.1

The production capacity of Polish polyurethane producers is estimated at 210-220,000 tpa. The largest competitors in the Polish market include the CIECH Group, Eurofoam, MZCh Organika and Vita Polymers and CIS. Another company is Purinova at Bydgoszcz which is both a manufacturer of polyurethane systems and polyester polyols. The company produces an average of about 25,000 tpa of polyurethane systems and 65,000 tpa of polyester polyols.

Hungarian polyol imports Jan-Mar 2023

Hungarian polyol imports amounted to 13,255 tons in the first quarter this year against 7,709 tons in the same period in 2022.

Belgium was the largest supplier in the first quarter this year, shipping 8,612 tons. Major suppliers of polyols to Hungary in 2022 included China with 11,091 tons and the Netherlands with 10,746 tons.

Hungarian Polyol Imports (unit-kilo tons)		
Country	***Q1 23***	***Q1 22***
Austria	0.077	0.063
Belgium	8.612	0.778
China	1.450	1.589
Germany	0.879	0.898
Italy	0.101	0.045
Netherlands	0.735	2.025
Poland	0.737	1.102
Romania	0.343	1.071
Others	0.320	0.138
Total	13.255	7.709

MOL is currently constructing its new plant at Tiszaujvaros which should have probably been on stream now. In June MOL fed propylene oxide into the pilot polyol plant and large-scale test production at the base is expected to start in the second half of 2023. MOL is waiting for European markets to revive before starting production.

Czech polyol imports Jan-Apr 2023

Czech polyol imports amounted to 16,446 tons in the first four months in 2023 against 14,175 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 four 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.

Czech Polyol Imports		
	Jan-Apr 23	***Jan-Apr 22***
Volume ktons	16.446	14.175
Value € million	44.463	38.386
Av price € per ton	2703.6	2708.0

Polish Polyol Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belgium	5.901	11.205
China	3.590	0.360
France	1.847	0.000
Germany	10.017	11.175
Netherlands	8.655	4.193
Romania	4.943	12.584
Saudi Arabia	1.422	9.645
South Korea	5.788	0.000
Others	3.545	6.545
Total	45.708	55.707
Av price € per ton	2211.5	2625.9

Polish polyol imports Jan-Apr 2023

Polish polyol imports amounted to 45,708 tons in the first four months in 2023 against 55,707 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 four months to €101.085 million from €146.280 million in January to April 2022 with average prices dropping from €2625.9 per ton to €2211.5 per ton. The largest source of imports came from Germany in the first four months, amounting to 10,017 tons against 11,175 tons in the same period in 2022.

Polish exports of polyols from PCC Rokita amounted to 19,378 tons in the first four months this year against 19,519 tons in the same period in 2022, but prices dropped from €2905.5 per ton to €2285.5.

Revenues from polyol exports dropped from €56.712 million in January to April 2022 to €46.525 million. The largest destinations for Polish polyol export include Hungary, Italy and Denmark.

Central European Methanol

Polish Methanol Exports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Austria	23.300	26.566
Czech	22.092	26.611
Germany	30.190	36.424
Romania	11.621	5.192
Slovakia	16.123	14.359
Ukraine	8.200	1.083
Hungary	8.809	11.830
Others	0.120	2.961
Total	120.455	125.026
Av price € per ton	387.1	426.1

Polish Methanol Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Azerbaijan	4.981	0.000
Belgium	16.737	0.044
Finland	0.000	17.184
Lithuania	0.000	0.579
Germany	15.004	38.026
Netherlands	2.319	0.000
Norway	23.149	16.787
Russia	146.917	229.966
Venezuela	12.706	0.000
Others	0.097	0.287
Total	221.910	302.873
Av price € per ton	298.1	368.7

Czech methanol Imports (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Germany	2.355	2.353
Norway	0.817	0.384
Russia	4.062	12.697
Poland	17.212	10.924
Others	1.440	0.445
Total	25.886	26.804
Av price € per ton	390.224	432.169

Hungarian methanol imports (unit-kilo tons)		
Country	***Jan-Mar 23***	***Jan-Mar 22***
Austria	0.490	0.553
Germany	7.067	1.237
Netherlands	7.411	2.090
Poland	2.818	1.210
Russia	0.000	10.763
Slovakia	3.005	6.468
Others	1.334	3.464
Total	22.226	25.784
€ per ton	467.608	441.828

Central European methanol trade Jan-Apr 2023

Exports of methanol from Poland totalled 120,455 tons in the first four months in 2023 against 125,026 tons in January to April 2022. Exports to Germany fell from 36,424 tons to 30,190 tons. Ukraine has also started to purchase methanol from Poland taking 8,200 tons in the first four months in 2023.

Other destinations include the Czech Republic where Polish exports dropped from 26,611 tons to 22,092 tons whilst deliveries to Austria dropped from 26,566 tons to 23,300 tons.

Imports of methanol into Poland totalled 221,910 tons in January to April 2023 versus 302,873 tons in the same period in 2022. The average price for Polish imports comprised €298.1 per ton in the first four months against the average price of €368.9 per ton in January to April 2022.

Russia reduced exports to Poland in January to April 2023 to 146,917 tons from 229,966 tons. The EU embargo on Russian methanol took full effect from 18 June. Norway shipped 23,149 tons in the first four months to Poland whilst Germany reduced exports to 15,004 tons from 38,026 tons. Import prices averaged €368.7 against €298.1 per ton for exports.

Czech imports of methanol amounted to 25,888 tons in the first four months in 2023 against 26,804 tons in the same period in 2022. Russia accounted for 4,062 tons in January-April 2023 against 12,697 tons in 2022, followed by Poland which increased from 10,924 tons to 17,212 tons. Average prices for methanol imports dropped from €432.169 per ton last year to €390.224 per ton.

Hungarian imports of methanol totalled 22,226 tons in January to March this year versus 25,784 tons in January to March last year. Prices averaged €467.6 per ton in the first quarter this year against €441.8 per ton in the same period in 2022. Imports from Russia were not undertaken in January to March this year against 10,763 tons in 2022.

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 6,468 tons to 3,005 tons.

Ukrainian methanol supply

The Ukraine Support Task Force, managed by the Energy Community Secretariat, announced the delivery of a donation of 2,000 tons of methanol in May. The product came from Equinor to the largest Ukrainian gas producer Ukrgasvydobuvannya (UGV), a subsidiary of Naftogaz Group.

Central European chemical production

Grupa Azoty's Financial Performance (€ million)	
Q1 2023	**Total**
Total sales revenue	1901.126
Operating costs	-2079.912
EBITDA	-88.896
Q1 2022	**Total**
Total sales revenue	2756.721
Operating costs	-2500.461
EBITDA	295.957

Orlen-Pulawy plant acquisition?

PKN Orlen is considering the possible acquisition of Grupa Azoty Puławy in order to gain a competitive advantage in the fertiliser industry in Central Europe. On 6 June Grupa Azoty announced that a confidentiality document information between GA Puławy, PKN Orlen and Grupa Azoty. in connection with the intention to commence talks regarding a potential acquisition by PKN Orlen. Grupa Azoty may be ready to sell some assets after a very difficult first quarter, although there may be some opposition to the deal going through. Combining the Pulawy plant with Anwil at Wloclawek would increase Orlen's potential in this industry, and increasing the potential means that Orlen could compete on price.

Grupa Azoty's Fertiliser Sector	
Q1 2023	***(€ million)***
Total sales revenue	884.550
Operating costs	-969.336
EBITDA	-31.060
Q1 2022	***(€ million)***
Total sales revenue	1423.865
Operating costs	-1262.123
EBITDA	180.563

Grupa Azoty first quarter losses in 2023

Grupa Azoty recorded a loss in EBITDA of €31.060 million in the first quarter against a profit of €180.563 million in the same period in 2022. Sales revenues in the fertiliser sector dropped from €1423.9 million in January to March 2022 to €884.6 million in the same period this year. Revenues overall for Grupa Azoty dropped by 42.9% in the first quarter from zl 3.895 billion against zl 6.827 billion 827 million. Grupa Azoty expects that the market situation to improve from the third quarter of this year. The group is currently in talks with PKN Orlen on a new gas supply contract, the current one is valid until the end of September. In April this year, Grupa Azoty's production of nitrogen fertilisers fell to 176,312 tons from 555,2023 tons a year earlier.

Ciech Financial Performance (€ million)		
	Jan-Mar 23	***Jan-Mar 22***
Sales revenues	383.642	275.513
Cost of sales	-325.098	-216.016
Gross profit/(loss) on sales	58.543	59.497
Operating profit/(loss)	21.546	29.128
Net profit/(loss)	12.638	23.056
Adjusted EBITDA	48.100	50.863

Ciech Jan-Mar 2023

Ciech's results were slightly weaker in the first quarter than last year but still the group was able to report an EBITDA of €48.1 million against €50.9 million in the same period in 2022. Revenues rose from €275.5 million to €383.6 million whilst production costs rose from €216.0 million to €325.1 million. The operating rate of €21.546 million versus €29.128 million was considered to be solid considering the economic problems facing Europe at present.

Ciech Product Revenues (€ million)		
	Jan-Mar 23	***Jan-Mar 22***
Soda segment, including:	302.270	181.293
Dense soda ash	128.683	88.915
Light soda ash	27.512	23.894
Salt	28.055	14.494
Sodium bicarbonate	18.704	14.300
Energy	84.512	29.844
Calcium chloride	1.070	1.182
Other products	3.303	2.640
Agro products	35.077	54.350
Polyurethane foams	17.894	21.677
Sodium silicates	28.002	18.651
Glass packaging	7.249	4.059

In terms of product revenues dense soda ash was the largest source of earnings in the first quarter, amounting to €128.683 million versus €88.915 million in the same period in 2022. Light soda ash sales amounted to €27.512 million against €23.894 million whilst sodium bicarbonate sales rose from €14.300 million to €18.704 million. In other product areas sales of pesticides dropped from €54.350 million to €35.077 million and polyurethane foam sales dropped from €21.677 million to €17.894 million.

Ciech's soda ash capacity in Poland stands at 1.450 million tpa, with another 610,000 tpa at Ciech's plant in Germany and 540,000 tpa at Ciech Soda Romania. Currently, Ciech's plant in Germany at Stassfurt is capable of producing up to 50,000 tpa of high-grade sodium bicarbonate, with an overall capacity of 110,000 tpa.

RUSSIA

Russian chemical industry-new terminals required to serve Chinese market

The geographical redirection from European markets to the East for Russian chemical exporters is recognised as requiring substantial investment in logistics, including the expansion of rail links coupled with storage facilities.

Terminals such as the Deng Xiaoping Logistics Terminal which is currently under construction and is located at around 18 km from Nizhnekamsk, represents the model for other transport hubs. The Deng Xiaoping Logistics Terminal is located on the Ethylene 600 industrial park in the Alabuga Special Economic Zone in Tatarstan. The zone is based on the Nizhnekamskneftekhim complex, and in particular the new 600,000 ktpa ethylene plant which could be operational by 2024. The Deng Xiaoping Logistics Terminal is to become the largest transport hub inside Russia with heavy focus on the Chinese market. The terminal will provide opportunities for producers of low and medium-tonnage chemicals to gain access to petrochemical raw materials. Although there are demands for other similar terminals to be constructed in Russia, options are limited without financial support from the government.

Russian Petrochemical Production (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Ethylene	1,454.7	1,452.8
Propylene	989.0	999.0
Benzene	445.0	462.0
Butanols	99.4	96.7
Methanol	1,288.6	1,669.0
Acetone	50.0	59.4

Russian petrochemical production Jan-Apr 2023

Russian ethylene production increased in the first four months this year to 1.455 million tons from 1.453 million tons in January to April 2022. Propylene production dropped from 999,000 tons to 989,000 tons. Methanol production dropped sharply from 1.669 million tons in the first four months last year to 1.289 million tons, whilst butanol production rose from 96,700 tons to 99,400 tons.

Russian Polymer Production (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Plastics in Bulk	3,562.0	3,557.0
Polyethylene	1,244.0	1,132.0
Polystyrene	193.1	198.0
PVC	316.7	359.2
Polyamide	45.7	67.0
Synthetic Rubber	478.0	568.0
Synthetic Fibres	61.9	67.0

Russian polymer production Jan-Apr 2023

The production of bulk plastics in Russia in the first four months this year amounted to 3.562 million tons versus 3.557 million tons in the same period in 2022. Polyethylene production increased from 1.132 million tons to 1.244 million tons whilst PVC fell from 359,200 tons to 316,700 tons.

Synthetic rubber production fell from 568,000 tons in January to April 2022 to 478,000 tons in the same four months this year. Production has been affected by tyre production in the domestic market coupled with the loss of rubber trade business in Europe.

Russian base chemical production Jan-Apr 2023

Russian production of potash fertilisers fell to 2.646 million tons in the first four months in 2023 versus 2.863 million tons in the same period in 2022, whilst rises were recorded for both phosphate and nitrogen fertilisers. After a very profitable 2022 major Russian fertiliser producers reported drops in net profit in the first quarter. Fosagro's net profit in the first quarter decreased by 35%, to 28 billion roubles, whilst the EBITDA decreased by 36.8% to 55.4 billion roubles. Akron's net profit decreased by 2.8 times to 13.818 billion roubles, compared to 39.257 billion roubles in the previous year. Revenue for Akron decreased by 42.6% to 37.942 billion roubles, against 66.075 billion roubles in January to March 2022.

Russian Base Chemical Production (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Caustic Soda	405.0	435.0
Soda Ash	905.0	1,226.0
Ammonia	5,800.0	6,200.0
Nitrogen Fertilisers	4,267.0	4,035.0
Phosphate Fertilisers	1,482.0	1,461.0
Potash Fertilisers	2,646.0	2,863.0

Russian ammonia production fell from 6.2 million tons to 5.8 million tons in the first four months. The main reason for the fall in ammonia production has been the lack of access to the Togliatti-Odessa pipeline which is the traditional export route for the Togliatti plant. Even though the pipeline was not being used currently an explosion occurred in June which could affect the grain deal being negotiated through the UN. Technically, the ammonia pipeline is ready to pump 100,000 tons per month, it will take 30 days to launch it depending if it can be repaired.

Both caustic soda and soda ash production dropped in the first four months, due partly to lower production from the Crimean Soda plant which Russia currently includes in its statistics. If Crimea is taken back by Ukraine, then clearly any production from this plant will no longer be included in Russian data.

Russian petrochemical project update

Amur Gas Chemical Complex & other projects

New deliveries of equipment have been scheduled for the Amur Gas Chemical Complex over the summer months this year, with the river navigation system starting in May and running through to October. The first consignment delivered to the Svobodny terminal on the Zeya River near the site of the complex started its journey from the Pacific port of De Kastri in early June. This included 160 units of bulky and heavy cargo, arriving on barges at the temporary berth on the Zeya River in mid-June. This included equipment for pyrolysis furnaces and ethylene extraction compressors, separators, condensers and other technological units. The design capacity of the pyrolysis unit of the Amur Gas Chemical Complex is 2.7 million tpa.

For other petrochemical projects in Russia, progress is mostly slower or stopped completely. As a direct result of sanctions, some companies did not receive equipment that they had previously ordered. Aside the major projects this has prevented many small-scale investments from being completed. Over the past decade the St Petersburg Economic Forum has been held great importance in terms of major deals being signed; this year very few deals were concluded.

The government maintains nominal support for projects to continue despite its limitations in how it can help and despite the priority of the war in Ukraine.

Western companies leaving the Russian market

After suspending activities at its Lipetsk plant in March 2022 Lanxess found a buyer in May. At Lipetsk Lanxess produced polymer-bound additives of the Rhenogran trademark for rubbers, which are used in the automotive and tyre industries.

Since the start of 2023 the exodus of Western companies has continued the trend set in 2022, all of which has provided good asset buying opportunities for Russian investors. Most Western companies have sold their assets at a lower price than the perceived value, whilst there are only a few cases where the agreed price has been higher. Henkel sold its household chemical division for around €600 million to a consortium of Augment Investments, Kismet Capital Group and Elbrus Services.

Other transactions have involved the sale by Solvay of its stake in the PVC producer RusVinyl to the other joint venture partner SIBUR and Nokian which has sold its tyre plant near St Petersburg to Tatneft. Maire-Tecnimont finally had to confirm its exit from the Russian market in April this year having suspended projects in mid-2022. The company estimated that it had an order book worth €1.1 million for projects insider Russia in 2022, and the loss of business has been quite damaging.

Tax incentives and adjustments may help some projects. In particular, Rosneft has asked the Russian government to extend for two years to 2028 the reverse excise tax on the processing of ethane and liquefied petroleum gases (LPG). A large number of petrochemical projects are under construction which started under the conditions of favourable excise duty conditions but due to sanctions and difficulties in securing technologies and advanced equipment are likely not to be completed after 2028. Other companies that are interested in extending this date include the Amur Gas Chemical Complex, Irkutsk Polymer Plant and Ruskhimalliance.

In the methanol sector the long list of proposed projects from several years ago has now been reduced to two or perhaps three. Evrokhim and Ammoni have already cancelled their respective methanol projects at Kingisepp in the Baltic region and Mendeleevsk in Tatarstan, whilst other projects remain in limbo. The only projects where there is some degree of progress involves the investments at Volgograd (AEON) and the Yamal region (RusKhim). AEON signed an agreement in June with Chinese company CNCEC to design and construct the methanol plant at Volgograd replacing Japanese contractors.

Russian petrochemical markets

Russian Ethylene Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Angarsk Polymer Plant	69.2	78.3
Kazanorgsintez	234.7	222.5
Stavrolen	110.2	111.1
Nizhnekamskneftekhim	219.8	212.9
Novokuibyshevsk Petrochemical	9.7	16.3
Gazprom n Salavat	112.0	109.5
SIBUR-Kstovo	147.5	137.1
SIBUR-Khimprom	20.9	19.3
Tomskneftekhim	101.7	98.4
Ufaorgsintez	36.0	41.2
ZapSibNeftekhim	393.0	406.2
Total	1454.7	1452.8

Russian ethylene production, Jan-Apr 2023

Russian ethylene production totalled 1.455 million tons in the first four months in 2023 against 1.453 million tons in the same period in 2022. ZapSibNeftekhim at Tobolsk produced 393,000 tons in January to April against 406,200 tons in the same period in 2022.

Other plants compensated for the lower production at Tobolsk. In Tatarstan Nizhnekamskneftekhim produced 219,800 tons of ethylene against 212,900 tons in 2022, whilst Kazanorgsintez increased from 222,500 tons to 234,700 tons. The advantages of joining the SIBUR group in 2021 have included the widening of raw material sources for both Nizhnekamskneftekhim and Kazanorgsintez. For example, increases of ethylene to Kazanorgsintez have been enabled to from the Volga ethylene pipeline, whilst also increasing ethane supply from the Orenburg-Kazan ethane pipeline. It has also been possible to increase the supply of naphtha from TAIF-NK to Nizhnekamskneftekhim.

Russian Butadiene Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
ZapSibNeftekhim	75.017	102.473
Nizhnekamskneftekhim	52.590	78.640
Togliattikaucuk	15.715	17.405
Sterlitamak Petrochemical Plant	9.185	11.279
Omsk Kaucuk	15.310	12.060
Total	167.817	221.857

Other important ethylene producers included SIBUR-Kstovo which produced 147,500 tons versus 137,100 tons. In Bashkortostan Gazprom neftekhim Salavat increased production from 109,500 tons to 112,000 tons, whilst Ufaorgsintez reduced production from 41,200 tons to 36,000 tons. Stavrolen at Budyennovsk reduced ethylene production to 110,200 tons against 111,100 tons in the first four months in 2022.

Russian Propylene Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Angarsk Polymer Plant	36.0	43.7
Kazanorgsintez	18.6	18.5
Lukoil-NNOS	86.5	109.8
Stavrolen	44.4	61.9
Nizhnekamskneftekhim	109.9	107.6
Novokuibyshevsk	11.8	11.6
Omsk Kaucuk	20.4	18.4
Polyom	52.1	66.4
Gazprom Neftekhim Salavat	50.2	48.8
SIBUR Kstovo	46.5	61.9
SIBUR-Khimprom	32.9	28.8
Tomskneftekhim	54.7	52.2
SIBUR Tobolsk	0.0	0.0
Ufaorgsintez	52.1	56.7
ZapSibNeftekhim	373.7	312.8
Total	989.9	999.0

In Siberia the Angarsk Polymer Plant produced 69,200 tons of ethylene in the first four months in 2023 versus 78,300 tons in the same period in 2021, whilst Tomskneftekhim increased production from 98,400 tons to 101,700 tons. Last year Tomskneftekhim switched to an increased overhaul interval from a two-year to a four-year cycle.

Russian butadiene production Jan-Apr 2023

Russian butadiene production amounted to 167,817 tons in the first four months in 2023 against 221,857 tons in the same period in 2022. ZapSibNeftekhim reduced production from 102,473 tons in January to April 2022 to 75,017 tons this year, whilst Nizhnekamskneftekhim reduced production from 78,640 tons to 52,590 tons. Butadiene production in Russia has fallen over the past year in line with lower production of synthetic rubber.

Russian propylene production Jan-Apr 2023

Russian propylene production amounted to 989,000 tons in the first four months in 2023 against 999,000 tons in the same period in 2022. ZapSibNeftekhim increased production from 373,700 tons in the first four months in 2022 to 318,800 tons in the same period in 2023.

Nizhnekamskneftekhim produced 109,900 tons of propylene in January-April 2023 against 107,600 tons, whilst Kazanorgsintez increased production from 18,500 tons to 18,600 tons.

In Bashkortostan Gazprom neftekhim Salavat produced 52,200 tons of propylene versus 48,800 tons whilst Ufaorgsintez reduced production from 56,700 tons to 52,100 tons. In the Nizhny Novgorod region SIBUR-Kstovo reduced production of propylene from 61,900 tons to 46,500 tons. Lukoil-NNOS at Kstovo reduced production from 109,800 tons to 86,500 tons.

Russian Propylene Exports (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Lukoil-NNOS	2.973	34.672
SIBUR-Kstovo	0.000	10.552
Stavrolen	0.000	5.100
Angarsk Polymer Plant	9.819	6.612
Total	12.792	56.936

SIBUR plans to build an additional plant for propylene production at Tobolsk in the Tyumen Region at the ZapSibNeftekhim site. The project involves the construction of a propane dehydrogenation unit and the production of polypropylene, making use of the existing energy and raw material infrastructure of the Tobolsk site. ZapSibNeftekhim is the largest petrochemical complex in Russia, with a total capacity of 2.5 million tpa of base polymers (1.5 million tpa of polyethylene and 1 million tpa of polypropylene). The company is located 10 km east of Tobolsk. A government incentive for building petrochemical plants means that SIBUR will receive a reverse excise tax on raw materials from the propane dehydrogenation unit at Tobolsk

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	***Jan-Apr 23***	***Jan-Apr 22***
Angarsk Polymer Plant	9.221	11.105
SIBUR-Kstovo	47.541	57.001
Lukoil-NNOS	74.879	61.827
Stavrolen	3.302	10.312
Others	8.795	12.309
Total	143.738	152.554

Russian propylene sales Jan-Apr 2023
Propylene exports from Russia amounted to only 12,792 tons in the first four months in 2023 against 56,936 tons in the same period in 2022. Lukoil-NNOS reduced export shipments from 34,672 tons to 2,973 tons whilst SIBUR-Kstovo did not ship propylene in the first four months after shipping 10,552 tons in the period January-April last year.

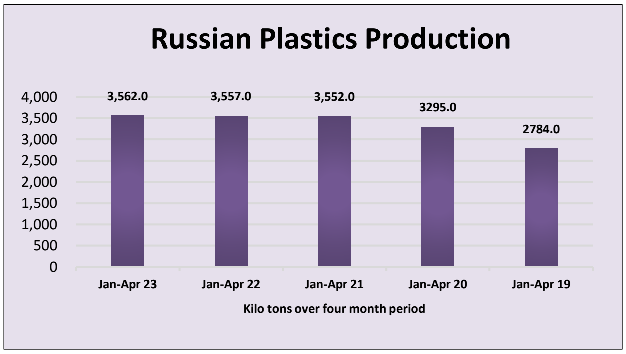
Russian Propylene Domestic Purchases (unit-kilo tons)		
Consumer	***Jan-Apr 23***	***Jan-Apr 22***
Saratovorgsintez	66.090	61.770
Volzhskiy Orgsintez	3.723	3.841
Akrilat	9.729	12.663
SIBUR-Khimprom	13.250	10.293
Omsk-Kaucuk	17.603	4.307
Tomskneftekhim	0.000	1.706
ZapSibNeftekhim	18.673	48.164
Moscow refinery	3.479	1.218
Ufaorgsintez	5.979	7.453
Khimprom Kemerovo	1.484	2.681
Plant of Synthetic Alcohol	0.252	1.13
Others	3.476	16.726
Total	143.738	156.971

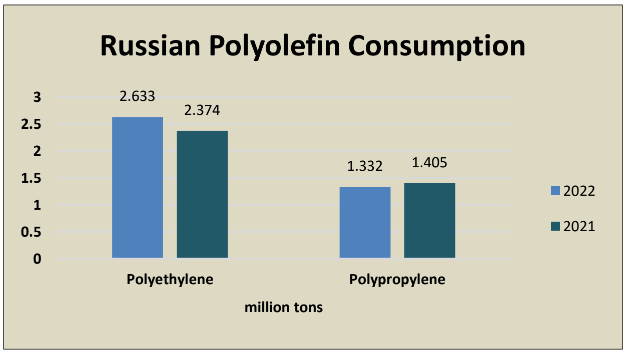
Exports of propylene to Europe started to drop in the second half of 2022, and by the end of the year China was the only destination for Russian shipments. Angarsk Polymer Plant shipped 9,819 tons in the first four months this year against 6,612 tons in the same period in 2022.

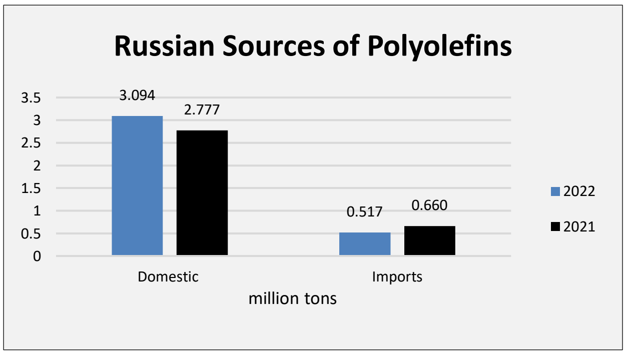
Russian sales of propylene on the domestic merchant market amounted to 143,738 tons in the first four months in 2023 against 156,971 tons in the same period in 2022. The largest propylene supplier to the domestic market was Lukoil-NNOS, shipping 74,879 tons against 61,827 tons in January to April 2022. SIBUR Kstovo reduced domestic sales in the first four months in 2023 to 47,541 tons against 57,001 tons.

Russia's largest merchant consumer Saratovorgsintez increased purchases of merchant propylene from 61,770 tons in the first four months last year to 66,090 tons, followed by SIBUR-Khimprom at Perm which increased purchases from 10,293 tons to 13,250 tons. ZapSibNeftekhim reduced purchases from 48,164 tons to 18,673 tons.

Russian bulk polymers







Russian plastics and polyethylene production Jan-Apr 2023

The production of bulk plastics in Russia in the first four months this year amounted to 3.562 million tons versus 3.557 million tons in the same period in 2022. Despite the challenges presented by sanctions the production of bulk plastics thus achieved its highest record over the four-month period this year.

Russian consumption of polyolefins 2022

Polyolefin consumption has been estimated by SIBUR to have increased by 4.1% in 2022 over 2021, amounting to a total of 3.965 million tons. The growth came mainly from the consumption of polyethylene which increased by 10.9% to 2.633 million tons, but polypropylene consumption dropped by 5.5% to 1.332 million tons.

Regarding the sources of polyolefins, polyethylene and polypropylene produced from domestic Russian plants increased by 11.4% in 2022 over 2021 to a total of 3.094 million tons. At the same time imported polyolefins used in the Russian market dropped by 27.6% to 517,000 tons. Overall, this meant that imports accounted for 13% of total Russian polyolefin consumption in 2022 against 19% in the previous year.

Official trade data has been blocked since the start of the war, but SIBUR estimates that polyethylene exports fell by 24.1% in 2022, while PP exports decreased by 16.5%.

Russian polyolefin consumption factors

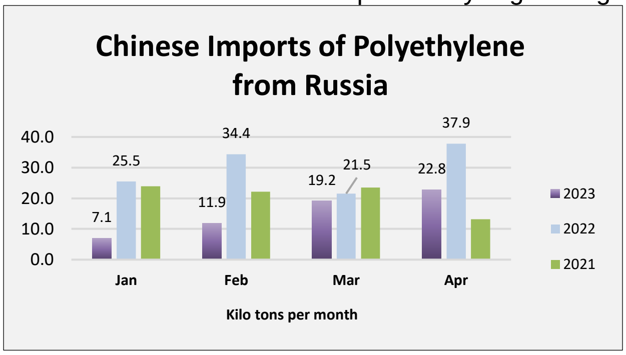
The dynamics of consumption of polyolefins in 2022 was influenced by both a decrease in real incomes of the population by 2.2% and a drop in demand in the non-food product sector by 5%. The decline in polyolefin demand from the non-food sector was largely due to the departure of large brands from the Russian market combined with the unavailability of components for production for household chemicals.

The largest decrease in the consumption of PE and PP occurred in the nonwoven sector which was by 6%, and BOPP film fell by 6%. In particular consumption of PP in compounds by 58%. This was due to a drop in the production of automotive components after shutdowns and withdrawal from the market of automakers.

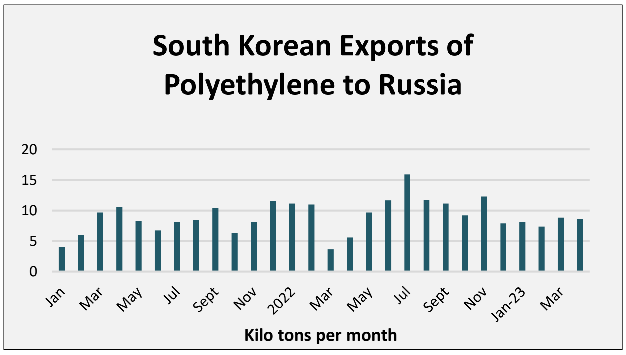
For the polyethylene segment, usage of Russian production increased by 20% in 2022 and amounted to 2.25 million tons. Imported sources dropped 23.2% to 381,000 tons, which meant that in overall consumption of polyethylene the share of foreign PE grades decreased from 21% to 15%. Domestic consumption of polyethylene was helped mainly through the increase in production of pipes, primarily aimed at gas and water transportation.

For the polypropylene segment, the consumption of Russian product rose by 0.3% over 2021 to 1.196 million tons. At the same time, 136,000 tons of foreign PP grades were processed, which corresponds to a drop of 37.6% compared to 2021. The share of foreign PP brands in the Russian market decreased from 16% to 10%. SIBUR's current portfolio of polyolefins in the polyethylene segment includes 49 grades, with a total capacity of 2.8 million tpa, and for polypropylene 47 grades with an installed capacity of 2.2 million tpa.

SIBUR is focusing quite heavily on the domestic market and on the development of industrial zones. In March this year the container terminal of the special economic zone Alabuga in Tatarstan received the first train from Tobolsk consisting of 76 wagons with SIBUR products. The shipment is carried out within the framework of the previously signed agreement between SIBUR and the SEZ Alabuga, according to which the SEZ will accept, store and ship loaded forty-foot containers. Alabuga is the largest special economic zone in Russia.

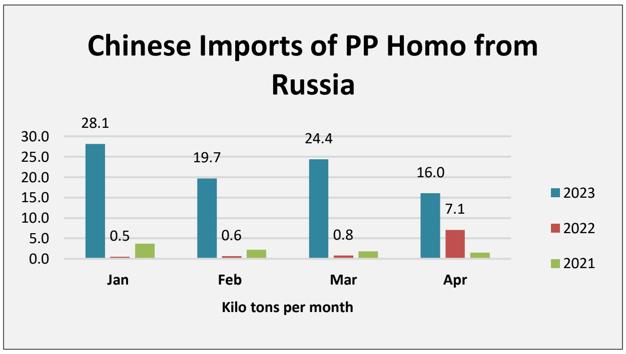


Russian polyethylene trade Jan-Apr 2023
Russian exports of polyethylene to China in the first four months this year were fell from 119,000 tons in January to April 2022 to 61,000 tons in the same period in 2023. HDPE exports from Russia to China dropped from 62,500 tons in the first four months in 2022 to 24,500 tons.



Imports of polyethylene into China are far more diversified than Russian exports and include higher grades such as ethylene-vinyl acetate copolymers. EVA imports into Russia from China amounted to 6,779 tons in the first four months this year against 8,926 tons for the whole of 2022. Import values of polyethylene imports from China amounted to $24.062 million in the period January to April 2023 versus a total of $27.761 for last year's full shipment.

Exports of polyethylene from South Korea to Russia showed signs of slowing in the first four months this year. Trade has been affected by deteriorating political relations between Seoul and Moscow. Although South Korea has not imposed the same range of sanctions as the EU, measures have been applied that affect trade in all product areas.



Russian polypropylene market
Whilst polyethylene consumption has been boosted in the past year by the manufacture of pipes, the polypropylene market in Russia has been weaker dropping by 5.5% in 2022 against 2021 and totalling 1.332 million tons.

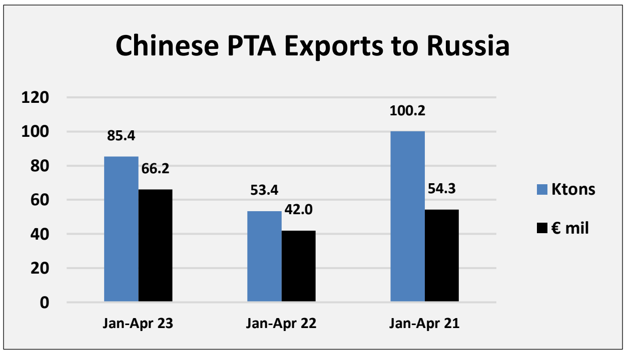
Regarding external trade for polypropylene both exports and imports to and from China have increased sharply since the second quarter last year.

Chinese Imports of PP from Russia		
	Jan-Apr 23	*Jan-Apr 22*
$ million	66.2	10.724
Ktons	88.3	9.056

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. Trade has risen further between the two countries in the first four months in 2023, with Russian shipments comprising mostly homo grade and Chinese shipments consisting of copolymer grades.

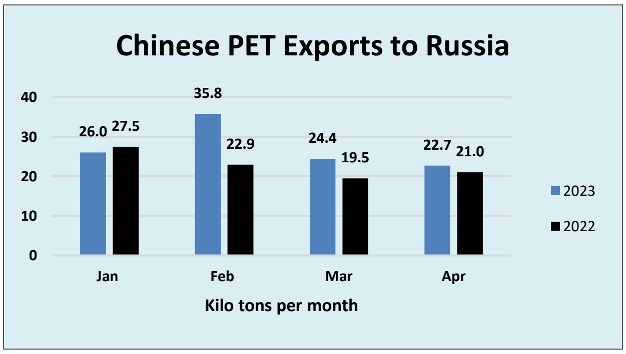
By volume Russia shipped 88,300 tons of polypropylene to China in the first four months versus only 9,056 tons in the same period in 2022, with revenues rising from $10.724 million to $66.2 million. At the same time imports of copolymers into Russia have become more difficult for Russian consumers. Imports from South Korea increased in the middle part of the year but then declined as South Korean sellers tried to avoid secondary sanctions.

Russian PTA-PET Chain



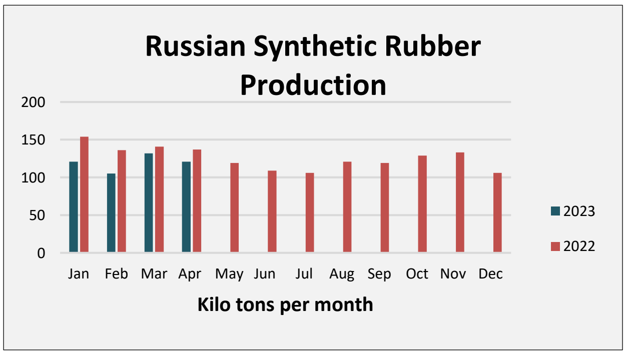
PTA deliveries from China to Kaliningrad
PTA exports from China to Russia totalled 85,412 tons in the first four months in 2023 against 53,434 tons in the same period in 2022 and 100,166 tons in 2021. PTA imports from China continue to provide the main basis for feedstock supplies for Ekopet at Kaliningrad. Russian imports from China amounted to \$66.156 million in value the first four months against €42.000 million in 2022, with average prices dropping from €786 per ton to €774 in January to April 2023.

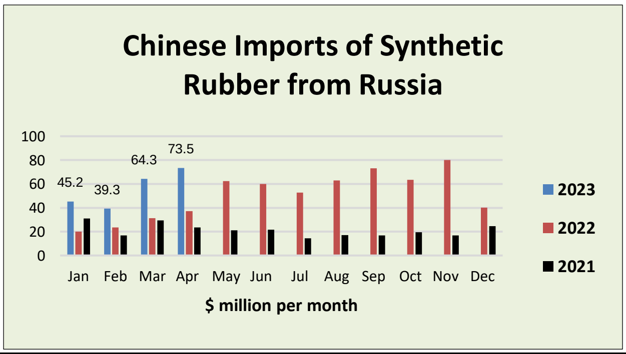
Regarding PTA production at Polief, recent technical difficulties were reported in June although the plant is operating at full capacity. Previous violations by Polief include damage to the Izyak River from pollution with chlorides, sulphates, nitrates and zinc. The discharge of wastewater, as a result of which 520 kg of fish was killed, occurred in July 2019.



Russian PET market and imports from China
PET imports into China amounted to \$100.2 million by value in the first four months in 2023 against \$98.9 million in the same period in 2022. By volume this converted into 108,900 tons versus 90,800 tons in January to April 2022.

Russian PET imports from China in 2022 amounted to a total of 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, whilst Import values rose to \$296.478 million.





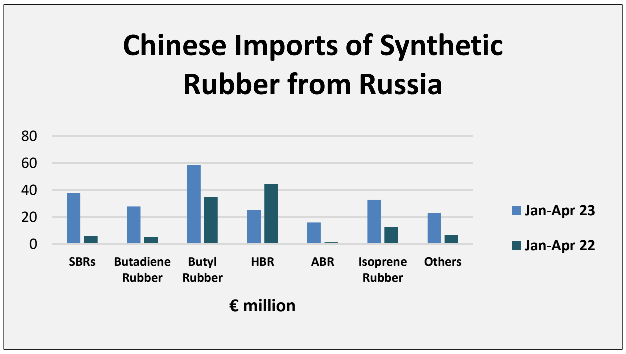
Russian synthetic rubber

Russian rubber production and consumption Jan-Apr 2023
Russian production of synthetic rubber dropped to 478,000 tons in the first four months in 2023 versus 568,000 tons in the same period in 2022 and 577,000 tons in January to April 2021.

In the first four months this year the Russian tyre plants consumed 46,100 tons less than in the same period in 2022.

The new bill for rubber producers being processed in the Duma consists of a reverse excise tax to take effect from 1 January 2024 if they conclude an agreement with the Ministry of Energy of Russia (the maximum validity period is up to 10 years).

Large producers engaged in the manufacture of these products on an industrial scale should be able to save large sums. The maximum amount of compensation is set at 9150 roubles or €105 per ton.

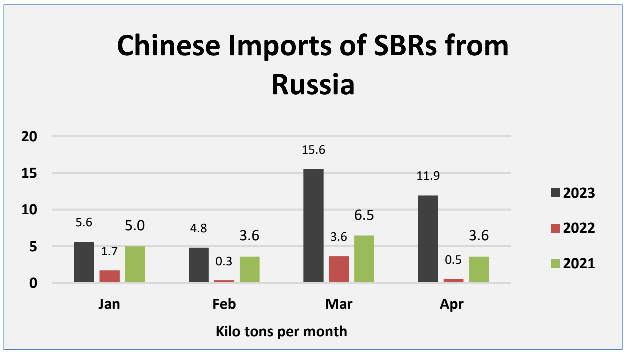


Logistical issues for redirected Russian synthetic rubber exports

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 reoriented trade away from Europe.

Russia has increased exports significantly to China this year amounting to a total value of $73 million in April against $45 million in January. Russian exports of synthetic rubber to China amounted to $222.361 million in the first four months in 2023 against $111.941 in the same period in 2022.

All of the main product categories recorded rises in the first four months, apart from halogenated butyl rubber which dropped from 17,568 tons to 11,916 tons in January to April 2023. Butyl rubber exports, by contrast, increased from 21,292 tons in January to April 2022 to 36,024 tons. In other product groups butadiene rubber exports from Russia to China increased from 2,469 tons to 21,604 tons and isoprene rubber from 7,539 tons to 20,738 tons.



One of the largest rises in volumes was for styrene thermoplastics which rose from 3,758 tons in the first four months to 33,979 tons, with product values rising from $6.182 million to $37.899 million. It should be noted that volumes in 2021 were higher than in 2022.

Russian tyre market Jan-Apr 2023

Russian tyre production continues to report lower numbers than in previous years, with most of the effect felt on the passenger car and agricultural sector. The sharp declines in the Russian automotive sector meant that rubber consumption in the production of passenger car tyres fell from 119,000 tons in the first four months in 2022 to 92,000 tons in the same period this year. Tyres for the agricultural sector also have fallen, dropping from 4,700 tons in the first four months last year to 2,500 tons. The only sector to show growth was for lorry tyres where consumption rose from 14,400 tons to 17,300 tons.

Russian Tyre Production (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Car Tyres	72.2	119.0
Lorry tyres	17.3	14.4
Agricultural tyres	2.5	4.7
Total	92.0	138.1

Regarding tyre assets in Russia, those remaining several Western companies have found buyers or are close to selling. Continental has sold its plant in Kaluga, Russia, to Russian company S8 Capital. With this step, Continental has divested the majority of its activities in Russia as part of its announced controlled withdrawal from the Russian market. Continental produced passenger tyres at the plant at Kaluga.

S8 Capital Group has also acquired the enterprises of the Russian holding Cordiant, and now aims to buy Bridgestone's plant at Ulyanovsk. After suspending its industrial activities in Russia on 15 March 2022, Michelin announced on 26 May 2023 the signature of an agreement with Power International Tires LLC for the purchase of its two local companies, Michelin Russia Tyre Manufacturing Company (MRTMC) LLC and Camso CIS LLC. Power International Tyres is one of the main tyre distributors in Russia The sale of the activities in Russia marks a major step in the Michelin's history, the Group having been present in this country since 1997.

Russian methanol market

Russian Methanol Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Shchekinoazot	422.882	515.726
Gazprom Methanol	259.190	277.470
Metafrax Chemicals	385.611	433.825
Akron	27.615	37.015
Azot Novomoskovsk	9.320	75.770
Angarsk Petrochemical	12.536	12.917
Azot Nevinnomyssk	28.506	39.357
Tomet	119.518	241.793
Ammoni	23.412	35.081
Totals	1288.590	1668.954

Russian methanol production Jan-Apr 2023

Russia produced 1.289 million tons of methanol in the first four months in 2023 against 1.669 million tons in the same period in 2022. All producers recorded a decline in production, with Azot at Novomoskovsk having not produced since January. The largest producer remained Shchekinoazot which produced 422,882 tons in the first four months against 515,726 tons last year.

Metafrax Chemicals at Gubakha produced 385,611 tons in the first four months in 2023 against 433,825 tons in January-April 2022, whilst Gazprom Methanol at Tomsk reduced production from 277,470 tons to 259,190 tons.

Russian Methanol Exports by Producer (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Azot Nevinnomyssk	0.0	1.0
Azot Novomoskovsk	28.2	20.6
Akron	0.0	4.9
Metafrax Chemicals	163.6	169.5
Gazprom Methanol	134.7	106.3
Tomet	21.4	119.0
Shchekinoazot	246.6	385.6
Ammoni	0.0	1.0
Total	594.4	807.7

Tomet reduced production from 241,793 tons to 119,450 tons in January to April 2023 whilst Azot at Novomoskovsk reduced production from 75,770 tons to 9,320 tons. Ammoni in Tatarstan reduced methanol production from 35,081 tons in the first four months in 2022 to 23,412 tons in the same period in 2023.

The Russian government is seeking to impose a new bill on controlling methanol supply in an attempt to control the excess number of deaths from alcohol poisoning. This is a long-term problem for Russian society. Domestic producers are expected to cooperate in any new controls, even though this may mean increased costs.

Summary of Russian Methanol Export Destinations (unit-kilo tons)		
Country	***Jan-Apr 23***	***Jan-Apr 22***
Belarus	76.445	68.581
China	214.490	0.000
Finland	91.370	290.211
Germany	4.225	0.980
Kazakhstan	9.502	12.027
Latvia	1.230	17.063
Lithuania	4.344	33.074
Netherlands	20.814	111.852
Poland	96.615	144.139
Romania	0.000	26.488
Slovakia	0.000	49.035
Turkey	75.332	21.790
UK	0.000	8.398
Ukraine	0.000	11.916
Others	0.500	0.548
Total	594.867	796.103

Russian methanol exports, Jan-Apr 2023

Russian producer exports of methanol fell from 807,700 tons in the first four months in 2022 to 594,400 tons in the same period in 2023. Tomet reduced exports to 21,400 tons of methanol against 119,000 tons last year. Metafrax Chemicals reduced exports from 169,500 tons in January to April 2022 to 163,600 tons whilst Gazprom Methanol increased exports from 106,300 tons to 134,700 tons. The largest Russian exporter was Shchekinoazot which shipped 246,600 tons in the first four months in 2023 against 385,600 tons last year. Azot at Novomoskovsk increased methanol exports in the first four months to 28,200 tons from 20,600 tons in the same period in 2022. This is despite the plant producing only 9,320 tons this year.

In the first four months this year China represented the largest destination for Russian methanol exports, accounting for 214,490 tons from the total 594,867 tons. Finland accounted for 91,370 tons of Russian methanol, down from 290,211 tons in January to April 2022 whilst Poland reduced inward shipments from Russia from 144,139 tons to 96,615 tons. Exports to the Netherlands dropped to 20,814 tons from 111,852 tons. Direct exports to Hungary, Romania, Slovakia and Ukraine stopped earlier in 2022. The full EU sanctions on Russian methanol took effect from 18 June. 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.

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Azot Nevinnomyssk	1.786	9.110
Azot Novomoskovsk	0.000	45.624
Metafrax Chemicals	131.195	129.479
Gazprom Methanol	111.838	141.574
Tomet	101.248	135.841
Shchekinoazot	127.818	90.385
Ammoni (Mendeleevsk)	11.193	20.639
Total	485.078	572.652

Russian methanol domestic sales, Jan-Apr 2023

Merchant sales of methanol on the Russian domestic market amounted to 485,078 tons in the first four months in 2023 against 572,652 tons in the same period in 2022. Domestic demand has tended to stabilise after the fall last year, based on the first four months. Tomet reduced sales from 135,841 tons to 101,248 tons whilst Gazprom Methanol reduced sales from 141,574 tons to 111,838 tons. Metafrax Chemicals increased shipments to the domestic market from 129,479 tons in January to April 2022 to 131,195 tons in January-April 2023.

Methanol plant at Volgograd signs agreement with Chinese company

The methanol project on the former site of Khimprom in Volgograd is seen as a key regional investment for both regional economic and political reasons. The project was first announced in 2017 where investors AEON Corporation and GTM 1 LLC developed a plan to build on the former site of Khimprom, a large chlorine chemical product producer which closed in 2014. The methanol project, with the involvement of Marubeni, was to be commissioned by the end of 2022.

Bringing the project up to date, GTM 1 and the China National Chemical Engineering Company (CNCEC) signed a contract in June for the design and construction of a methanol production facility at Volgograd. The Chinese chemical construction company has thus become the new technological partner of the project; previously it had been Mitsubishi.

Ammoni cancels methanol project

Ammoni has cancelled the methanol section of its Ammonium-2 project which is to be constructed at Mendeleevsk in Tatarstan. Initially, it was assumed that the capacity of future production facilities would comprise 1.2 million tpa of ammonia, 1.4 million tpa of urea and 500,000 tpa. However, due to the adverse factors resulting from the war combined with the transition to Russian technologies, the company has revised these plans to exclude methanol. The company considered the production of additional volumes of methanol would add to the current surplus in the market. The project itself has now been amended to consist of 1.4 million tpa of urea and 1.2 million tpa of ammonia.

At current standing, the 1 million tpa methanol plant is targeted to start by 2026 as opposed to the original date of 2022-2023. Even if the plant is constructed and commissioned there are major issues over where the product can be sold. Navigation via the Volga-Don Shipping Canal has been identified as the major transport hub, but the canal only operates eight months during the year which would limit the scope for exports.

Moreover, even when the canal is open there are no obvious destinations for around a million tons of methanol per annum. The European market is closed for now, whilst China is building its own plants reducing the need for imports. Domestically the market is well served already and there is no real need for further capacity. There are even questions over whether the former Khimprom site would be better used for producing chemicals that are in short supply rather than methanol.

Ruskhim methanol project-port development

Despite uncertainty over the technology license for the methanol project Ruskhim is pressing ahead with the wide range of infrastructure arrangements. Marine infrastructure facilities, which will become a link in the development of the Arctic zone and the Northern Sea Route (NSR), are being built with the participation of Rosmorport. The site of the gas chemical complex of Ruskhim Gas LLC is located in the village of Krasnoye in the Zapolyarny District of the Nenets Autonomous Okrug (NAO) and is part of the promising part of the development of the port of Naryan-Mar.

The complex for processing natural gas into methanol in the Nenets Autonomous Okrug has been set a launch date target of 2028. The gas chemical complex, which is being built in the Nenets Autonomous Okrug, involves the development of deposits and the subsequent processing of natural gas into methanol. The total investment is estimated at more than 200 billion roubles ($2.4 billion). The plant's capacity target has been established at 1.8 million tpa, but the licensed technology agreed with Air Liquide falls under current sanctions.

Russian organic chemicals

Russian N-Butanol Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Angarsk Petrochemical company	10.685	12.593
Azot Nevinnomyssk	6.148	5.113
Gazprom neftekhim Salavat	27.346	18.767
SIBUR-Khimprom, Perm	11.489	8.931
Total	55.668	45.404
Russian Isobutanol Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Angarsk Petrochemical Company	6.696	8.825
Gazprom neftekhim Salavat	15.591	11.254
SIBUR-Khimprom, Perm	21.452	17.411
Total	43.739	37.490

Russian butanol production Jan-Apr 2023

Production of butanols increased in the first four months for both normal and iso grade. Russian normal butanol production rose from 45,404 tons in the first four months in 2022 to 55,668 tons in the same period this year. Gazprom neftekhim Salavat was the largest Russian producer, increasing production from 18,767 tons to 27,346 tons in January to April 2022.

Isobutanol production in Russia increased from 37,490 tons in the first four months in 2022 to 43,739 tons in the same period in 2023. SIBUR-Khimprom increased production from 17,411 tons in January-April 2022 to 21,452 tons in the same period this year.

Russian Butanol Exports (unit-kilo tons)		
N-Butanol	***Jan-Apr 23***	***Jan-Apr 22***
Gazprom neftekhim Salavat	5.8	1.9
SIBUR-Khimprom	0.0	0.4
Angarsk Petrochemical	2.8	0.8
Azot Nevinnomyssk	0.5	1.3
Dmitrievsky Chemical Plant	0.0	1.4
Total	9.1	5.8
Isobutanols	***Jan-Apr 23***	***Jan-Apr 22***
Gazprom Neftekhim Salavat	3.5	12.2
SIBUR-Khimprom	2.1	6.7
Angarsk Petrochemical	0.0	0.0
Dmitrievsky Chemical Plant	0.1	0.5
Total	5.7	19.4

Regarding export activity Russian exports of butanols increased from 5,800 tons in the first four months in 2022 to 9,100 tons in the same period this year whilst isobutanol exports dropped from 19,400 tons to 5,700 tons.

Russian acetone & solvents market Jan-Apr 2023

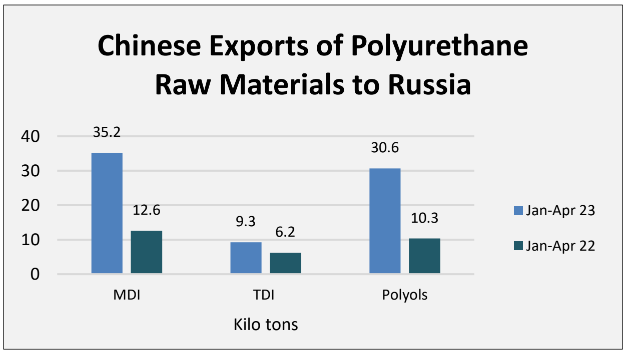
Russian acetone production amounted to 50,000 tons in the first four months in 2023 against 59,400 tons in the same period in 2022. Omsk Kaucuk produced 9,300 tons of acetone against 8,300 tons whilst Kazanorgsintez increased production slightly from 9,200 tons to 15,500 tons. Novokuibyshevsk Petrochemical Combine reduced production from 12,500 tons to 11,900 tons.

Russian Acetone Production (unit-kilo tons)		
Producer	***Jan-Apr 23***	***Jan-Apr 22***
Ufaorgsintez	10.6	13.1
Kazanorgsintez	18.4	18.4
Novokuibyshevsk Petrochemical	11.9	12.5
Omsk Kaucuk	9.2	15.5
Total	50.0	59.4

Russia reduced imports of ethyl acetate by 8.6% in the first four months this year. Prior to the invasion of Ukraine, the main volumes of ethyl acetate imports came from Ineos. From January to April 2023, the main importers of products were the Chinese company Taizhou Ruibai Chemical and the Indian company Laxmi Organics Industries. The import buyers this year have included companies Khimintekhno and Ruskhimset.

Russian Exports of Organic Chemicals to China (unit-kilo tons)		
Product	***Jan-Apr 23***	***Jan-Apr 22***
Propylene	22.321	6.327
Methanol	189.027	0.000
N-Butanol	4.340	0.000
Isobutanol	4.508	0.702
Methyl Acrylate	2.181	0.000
Butyl Acrylate	4.267	0.000
Caprolactam	48.450	13.598

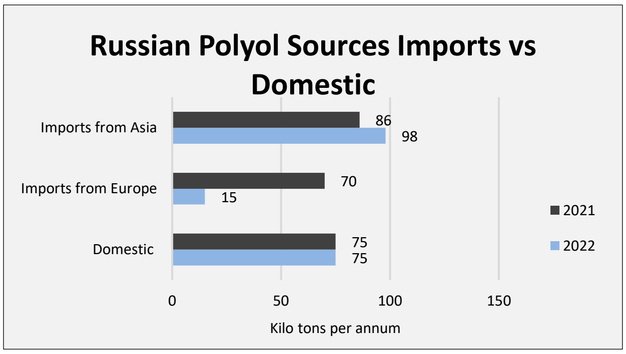
Russian exports of organic chemicals to China increased in the first four months in a number of product areas. Methanol saw the largest volumes, but also oxo alcohol exports were higher this year in addition to acrylates from the Salavat plant. Other products included propylene and caprolactam. The loss of EU markets has been a major factor in leading to more Sino-Russian trade in chemicals, despite the high logistics costs.



Russian polyurethane raw materials 2023

The production of polyurethanes in Russia rose by 13.8% from 2015 to 2019, rising from 335,000 tpa to 381,000 tpa. In the same timeframe consumption of polyurethanes increased from 408,000 tons in 2015 to 462,000 tons in 2019.

From 2020 to 2022 polyurethane markets in Russia underwent significant pressure from firstly the pandemic and secondly the combined impact from sanctions and volatility in raw material prices. In 2022, polyurethane production in Russia decreased by around 12% due to a decline in both consumption and export segments of finished products. Russian polyurethane consumption was restricted last year by the restriction of exports of finished products after the departure of a number of large international companies that stopped production. Demand for soft foams fell by 27% in 2022, affected by the automotive industry and the production of household appliances.



The volume of consumption of the Russian polyester polyol market amounted to 231,000 tons in 2021 but dropped 19% in 2022 to 188,000 tons. Prior to the war in Ukraine Russian furniture manufacture relied on around 80% of imported components in order to operate, particularly isocyanates and melamine. Besides raw materials manufacturers are largely dependent on foreign equipment for which spare parts need to be imported.

Titan Omsk-polyol project plans

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. The project of Titan Group of Companies will cover both current and future needs of domestic industries.

Despite production at Nizhnekamskneftekhim domestic capacities are not enough to cover the needs of industry in polyols. The deficit is covered by imports where in 2022 the share from Europe decreased from 48% to 18%, while the share of Chinese imports increased from 52% to 80%. In the first four months this year polyol imports from China amounted to 30,600 tons against 10,300 tons in the same period in 2022. Regarding isocyanates, imports of MDI rose from 12,600 tons in January to April 2022 to 35,200 tons in the same period in 2023 and TDI imports rose from 6,200 tons to 9,300 tons.

Central Asia

Silleno Gas Chemical Complex-Chinese agreement

An agreement on principles for the polyethylene project in the Atyrau region was signed by KazMunayGaz and Sinopec in mid-May, following the earlier agreement with SIBUR. KazMunaiGaz assumes the entry of Sinopec into the project as a full partner in a three-way split. The participation of Sinopec will make it possible to use the company's technologies and expertise in the construction of petrochemical facilities, as well as help in the sale of finished products in the Chinese market. The final investment decision (FID) on the project is expected in 2024.

KazMunaiGaz is considering the possibility of introducing Axens' AlphaButol technology at the polyethylene production project. The AlphaButol process is the industry benchmark for the production of high-purity 1-butene by dimerizing ethylene, which is essential for the production of polyethylene.

Silleno selected the Unipol polyethylene process from Univation Technologies in January 2023 including catalyst systems. The new reactor line allows the production of a wide range of high-volume as well as premium polyethylene grades while enabling maximum flexibility to supply highly competitive end-use products for both domestic consumption as well as export markets.

Uzbek methanol island-Air Products

Uzbekistan's Gas Chemical Complex MTO Central Asia signed an industrial gas processing agreement in May this year with Air Products to build a methanol production facility. This facility, known as the "Methanol Island", will have a capacity of 1.340 million tpa and will become part of a gas chemical complex for the production of olefins from methanol in Uzbekistan. The facility will be located in the free economic zone Karakul, located in the Bukhara region of Uzbekistan on an area of 15 hectares. The planned commissioning period is 2025.

Main Parameters for MTO Project in Uzbekistan	
Location	Karakul Free Economic Zone, Bukhara
Investment estimate	$2.5 billion
Estimated gas consumption	1.3 billion bcm

Unlike traditional complexes based on MTO technology, which use coal as a raw material, advanced innovative technologies used at the MTO MCC make it possible to process Uzbekistan-specific natural gas. The gas possesses a low content of valuable components into polymer products with high added value, with a total production capacity of more than 1.110 million tpa.

Uzbek MTO Derivative Project Outline		
Product	***Capacity (ktpa)***	***Licensor***
Polypropylene	257	W. R. Grace & Co
LDPE	80	Versalis
EVA	100	Versalis
PET	300	Chemtex

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 gas chemical complex

The methanol plant will provide a stable supply of methanol, hydrogen and other technical gases, in particular, oxygen and nitrogen, which are necessary for the production processes of the MTO gas chemical complex. The methanol production plant is based on Haldor Topsoe technology. Other companies involved in the project include Air Products, Chemtex Global Corp, Versalis and Grace Catalysts Technologies.

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