

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**

Issue No: 380, 25 July 2022

Key points from this issue:

Central European petrochemical markets

- Orlen and Saudi partners to begin feasibility studies for petrochemical investments at Gdansk
- HIP Petrohemija preparing site for expansion of polyolefin capacity
- Chimcomplex in Romania launches new polyol plant, raising total capacity to 187,000 tpa
- PKN Orlen to purchase LDPE section from Basell Orlen Polyolefins
- Polyethylene exports from Poland totalled 151,000 tons in the first five months in 2022 against 600,000 tons of imports
- Exports of methanol from Poland amounted to 166,813 tons in the first five months against 77,197 tons in the same period in 2021
- Grupa Azoty has been forced to suspend melamine production due to high gas prices

Russian chemical production

- Russian chemical and petrochemical production in first five months was stable despite challenges
- Russian ethylene production totalled 1.828 million tons in the first five months in 2022 against 1.880 million tons in the same period in 2021
- Russian propylene production amounted to 1.210 million tons in the first five months in 2022 against 1.299 million tons in 2021
- Russian styrene production fell from 327,200 tons in the first five months in 2021 to 311,400 tons in January to May 2022
- Russian caprolactam production amounted to 156,100 tons in January to May 2022 against 160,300 tons in the same period in 2021

Russian chemical trade

- Propylene exports from Russia amounted to 65,500 tons in the first five months in 2022 against 61,400 tons in the same period 2021
- Methanol exports from Russia rose slightly in the first five months from 676,500 tons to 690,500 tons. Volumes shipped via Finland have started to drop and expected to fall to a minimum in the second half of the year

Project news

- The MTO project planned for the Bukhara region in Uzbekistan has received further approvals for construction and has been identified as providing the basis for a chemical and high-tech industry cluster
- Production at the new polypropylene plant in the Atyrau region is scheduled to start in August. Propane supply to installations started in early July which was followed by loading the catalyst into propane dehydrogenation reactors

CENTRAL and SOUTH EAST EUROPE

Orlen Group-Lotos & PGNiG merger

The European Commission's clearance has removed one of the last barriers to the merger between PKN Orlen and Lotos, having been approved on 20 June. Shareholders of both groups have since approved the merger/takeover and the transaction seems destined to go through in late July or early August. The merger between PKN Orlen and the Lotos Group is linked inextricably to the energy

Orlen Unipetrol-force majeure after fire in July

Orlen Unipetrol declared force majeure following a fire and explosion on 20 July at the hydrocracking unit at the Litvinov refinery. As a consequence of the fire, crude oil processing in the Litvinov refinery plant as well as petrochemical production were significantly reduced. The force majeure event made it impossible for Orlen Unipetrol to meet its obligations arising from contractual arrangements with its business partners. MOL's Szazhalombatta refinery suffered a fire in June although production volumes were not affected.

security of Poland and the entire region of Central Europe, including Lithuania, Latvia, Estonia, the Czech Republic and Slovakia.

If the Group expansion proceeds to include PGNiG, Orlen will hold a key position in the process of energy transition through investments in low and zero-carbon energy sources. By investing in green energy, including offshore and onshore wind farms and photovoltaics, small modular reactors and bio-materials, the Group will

be focused heavily reducing Polish economy's dependence on fossil fuels. The takeover of gas company PGNiG could take place in late September to early October.

Orlen-Saudi petrochemical plans for Gdansk

PKN Orlen is currently evaluating a potential investment in petrochemicals with Aramco and SABIC. An existing triparty MoU will be extended to evaluate a potential joint development of a large-scale mixed feed steam cracker and downstream derivatives integrated with the Gdansk refinery. PKN Orlen is currently building its Olefin III Complex at Plock where the latest technologies will help to increase energy efficiency. This includes a reduction by 30% CO₂ emissions per ton of product.

Saudi Aramco-Orlen and oil sources

The Orlen Group's demand for oil in Poland, after the merger with Grupa Lotos, will amount to approximately 26 million tpa. Agreements signed as part of the merger process with Lotos cover the supply of up to 20 million tpa of raw materials, possibly from Saudi Aramco. PKN Orlen also has the possibility of supplementing its fuel balance both from the two Orlen Group refineries in the Czech Republic and from the Māžeikiai refinery. In the case of refineries in Lithuania, transport is possible both by rail and sea. Following the merger with the Lotos Group, supplies from the Arabian Peninsula will cover as much as 45% of the new Orlen Group's overall demand. Agreements on joint petrochemical and R&D projects have also been signed.

As a result of the investment into Olefin 111 ethylene capacity at Plock is being increased to 1.040 million tpa from 640,000 tpa at present. Should joint investments with Aramco and SABIC go ahead, Gdansk could potentially be used as the main site for development. The companies will assess the construction of a large-scale steam cracker with derivative installations, and thus will undergo full feasibility and engineering studies.

Investments could Orlen to fully integrate the refining and petrochemical segments and take advantage of the Gdansk refinery's capabilities.

Gdansk and petrochemicals, required investments

The refinery at Gdansk was built originally for the market demands of oil bases, engine oils and lubricants, not motor fuels or petrochemicals. Its first processing capacity was only 3 million tpa and was later expanded to 6 million tpa and then to 10.5 million tpa. Currently, the only petrochemical

Polish Polyethylene Trade (€ million)		
Year	Exports	Imports
2021	282.3	2129.8
2020	327.9	1192.1
2019	359.6	1387.0
2018	376.0	1452.7

products produced at Lotos is the xylene fraction, of which it supplies 100,000 tpa with all deliveries sent to Germany.

The idea for a petrochemical complex at Gdansk was considered in 2014-2015 as part of a JV with Grupa Azoty but the feasibility studies showed that the project was not economically sound and was thus cancelled. However, the

main cause of the cancellation was that Grupa Azoty and Lotos were both undertaking their own

investment strategies in their core activities and building a joint petrochemical complex was not the main priority for either party. From the ashes of this project emerged Polymery Police where construction of the new polypropylene plant is now in the final stages. Grupa Azoty is the main shareholder in Polymery Police whilst Lotos holds a minority stake.

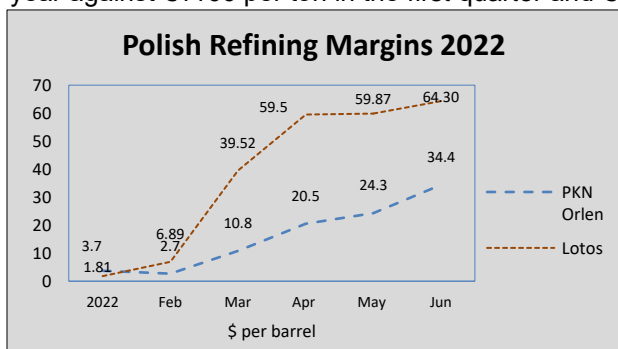
Regarding Gdansk itself, it depends on the outcome of the new feasibility studies being conducted by Orlen and its Saudi partners but should be economically justifiable simply based on consumption of polymers and chemicals. Imports of polyethylene alone into Poland amounted to €2.130 billion in 2021 against exports of €282.3 million, highlighting the demand potential for new polyethylene production facilities.

PKN Orlen Production (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Ethylene	202.4	99.4
Propylene	196.4	103.0
Butadiene	28.8	13.3
Toluene	4.3	5.3
Phenol	19.4	20.3
Polyethylene	139.5	67.3
PVC	128.8	72.6
Polypropylene	146.9	100.0

PKN Orlen production Jan-May 2022 and margins

PKN Orlen increased ethylene production from 99,400 tons in the first five months in 2021 to 202,400 tons in the same period this year whilst propylene production rose from 103,000 tons to 196,400 tons. Due to higher operational activity this year butadiene production at Plock increased from 13,300 tons to 28,800 tons the first five months whilst polyethylene production rose from 67,300 tons to 139,500 tons.

Average petrochemical margins for PKN Orlen amounted to €1405 per ton in the second quarter this year against €1166 per ton in the first quarter and €1473 in the second quarter in 2021.



Refining margins for PKN Orlen and Lotos continued to reach record levels in June, to \$34.4 and \$64.30 reflectively per barrel. This compares versus \$1.81 and \$3.7 per barrel respectively.

Polish polyethylene trade Jan-May 2022

Polish imports of polyethylene totalled 600,480 tons in the first five months in 2022 against 568,866 tons in the same period in 2021. Exports of polyethylene increased from 99,653 tons to 151,704 tons, the rise enabled by higher production at Plock.

Polish PE Exports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
LDPE	9.300	7.800
LLDPE	24.729	26.293
HDPE	104.040	56.122
EVA	1.341	0.778
EAC	10.056	7.320
Other	2.238	1.340
Total	151.704	99.653
Polish PE Imports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
LDPE	113.288	105.989
LLDPE	157.656	157.072
HDPE	204.880	194.126
EVA	7.791	9.048
EAC	91.119	81.737
Other	25.746	20.894
Total	600.480	568.866

Average prices for polyethylene imports into Poland rose to €1846.4 per ton in the first five months in 2022 against €1420.3 in the same period in 2021. Costs of polyethylene imports amounted to €1.109 billion in January to May 2022 against €807.946 million.

Polish exports amounted to 151,704 tons in the first five months in 2022 versus 99,653 tons in 2021. Average prices for polyethylene exports into Poland rose to €1671.1 per ton in the first five months in 2022 against €1266.0 in the same period in 2021. Revenues from exports increased from €128.153 million in January to May 2021 to €253.508 million in 2022.

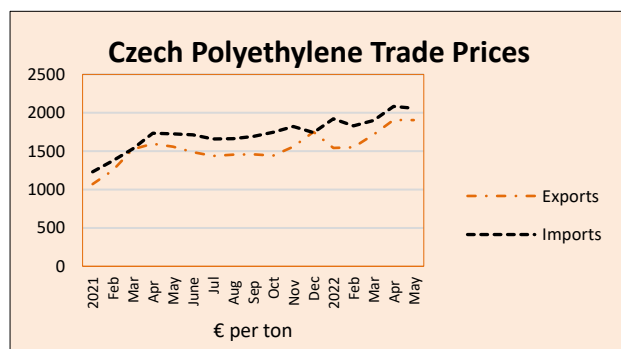
PKN Orlen-Basell Orlen Polyolefins

PKN Orlen is acquiring part of the business from Basell Orlen Polyolefins. As a result of the transaction, Orlen will receive assets covering LDPE production capacity of 100,000 tpa, as well as its sales and customer service on the Polish market. The production capacity will cover approximately a third of the domestic demand for LDPE. Basell Orlen Polyolefins (BOP) is a joint venture between PKN Orlen and LyondellBasell Industries, in which they each hold a 50% stake. After the completion of the transaction, BOP will continue to develop the production and sale of HDPE and polypropylene.

Poland is the largest consumer of LDPE polyethylene in Central Europe, and in 2025 it will account for nearly 35% of regional demand.

PKN Orlen plans to finalise the transaction by the end of this year, obtaining all approvals from antitrust authorities in Poland and the Netherlands. The purchase of this business is connected with the expansion of the olefin complex, which began in 2021 at Plock. Currently, the domestic demand for LDPE is about 300,000 tpa, while for the entire Central European region nearly 800,000 tons. Other LDPE plants in the region include MOL at Tiszaújváros, Slovnaft at Bratislava, Petrohemija at

Pancevo and Rompetrol Rafinare at Midia. According to forecasts, in 2025 the LDPE market in Central Europe will grow to 890,000 tpa, of which around 312,000 tpa will be consumed in Poland.



Czech polyethylene trade Jan-May 2022

Polyethylene prices in Europe have risen sharply since the start of 2021 to the second quarter in 2022 but due to reduced demand are showing signs of stabilising. Czech polyethylene export prices per ton dropped

slightly from €1906 per ton in April to €1904 in May whilst import costs dropped from €2083 per ton to €2060 per ton.

Orlen Unipetrol Polyolefin Exports		
HDPE	Jan-May 22	Jan-May 21
Vol (ktons)	151.2	119.0
Value (€ mil)	248.3	161.4
PP		
PP	Jan-May 22	Jan-Mar 21
Vol (ktons)	109.7	120.4
Value (€ mil)	192.6	154.1

Czech HDPE exports increased in the first five months to 151,200 tons against 118,974 tons in the same period in 2021, with revenues amounting to €248.297 million against €161.378 million. Although polypropylene exports dropped by volume from 120,400 tons to 109,700 tons values rose from €154.1 million to €154.1 million.

For imports of all forms of polyethylene Czech inward shipments dropped from 145,591 tons in the period January to May 2021 for costs of €222.427 million to 139,122 tons for costs of €271.666 million. Imports in 2022 can be broken down into 63,531 tons of LDPE and 54,117 tons of HDPE.

HIP Petrohemija investment outline

HIP Petrohemija has outlined its strategic plans for reconstruction and capacity increase for LDPE from 63,000 to 89,000 tpa and HDPE from 52,000 to 90,000 tpa. Other projects include the reconstruction of the ethylene plant and water treatment plant, reconstruction of wastewater dumps, construction of waste sludge dump and the construction of the polypropylene plant with a capacity of 180,000 tpa.

Serbian Polymer Exports (unit-kilo tons)		
Product	Jan-Apr 22	Jan-Apr 21
Polyethylene	42.2	33.2
Polypropylene	5.7	8.7
Styrene Butadiene Rubber	6.7	6.6

The polypropylene project is currently the most important strategic investment, with 2028 set as the target start-up date of the 264,000 tpa plant. The new plant will include production facilities and purified polypropylene and a packaging line and shipping line for finished product.

The design aim is to connect the polypropylene plant with existing and planned systems in HIP Petrohemija and with the oil refinery and other entities within the Pancevo petrochemical complex, including existing and new pipelines. As Petrohemija's majority owner NIS is Russian owned this could cause problems for spare part procurement listed under sanctions not to mention investments and trade. As a result, the Serbian government has suggested to Moscow that ownership could be transferred on a temporary basis to Serbia.

Czech Petrochemical Exports (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Ethylene	6.539	13.243
Propylene	0.030	0.018
Butadiene	1.065	1.032
Benzene	22.036	19.792
Toluene	3.997	3.853
Ethylbenzene	48.939	48.747

Czech petrochemical trade, Jan-May 22

Ethylene exports from the Czech Republic dropped from 13,243 tons in the first five months in 2021 to 6,539 tons in the same period this year. This included deliveries of 1,186 tons of ethylene sent to India, 2,200 tons to Germany and 1,884 tons to Slovakia. Czech imports of ethylene rose from 1,696 tons in the first five months last year against 11,205 tons in the same period this year. Germany provided 11,117 tons via the Boehlen Litvinov pipeline for a cost of €12.266 million.

Czech Petrochemical Imports (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Ethylene	11.205	1.696
Propylene	18,074	22.761
Butadiene	28.219	33.780
Benzene	38.025	38.020
Toluene	3.268	3.037
Styrene	9.478	20.896

Propylene imports dropped from 22,761 tons in the first five months in 2021 to 18,074 tons in the same period in 2022, with main suppliers including Germany, Romania and Poland. Czech imports of butadiene dropped from 33,780 tons in January-May 2021 to 28,219 tons in the same period in 2022. Czech exports of ethylbenzene amounted to 48,839 tons in the first five months against 48,747 tons in the same period in 2021. All the ethylbenzene was shipped from Kralupy to Oswiecim, all

within the structures of the Synthos Group.

Benzene exports from the Czech Republic rose in the first five months this year to 22,036 tons against 19,792 tons in the same period in 2021. Germany was the primary market for Czech benzene exports, accounting for 21,279 tons for €21.388 million. Imports of benzene rose slightly from 38,020 tons to

Polish Imports of Propylene (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
Lithuania	0.000	6.415
Germany	26.174	44.753
Russia	22.095	13.786
Ukraine	19.020	24.346
Others	8.266	0.012
Total	75.555	89.312

38,025 tons. Czech benzene imports were sourced in the first five months this year from Poland (21,742 tons for €24.940 million), Serbia (6,355 tons for €6.298 million) and Hungary (6,959 tons for €7.335 million).

Polish propylene & butadiene imports, Jan-May 22

Poland imported 75,555 tons of propylene in the first five months against 89,312 tons in the same period in 2021. Imports have been slightly lower this year due partly to higher production at Plock. Average prices for propylene imports into Poland rose from €819 per ton in January to May 2021 to €1305 in the same period in 2022.

Polish Butadiene Imports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
Austria	14.070	15.231
Czech Republic	1.929	2.429
Germany	15.828	13.103
Hungary	16.753	20.598
Total	48.580	51.361

Germany supplied 26,174 tons of propylene to Poland in the first five months against 44,753 tons in 2021 whilst imports from Ukraine dropped from 24,346 tons to 19,020 tons. Russia increased shipments to 22,095 tons from 13,786 tons. Volumes from Russia declined in May however to 1,963 tons against 5,495 tons in

April. Imports of propylene into Poland in May included 902 tons from Hungary, 1,031 tons from Bulgaria and somewhat surprisingly 1,907 tons from Belarus.

Butadiene imports into Poland totalled 48,580 tons in the first five months in 2022 against 51,361 tons in the same period in 2021. The three largest suppliers comprised Hungary, Germany and Austria. Styrene imports increased from 35,751 tons to 44,782 tons. The Netherlands is the largest supplier of styrene to the Polish market, most of which is purchased by Synthos.

Synthos-production Jan-May 22

Synthos increased production of general polystyrene at Oswiecim in the first five months this year from 30,900 tons to 31,000 tons in 2022, whilst expandible polystyrene increased from 38,600 to 42,800 tons. Synthetic rubber production rose from 104,700 tons to 120,200 tons. Synthos is currently in the process

Synthos Production (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Polystyrene	31.0	30.9
EPS	42.8	38.6
Synthetic Rubber	120.2	104.7

of reviving an idle production line for butadiene rubber at Schkopau in eastern Germany in order to replace sanctioned rubber from Russia. In the first five months in 2022 Synthos exported a total of 135,979 tons for a total cost of €253.547 million against 138,164 tons in the same period for €149.255 million. From the Kralupy plant in the Czech Republic Synthos exported 85,476

Polish PTA Exports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
Belarus	4.800	3.656
Germany	154.964	145.523
Lithuania	19.349	14.273
Switzerland	4.445	1.999
Others	13.314	1.733
Total	196.871	168.920

tons of synthetic rubber in the first five months for €168.356 million versus 86,476 tons in the same period in 2021 for €126.149 million.

Polish PTA sales Jan-May 2022

PTA exports from Poland amounted to 196,871 tons in the first five months in 2022 against 168,920 tons in the same period in 2021. Average prices for Polish PTA exports in the first five months amounted to €910 per ton.

Polish Organic Chemical Trade		
Exports	Jan-May 22	Jan-May 21
Vol (mil tons)	752.0	619.9
Value (€ million)	1032.5	656.9
Imports	Jan-May 22	Jan-May 21
Vol (mil tons)	1397.8	1260.1
Value (€ million)	2277.4	1552.6

Germany remained the main customer for Polish PTA, taking 154,964 tons in January to May 2022 against 145,523 tons in the same period in 2021. Lithuania was the second largest destination for PTA export shipments, taking 19,349 tons.

PKN Orlen reduced PTA production in May due to some technical issues which followed on from April where the company delivered up to 75% of the minimum contract volumes.

Polish Organic Chemical Imports (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Acetic Acid	19.186	14.401
Acetone	4.010	1.472
Adipic Acid	4.936	2.754
Butadiene	48.583	37.753
DEG	10.227	9.317
DINP/DOP	10.943	7.526
Ethyl Acetate	6.627	4.900
Ethylbenzene	48.979	44.958
Ethylene Glycol	20.936	17.429
Ethylene Oxide	6.740	9.836
Isopropanol	4.280	3.026
Lysine	27.569	18.914
Maleic Anhydride	5.939	4.940
Melamine	8.887	7.552
Methanol	405.730	228.283
Paraxylene	22.274	17.868
Phenol	48.648	13.130
Phthalic Anhydride	13.687	9.637
Propylene	75.555	88.179
Propylene Glycol	8.848	7.996
Propylene Oxide	1.081	1.751
PTA	0.910	21.937
Styrene	44.782	35.751
TDI	33.507	26.929
Toluene	10.288	7.447
VAM	8.452	6.532

Grupa Azoty-melamine & plasticizer shutdowns

Rising gas prices and low margins forced Grupa Azoty Pulawy to stop one of the melamine lines in July, whilst the second line has been reduced by around 50%. In the second half of July, Grupa Azoty started a scheduled shutdown of the 65,000 tpa DOTP plant at Kedzierzyn.

Gas prices-Grupa Azoty

Despite requests from chemical producers such as Grupa Azoty the Polish government has stressed that it is not possible under EU law to subject large companies to tariff protection. Even though Poland may be slightly better placed to endure extended gas supply disruptions, Grupa Azoty is still faced by the issue of gas prices and product margins.

Gas agreements PGNiG-Azoty

PGNiG and Grupa Azoty signed annexes in July to the existing gas fuel sales agreements, extending the cooperation in the field of natural gas supplies until the end of September 2023. Thus PGNiG will remain the leading gas supplier for Grupa Azoty which is the largest consumer of gas in Poland. In 2021 Grupa Azoty used 2.018 billion cubic metres of natural gas. PGNiG is aiming to intensify the collection of further LNG loads using the terminals at Świnoujście and Klaipėda. The diversification potential will significantly increase this year with the completion of new interconnections, including the Baltic Pipe from October.

Orlen-Unipetrol refinery damage expected to be corrected in two to three weeks

The damage after the explosion at the chemical plant near Litvinov, in which four people were injured on 20 July, is estimated in the order of tens of millions of crowns. The repair will take two to three weeks according to Orlen Unipetrol. When repairing, the oil processing capacity is partially reduced, although it is not clear how this might impact on petrochemical production at Litvinov and other dependent plants such as Neratovice and Kralupy.

Spolana PVC Exports Jan-May 2022		
Country	Kilo tons	€ million
Germany	9.464	16.399
Hungary	1.700	3.048
Italy	12.660	23.215
Poland	6.008	10.088
Romania	1.254	2.195
Turkey	4.216	6.795
Others	4.326	7.287
Total	39.628	69.027

According to the company, the explosion was caused from a technical defect in the hydrocracking unit. The Orlen Unipetrol group includes refineries and production plants in Litvinov and Kralupy nad Vltavou, Paramo in Pardubice, Spolana in Neratovice and two research centres in Litvinov and Brno.

Spolana PVC exports Jan-May 2022

Spolana exported 39,628 tons of PVC in the first five months this year against 41,127 tons in the same period in 2021. Revenues from PVC exports increased from €44.912 million to €69.027 million, after average prices rose from €1092 per ton to €1757 per ton. Italy was the largest destination for Spolana's exports this year, after shipments to Poland reduced from 16,601 tons in January to May 2021 to 6,008 tons.

Linde to expand Slovnaft polypropylene plant

Linde Engineering has been selected by Slovnaft to conduct a complex large-scale revamp of the polypropylene (PP3) plant at Bratislava. The revamp will extend the plant's capacity by 18% or 33,000 tpa to 300,000 tpa of polypropylene, and the storage facility will be expanded from the current 45 silos to 61 silos. Slovnaft is investing around €63 million in the expansion and modernisation of polypropylene production.

Slovnaft Polyolefin Production (unit-kilo tons)			
Product	2021	2020	2019
PP	267	264	228
LDPE	195	190	154
Slovnaft Feedstock Processing for Petrochemicals (unit-kilo tons)			
	2021	2020	2019
Naphtha	868	854	722

The revamped plant is based on the design to offer a higher degree of operational flexibility by producing multiple product grades and utilising intermediate storage to ensure just-in-time production. Furthermore, the project will incorporate environmental measures to capture waste gas streams in compliance with local regulations.

MOL maintenance in Hungary & Slovakia

MOL's refinery at Szazhalombatta is expected to be idle for most of August due to planned maintenance. It will undergo partial maintenance for about one month each in August and again in October. In August, the Szazhalombatta (Danube) refinery will operate at about 35% of its capacity.

Slovnaft started a planned outage for maintenance and upgrades on 20 May which was scheduled to finish on 20 July. Maintenance included 21 production units in two blocks. Outages took place in both Slovnaft's refining and petrochemical units. Among the units involved were distillation, hydrocracker and key petrochemical units such as the LDPE4 plastics production unit. Costs for the entire outage were estimated at €36 million.

The revamp will enable Slovnaft to meet rising demands from the polyolefin processing industry. The project is challenging given its complexity: interdependency with other process facilities allows only a narrow time frame for a shutdown. Several studies performed by Linde Engineering between 2016 and 2020 laid the foundation for Slovnaft's investment decision. Linde built the PP3 polypropylene production unit at Slovnaft nearly two decades ago and now it will renovate and modernise it.

The project will commence in the summer of 2022 with the preparation of project documentation and the processing of permits. The actual construction and reconstruction are planned to start in summer 2023 and are scheduled for completion in October 2024.

Slovnaft produced 267,000 tons of polypropylene in 2021 against 264,000 tons in 2020. LDPE production rose from 190,000 tons to 195,000 tons. Polyolefin production increased in 2021 due to higher demand resulting from COVID. Around 90% of polymer sales are sent by Slovnaft for export, mainly to Central European countries. In 2021 Slovakia exported 52,450 tons of polypropylene to the Czech market.

Polish organic chemical trade Jan-May 2022

Imports of organic chemicals into Poland amounted to €2.277 billion in value in the first five months in 2022 against €1.553 billion in the same period in 2021. Export values rose from €657 million in January to May 2021 to €1.033 billion in the same period this year. Export activity in the organic chemical sector is led by PTA, methanol and benzene.

High energy prices have played a key role in driving up values this year. Imports of propylene and phenol from Russia showed signs of decline in May whilst methanol exports remain high in Poland's new role as a regional conduit to other parts of Central Europe. Phenol imports have risen sharply this year to 48,648 tons in the first five months in 2022 versus 13,130 tons last year. Russia was one of the main suppliers of phenol this year although volumes in May started to show signs of softening. This was in preparation for the EU sanctions on phenol which took effect from 10 July.

Czech MDI imports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
China	1.173	1.064
Belgium	5.399	5.618
Germany	4.526	7.617
Hungary	2.891	2.995
Netherlands	1.377	0.991
Others	0.531	0.942
Total	15.918	19.246

Central European isocyanates, Jan-May 22

MDI imports into the Czech Republic totalled 15,918 tons in the first five months in 2022 against 19,246 tons in the same period in 2021.

Total costs for MDI imports rose from €41.637 million in January to May 2021 to €40.122 million in the same period in 2022, with average prices rising from €2.150 per ton to €2.520. TDI imports into the Czech Republic are small, amounting to 3,394 tons in the first five months this year for a total cost of €12.296 million.

Polish MDI Imports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
Germany	20.308	22.196
Netherlands	8.508	6.851
Hungary	18.185	22.435
Belgium	13.714	11.914
Others	5.317	3.6788
Total	66.032	67.074

MDI imports into Poland totalled 66,032 tons in the first five months in 2022 against 67,074 tons in the same period in 2021. Costs rose from €140.6 million to €168.171 million, with average prices rising from €2.096 per ton to €2547 in January to May 2022. Germany was the largest supplier to the Polish market followed by Hungary.

TDI imports into Poland amounted to 34,380 tons in the first five months in 2022 against 32,366 tons in the same period in 2021. Values in January to May 2022 amounted to €94.999 million, equating to €2.807 per ton, against €87.677 million in the first five months in 2022 when prices averaged €2709 per ton.

Czech Methanol Imports (unit-kilo tons)		
Country	Jan-May 22	Jan-May 21
Germany	2.685	6.655
Norway	0.525	0.000
Russia	15.446	22.826
Poland	13.821	9.673
Others	0.548	0.259
Total	33.033	39.417

Central European methanol trade Jan-May 22

Czech imports of methanol amounted to 33,033 tons in the first five months against 39,417 tons in the same period in 2021. Russia accounted for 15,446 tons in the first five months down from 22,826 tons last year, according to Czech statistics. Costs of methanol imports into the Czech Republic rose from €13.911 million to €14.306 million. Prices per ton for methanol imports into the Czech Republic increased from €353 in the first five months in 2021 to €433 in the same period in 2022.

Polish Methanol Imports (unit-kilo tons)		
Country	Jan-May 22	Jan-Mar 21
Belarus	0.044	1.295
Finland	25.583	33.700
Lithuania	0.610	3.756
Germany	49.849	32.451
Netherlands	0.024	25.692
Norway	16.787	4.299
Russia	312.617	178.963
Others	0.291	0.920
Total	405.805	281.076

Imports of methanol into Poland totalled 405,805 tons in the first five months in 2022 against 281,076 tons in the same period in 2021. Russia increased exports from 178,963 tons to 312,017 tons whilst Finland reduced shipments from 33,700 tons to 25,383 tons. Germany increased exports to Poland in the first five months to 49,849 tons from 32,451 tons in the previous year.

Exports of methanol from Poland amounted to 166,813 tons in the first five months against 77,197 tons in January to May 2021. Poland started in March supplying Hungary, Romania and Slovakia which have had their normal rail transit routes from Russia disrupted by the war in Ukraine. Revenues from Polish exports of methanol rose from €26.7 million in January to May 2021 to €72.4 million in the same period in 2022, with export prices averaging €437 per ton against €347 per ton last year. Export deliveries from Poland to South East Europe are expected to continue for the rest of this year, or as long as the Russian occupation of Ukraine prevents the railways from restarting.

Chimcomplex opens new polyol plant

Chimcomplex launched its new polyol plant at Ramnicu Valcea on 21 July 2022. The investment of €40 million, which is part of a wider investment project of €101 million, increases the company's production capacity to over 187,000 tpa. This means that Romania will produce almost 9% of the European polyols production, placing the company in sixth place at the top of the European producers. The new special polyols installation, which is an integral part of the Oltchim plant, is designed to have high-performance characteristics in terms of energy efficiency, digitization, and disposal of manufacturing waste.

Chimcomplex Sales (€ million)		
Product	Jan-Dec 21	Jan-Dec 20
Polyols	290.1	149.0
Chlor-alkali	90.7	59.1
Oxo alcohols	54.4	28.4
Others	18.1	0.0
Total	453.3	236.6

Polyol revenues for Chimcomplex amounted to €290.1 million in 2021 against €149.00 million in 2020. The expansion of polyol capacity is expected to increase exports particularly with some growth expected in domestic demand. The installation concept integrates polyol production with the design, which the company

creates together with the customers, adapting the formula according to their needs including collection for recycling. Special bio polyols will also be produced including 100% vegetable polyols, made of castor oil, or fireproof polyols, which will be used in the construction of rigid foams, for example, to renovate hospital wards.

The new plant is capable of functioning of around 30% higher energy efficiency, as state-of-the-art machinery and equipment have been designed based on the best available specific technologies. The plant has 12 energy-efficient synthesis reactors, in which green polyols will be produced, those that use CO₂ as their raw material, thus reducing Romania's carbon dioxide footprint.

Chimcomplex, the only producer of polyurethane polyols in Romania, has oriented its development strategy towards technological efficiency, energy efficiency and green and sustainable chemistry. The main uses of the polyols produced here are flexible and semi-flexible foams, rigid foams, sealants, inks, elastomers, and adhesives. Most of the production of polyols subsequently becomes car components, dashboards and other castings in moulds, soles, eco-leather or furniture, mattresses, insulation, etc. The

Polish Chemical Production (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Caustic Soda Liquid	172.5	136.4
Caustic Soda Solid	29.5	36.5
Acetic Acid	1.1	2.7
Ammonia (Gaseous)	1070.0	981.7
Ammonia (Liquid)	46.1	41.4
Pesticides	31.3	73.6
Nitric Acid	994.0	917.5
Nitrogen Fertilisers	848.0	753.5
Phosphate Fertilisers	136.4	155.4
Potassium Fertilisers	129.6	117.2

investment in the new production unit was supported by Chimcomplex funds and will be returned within a maximum of four years.

Orlen Poludnie esters and biogas

Orlen Południe has signed a contract for the construction of a UCO FAME production and distillation plant at Trzebinia, which will produce 30,000 tpa of second-generation esters and 7,000 tpa of technical glycerine from frying oils and animal fats.

The construction of the UCO FAME installation will start in November this year, and its completion is planned for the first quarter of 2023. PGNiG and Orlen Południe

are discussing the strategy of a joint company that is to operate on the biogas market.

RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
Caustic Soda	539.0	551.4
Soda Ash	1,523.0	1,436.0
Ethylene	1,827.6	1,879.5
Propylene	1,209.5	1,062.5
Benzene	578.0	574.2
Xylenes	194.0	1,249.9
Styrene	311.4	327.2
Phenol	111.2	108.2
Ammonia	7,500.0	8,500.0
Nitrogen Fertilisers	5,034.0	4,904.0
Phosphate Fertilisers	1,854.0	1,808.0
Potash Fertilizers	3,510.0	3,551.0
Plastics in Bulk	4,450.0	4,508.0
Polyethylene	1,431.0	1,447.0
Polystyrene	248.9	248.8
PVC	451.4	464.7
Polypropylene	298.0	509.7
Polyamide	82.6	83.8
Synthetic Rubber	687.0	725.0

Russian petrochemical production Jan-May 2022

Russian petrochemical production was largely stable in the period January to May 2022. The introduction of international sanctions, particularly those from the EU, may start to make a significant impact towards the latter of the year. In the base chemical sector, ammonia production has seen the largest fall this year dropping from 8.5 million tons in the first five months last year to 7.5 million tons this year. This was due to the lack of shipments through the Togliatti-Odesa pipeline.

In the first five months in 2022 polymer production declined by 3.2% over the same period in 2021. Russian producers of polymers in May increased by 13.8% over April to 793,000 tons even if this was 5.4% lower than in May 2021.

Polyethylene production in May increased sharply by 37.8% over April and by 1.9% compared to May 2021. Over the first five months production of polystyrene production rose slightly to 248,900 tons. For the first five months in 2021, the production of PVC decreased by 3.3% to 451,400 tons.

Russian synthetic rubber sales started to feel the effects of economic isolation in Europe in May. Many mainstream synthetic rubber commodities have been placed under EU sanctions. Overall, for the first five months Russian synthetic

rubber production fell from 725,000 tons to 687,000 tons.

Russian chemical industry's mixed signals

Difficulties created from the economic situation directly linked to Ukrainian events has as yet not culminated to any major consequences for the chemical industry thus far. Underlying trends indicate a sequence of issues that could unfold later in the year. Derivative industries such as household chemicals and paint and varnish products report declines whilst the production of fertilizers has fallen by around 10%. The loss of European and North American customers cannot be replaced quickly whilst many potential customers (including China and India) are afraid to work with Russian businesses in order not to fall under secondary sanctions.

Anecdotal reports indicated that chemical production started slowing in June at some smaller plants, linked directly or indirectly to the sanction regime. In addition to sanctions there is the complicated strong rouble which limits margins for exports. Imports are difficult to facilitate, and thus Russian producers are unable to benefit from the strong rouble. For the large plants such as Nizhnekamskneftekhim and Kazanorgsintez, production is considered stable at present although difficulties may arise later in the year from the import of components and equipment for the maintenance of plants.

Due to the foreign policy situation, SIBUR faced restrictions on the import of special chemicals and catalysts. Thus a primary objective SIBUR and its subsidiary Nizhnekamskneftekhim consist of the search for new partners in speciality chemicals and catalysts to ensure supplies in the face of sanctions. For some items, the company has purchased large volumes of catalysts and special chemicals in advance for warehouses, which buys the group time probably until early 2023.

SIBUR production first half of 2022

The total production volume for SIBUR for the first half of 2022 decreased by 4.6% compared to the same period last year. The key difficulties faced by the group included a decrease in the demand in the Russian market, which is a priority for the company, as well as difficulties with export sales. These factors led to a decline in overall production for ethylene and propylene. In addition, current balances in warehouses from all manufactured products increased by 12% compared to 24 February 2022.

Due to Russia's geopolitical isolation SIBUR has been forced to rebuild some structures and to change the approach to investment activity. A new range of products is being created in response to sanctions whilst new logistical routes are being developed.

Russian petrochemical markets

Russian Ethylene Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Polymer Plant	98.2	98.2
Kazanorgsintez	279.3	247.6
Stavrolen	140.5	145.0
Nizhnekamskneftekhim	268.9	270.2
Novokuibyshevsk Petrochemical	20.1	23.3
Gazprom n Salavat	138.0	151.4
SIBUR-Kstovo	173.1	167.5
SIBUR-Khimprom	24.2	24.8
Tomskneftekhim	123.5	120.5
Ufaorgsintez	41.2	31.4
ZapSibNeftekhim	520.5	599.6
Total	1827.6	1879.5

41,200 tons. Stavrolen at Budyennovsk reduced ethylene production in the first five months to 140,500 tons against 145,000 tons in 2021.

Russian Propylene Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Polymer Plant	54.7	54.8
Kazanorgsintez	23.1	21.0
Lukoil-NNOS	111.3	84.1
Stavrolen	76.7	57.9
Nizhnekamskneftekhim	135.4	134.5
Novokuibyshevsk	13.8	15.5
Omsk Kaucuk	22.5	8.4
Polyom	83.2	81.3
Gazprom n Salavat	62.1	53.9
SIBUR Kstovo	77.6	75.0
SIBUR-Khimprom	36.5	24.5
Tomskneftekhim	65.2	65.9
SIBUR Tobolsk	0.0	3.0
Ufaorgsintez	56.7	72.6
ZapSibNeftekhim	390.6	546.6
Total	1209.5	1298.9

The main suppliers of raw materials for the Angarsk Polymer Plant are the Angarsk Petrochemical Company, which supplies naphtha, LPG, as well as the Achinsk Oil Refinery which supplies LPG. Other capacities include 100,000 tpa of propylene, 60,000 tpa of benzene, 77,000 tpa of LDPE and 15,000 tpa of expandable polystyrene (PS-B).

Russian Propylene Exports (unit-kilo tons)		
Producer	Jan-May 22	Jan-Mar 21
Lukoil-NNOS	39.7	33.8
SIBUR-Kstovo	10.6	8.8
Angarsk Polymer Plant	5.1	4.2
Stavrolen	10.1	14.2
Total	65.5	61.0

increased production from 21,000 tons to 23,100 tons.

Russian ethylene production, Jan-May 2022

Russian ethylene production totalled 1.828 million tons in the first five months in 2022 against 1.880 million tons in the same period in 2021. ZapSibNeftekhim at Tobolsk produced 520,800 tons in January to May 2022, down from 599,600 tons from January to May 2021. Nizhnekamskneftekhim produced 268,900 tons of ethylene in the first five months in 2022 against 270,200 tons in 2021, whilst Kazanorgsintez increased from 247,600 tons to 279,300 tons.

Other important ethylene producers included SIBUR-Kstovo which produced 173,100 tons versus 167,1900 tons. In Bashkortostan Gazprom neftekhim Salavat produced 138,000 tons against 151,400 tons, whilst Ufaorgsintez increased production from 31,400 tons to

Feedstock costs for Russian petrochemical producers have risen this year, both for naphtha and LPGs. SIBUR purchases around 1.3 million tpa of naphtha for Nizhnekamskneftekhim but has faced price issues with the regional refinery TAIF-NK.

Of the producers Nizhnekamskneftekhim, SIBUR-Kstovo and Angarsk Polymer Plant supply ethylene by pipeline to downstream consumers. Gazprom neftekhim Salavat can supply some free ethylene which all goes to Sterlitamak. The Bashkir Soda Company purchases around 130,000 tpa for the Sterlitamak plant. The Angarsk Polymer Plant can produce 200,000 tpa of ethylene, 100,000 tpa of propylene and 60,000 tpa of benzene. The main part of ethylene is supplied to Sayanskkhimplast for the production of PVC, and part is used by the plant for the production of low-density polyethylene, styrene and polystyrene.

Russian propylene production, sales and exports, Jan-May 2022

Russian propylene production amounted to 1.210 million tons in the first five months in 2022 against 1.299 million tons in the same period in 2021. The ZapSibNeftekhim and SIBUR Tobolsk plants reduced production from 546,600 tons in the first five months in 2021 to 390,600 tons. In Tatarstan Nizhnekamskneftekhim produced 135,400 tons of propylene in the first five months in 2022 against 134,500 tons in 2021 whilst Kazanorgsintez

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	Jan-May 22	Jan-May 21
Angarsk Polymer Plant	13.6	21.9
SIBUR-Kstovo	71.3	66.5
Lukoil-NNOS	77.4	64.4
Others	14.6	2.4
Total	108.7	93.5

increased production from 84,100 tons to 111,300 tons. Lukoil-NNOS is trying to build a polypropylene plant at the Kstovo refinery.

Russian Propylene Domestic Purchases (unit-kilo tons)		
Consumer	Jan-May 22	Jan-Mar 21
Saratovorgsintez	78.2	64.2
Volzhskiy Orgsintez	4.9	4.5
Akrilat	14.9	0.0
SIBUR-Khimprom	12.6	19.7
Omsk-Kaucuk	4.3	3.8
Tomskneftekhim	1.7	2.7
ZapSibNeftekhim	61.1	26.8
Moscow Refinery	1.2	5.7
Ufaorgsintez	7.5	7.1
Khimprom Kemerovo	3.4	2.5
Plant of Synthetic Alcohol	2.3	5.7
Others	2.2	0.0
Total	194.3	145.7

ZapSibNeftekhim increased merchant propylene purchases from 26,800 tons in January to May 2021 to 61,100 tons in the same period this year. Saratovorgsintez increased purchases of merchant propylene from 64,200 tons to 78,200 tons. Regarding other consumers, SIBUR-Khimprom reduced purchases from 19,700 tons to 8,300 tons.

Russian Propylene Domestic Sales (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Polymer Plant	13.6	21.9
SIBUR-Kstovo	71.3	66.5
Akrilat	12.5	0.2
LUKOIL-NNOS	77.4	64.4
Tomskneftekhim	0.5	0.7
Stavrolen	13.6	2.3
Others	0.4	0.4
Total	189.4	156.4

Russian Styrene Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Nizhnekamskneftekhim	127.4	128.5
Angarsk Polymer Plant	17.0	19.1
SIBUR-Khimprom	64.1	60.8
Gazprom n Salavat	82.3	88.2
Plastik, Uzlovaya	20.6	30.6
Total	311.4	327.2

In Bashkortostan Gazprom neftekhim Salavat produced 62,100 tons of propylene in the first five months in 2022 versus 53,900 tons whilst Ufaorgsintez reduced production from 45,300 tons to 44,200 tons. In the Nizhny Novgorod region SIBUR-Kstovo increased production of propylene from 75,000 tons to 77,600 tons. SIBUR-Kstovo sells most of its propylene on the domestic market in addition to exports. Lukoil-NNOS at Kstovo

Russian propylene exports and domestic sales Jan-May 22

Propylene exports from Russia amounted to 65,500 tons in the first five months in 2022 against 61,000 tons in the same period 2021. Lukoil-NNOS increased export shipments from 33,800 tons to 39,700 tons whilst SIBUR-Kstovo increased shipments from 8,800 tons to 10,500 tons.

Russian sales of propylene on the domestic merchant market amounted to 108,700 tons in the first five months in 2022 against 93,500 tons in the same period last year. The largest propylene supplier to the domestic market was Lukoil-NNOS, shipping 64,400 tons against 77,400 tons in January to May 2021 followed by SIBUR-Kstovo which increased from 66,500 tons to 71,300 tons.

Russian styrene production, sales and exports, Jan-May 22

Russian styrene production fell from 311,400 tons in the first five months in 2021 to 327,200 tons in January to May 2022.

Nizhnekamskneftekhim reduced production from 128,500 tons to 127,400 tons where most of the styrene is used internally for polystyrene and synthetic rubber output. Gazprom neftekhim

Salavat reduced production from 88,200 tons to 82,300 tons.

Russian styrene exports amounted to 20,300 tons in the first five months in 2022 against 28,200 tons in the same period in 2021. Gazprom neftekhim Salavat reduced exports from 25,500 tons to 17,400 tons whilst SIBUR-Khimprom increased export shipments from 300 tons to 3,000 tons. Domestic merchant sales of styrene dropped slightly from 60,600 tons in the first five months last year to 50,600 tons in the first five months in 2022.

Paraxylene-PTA-PET

Russian paraxylene production & exports Jan-May 2022

Russian paraxylene production dropped in May after protracted scheduled repairs were undertaken in the fourth quarter last year at the Ufaneftkhim plant and the Kirishi refinery. As a result, paraxylene production in Russia dropped from 142,200 tons in the first five months in 2022 to 110,800 tons in 2021.

Russian Paraxylene Production 2022 (unit-kilo tons)			
Company	Mar	Apr	May
Gazprom Neft	10.6	5.6	8.2
Ufaneftkhim	4.2	4.4	4.5
Kirishinefteorgsintez	11.4	8.4	0.7
Total	26.2	18.4	13.4

Russian Paraxylene Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Gazprom Neft	47.6	56.7
Kirishinefteorgsintez	23.6	37.5
Ufaneftkhim	39.6	48.0
Total	110.8	142.2

In 2021 Russian paraxylene production dropped to a total of 184,157 from 258,000 tons in 2020. For the first quarter this year Russia produced 79,060 tons of paraxylene, including 33,745 tons from Gazprom Neft, 30,573 tons from Ufaneftkhim and 14,742 tons from Kirishinefteorgsintez. Russian exports declined from 42,900 tons in the first five months in 2021 to 23,800 tons in the same period this year.

Polief Domestic Raw Material Purchases (unit-kilo tons)		
Product	Jan-May 22	Jan-May 21
MEG		
Nizhnekamskneftekhim	26.2	11.0
SIBUR Neftekhim	0.3	21.3
Acetic Acid		
Azot Nevinnomyssk	7.1	9.0

Polief-PTA production Jan-May 2022

MEG purchases made by Polief amounted to 26,200 tons in the first five months against 32,300 tons in the same period in 2021, whilst acetic acid purchases dropped from 9,000 tons to 7,100 tons. MEG purchases are made jointly from Nizhnekamskneftekhim and SIBUR-Neftekhim which are now part of the same group, whilst acetic acid is purchased

from Russia's sole producer Azot at Nevinnomyssk. In 2021 Nizhnekamskneftekhim supplied 29,200 tons of MEG to Polief and SIBUR-Neftekhim supplied 40,400 tons. Azot at Nevinnomyssk supplied 24,700 tons of acetic acid last year to the Polief plant.

Ekopet raw material logistics

PTA imports from China to Kaliningrad have been made completely by rail in recent months due to the self-sanctioning on shipping to Russian ports. PTA imports from China were delivered to Kaliningrad in

PET-PTA import duties zeroed by Eurasian Economic Commission
The Council of the Eurasian Economic Commission (EEC) approved the zeroing for one year of the import customs duty rate in respect of polyethylene terephthalate (PET). This grouping covers Russia, Belarus and Kazakhstan

This follows a recent decision to apply a zero rate of customs duty on the import of PTA and its salts into the territory of the EAEU. The new measure was introduced until March 2024 and replaces the previous duty at zero which expired at the end of 2021. The measure on PTA is introduced to fill the deficit in raw materials in the domestic market of the Eurasian Economic Union and meet the needs of enterprises engaged in the production of PET.

March but since then the silk road route has been used. PTA has been supplied by the Danish company Maersk through the Suez Canal. In the ports of Bremerhaven and Gdansk, the product is reloaded on other ships before delivery to Kaliningrad.

Prior to the Russian invasion of Ukraine Ekopet purchased nearly all of its MEG from Saudi Arabia. The last delivery took place in February when Ekopet received 4,499 tons of MEG from SABIC. Since then, MEG has been sourced from domestic companies such as Nizhnekamskneftekhim and SIBUR, supported by purchases from other foreign sources such as Turkey.

Ekopet's share of the Russian PET market amounts to around 37%. In 2021 the company produced 234,000 tpa of PET and the target for 2022 was established 242,000 tons. It is not clear if this target can be met considering the difficulties in logistics for both sales and raw materials. Ekopet is heavily

focused on using secondary PET but is struggling to receive sufficient volumes. Whilst in Europe, on average, 75% of garbage is sent for recycling, in Russia this figure rarely exceeds 10%.

Aromatics

Russian Benzene Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Polymer Plant	35.8	41.0
Gazprom Neft	41.9	44.8
LUKoil-Neftekhim	35.3	0.0
LUKoil-Permnefteorgsintez	31.3	20.7
Magnitogorsk MK	17.1	15.1
Nizhnekamskneftekhim	129.4	126.9
Novolipetsk MK	4.5	2.5
Gazprom neftekhim Salavat	82.3	88.6
Severstal	14.0	13.0
SIBUR-Holding	38.1	35.4
Slavneft-Yaroslavlorgsintez	18.7	28.7
Surgutneftegaz	1.7	11.3
Ryazan RN Holding	12.1	11.6
Ufaneftkhim	30.4	40.3
Ural Steel	3.5	4.1
Uralorgsintez	31.8	36.8
Zapsib	27.6	30.0
Novokuibyshevsk Petrochemical	9.8	9.4
Total	565.4	560.4

Russian Benzene Consumers (unit-kilo tons)		
Consumer	Jan-May 22	Jan-Mar 21
Kuibyshevazot	80.4	62.9
Azot Kemerovo	49.6	64.1
Shchekinoazot	20.5	30.7
Kazanorgsintez	24.6	31.3
Omsk Kaucuk	30.0	4.9
Novokuibyshevsk Petrochemical	13.0	18.6
Zapsib	16.1	16.5
SIBUR-Khimprom	41.7	40.8
Ufaorgsintez	6.1	0.0
Uralorgsintez	19.8	24.7
Others	0.7	2.7
Export	23.5	20.1
Total	326.8	318.0

reduced purchases from 31,300 tons to 24,600 tons whilst Omsk Kaucuk increased purchases from 4,900 tons to 30,000 tons. For styrene production SIBUR-Khimprom increased purchases from 40,800 tons to 41,700 tons.

Russian Caprolactam Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Kuibyshevazot	81.9	81.3
Shchekinoazot	25.2	23.7
SDS Azot	49.0	55.3
Total	156.1	160.3

49,000 tons from 55,300 tons. Caprolactam exports from Russia amounted only to 3,428 tons in May which was largely due to the absence of purchases made by China and Taiwan.

Russian benzene production Jan-May 2022

Russian benzene production amounted to 565,400 tons in the first five months in 2022 against 560,400 tons in the same period in 2021. Nizhnekamskneftekhim increased benzene production slightly from 126,900 tons to 129,400 tons, whilst Gazprom neftekhim Salavat reduced production from 88,600 tons to 82,300 tons.

Extended shutdowns at the aromatics' complexes both at Kirishinefteorgsintez and Ufaneftkhim impacted on the domestic supply/demand balance in the first five months. Neither of those plants sell much benzene on the merchant market, but these outages mean that product was redirected from other suppliers creating bottlenecks.

Benzene sales from domestic producers and importers on the Russian domestic market to 326,800 tons in the first five months against 318,000 tons the same period in 2021. Imports started to disappear from the market in March as Ukrainian producers stopped operating whilst Belarussian refineries were forced to reduce operating rates after sanctions from the EU. Angarsk Polymer Plant reduced sales from 13,400 tons to 13,200 tons whilst SIBUR-Kstovo increased sales from 19,100 tons to 22,500 tons.

Gazprom Neft at Omsk reduced sales from 43,300 tons to 41,900 tons whilst Gazprom neftekhim Salavat reduced from 17,500 tons to 16,600 tons. Russian benzene exports increased in the first five months from 20,130 tons to 23,473 tons.

Amongst the consumers Kuibyshevazot increased benzene purchases from 62,900 tons to 80,400 tons. Other caprolactam producers included Azot at Kemerovo which increased purchases from 107,800 tons to 123,900 tons and Shchekinoazot which reduced shipments from 77,300 tons to 69,500 tons. In the phenol sector Kazanorgsintez

Russian caprolactam production, Jan-May 2022

Russian caprolactam production amounted to 156,100 tons in January to May 2022 against 160,300 tons in the same period in 2021. Kuibyshevazot increased production from 81,300 tons to 81,900 tons whilst SDS Azot at Kemerovo reduced production slightly to

Russian Orthoxylene Domestic Sales (unit-kilo tons)		
Company	Jan-May 22	Jan-May 21
Gazprom Neft	38.6	45.3
Ufaneftekhim	16.1	20.2
Kinef, Kirishi	9.2	16.1
Total	63.8	81.6

tons. Orthoxylene exports from Russia totalled 37,200 tons in 2021 against 10,400 tons in 2020. Last year Kirishinefteorgsintez was the main exporter, shipping 23,600 tons.

Russian Toluene Domestic Sales (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Slavneft-Yanos	3.6	6.6
Severstal	1.0	0.9
LUKoil-Perm	13.0	18.8
Gazprom Neft	19.9	24.3
Zapsib	3.2	2.6
Kinef, Kirishi	0.0	6.6
Others	1.6	4.6
Total	42.4	64.5

Perm reduced shipments from 18,800 tons to 13,000 tons. Gazprom Neft reduced sales on the domestic market from 24,300 tons to 19,900 tons.

Russian Phenol Exports by Supplier (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Omsk Kaucuk	10.9	1.6
Novokuibyshevsk Petrochemical	3.5	6.2
Ufaorgsintez	3.3	2.7
Total	17.7	10.5

tons whilst Omsk Kaucuk increased production from 18,200 tons in the first five months in 2021 to 26,500 tons in 2022.

Russian Phenol Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Ufaorgsintez	24.4	25.9
Kazanorgsintez	34.2	33.8
Novokuibyshevsk Petrochemical	26.0	32.5
Omsk Kaucuk, Omsk	26.5	18.2
Total	111.2	110.5

domestic consumers of phenol include Metadynea at its two sites at Orekhovo-Zuyeva and Gubakha, Uralkhimplast and Shchekinoazot.

Russian Domestic Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Omsk Kaucuk	14.1	8.0
Novokuibyshevsk Petrochemical	17.9	23.3
Ufaorgsintez	20.3	26.4
Total	52.3	57.7

the EU region need to be completed by 10 July. Exports to Turkey have subsequently increased due to the closure of EU markets.

Russian orthoxylene market, Jan-May 2022

Orthoxylene domestic sales in Russia amounted to 63,800 tons in the first five months in 2022 against 81,600 tons in the same period in 2021. Gazprom Neft reduced domestic shipments from 45,300 tons to 38,600 tons whilst Ufaneftekhim increased shipments from 20,200 tons to 16,100

Russian toluene production totalled 140,300 tons in the first five months in 2022 against 115,500 tons in the same period in 2021. Gazprom Neft increased production from 29,000 tons to 34,400 tons whilst Ufaneftekhim increased production from 6,600 tons to 50,400 tons.

Toluene sales on the domestic market dropped from 64,500 tons in the first five months in 2021 to 42,400 tons in the same period in 2022. The Kirishi refinery has not shipped any toluene to the domestic market this year as production has been idle whilst Lukoil at

Russian phenol market, Jan-May 2022

Russian phenol production amounted to 111,200 tons in the first five months in 2022 against 110,500 tons in the same period in 2021. Novokuibyshevsk Petrochemical produced 26,000 tons of phenol against 32,500 tons whilst Ufaorgsintez reduced production from 25,900 tons to 24,400 tons. Kazanorgsintez produced 34,200 tons versus 33,800

Sales of phenol on the domestic market totalled 52,300 tons in the first five months in 2022 against 57,700 tons in the same period in 2021 with Ufaorgsintez reducing shipments from 26,400 tons to 20,300 tons. Omsk Kaucuk increased shipments from 8,000 tons to 14,100 tons after recovering from technical problems earlier in the year whilst Novokuibyshevsk Petrochemical reduced sales from 23,300 tons to 17,900 tons. Major

Russian phenol exports directly from producers amounted to 17,700 tons in the first five months this year against 10,500 tons in the same period in 2021, with Omsk Kaucuk increasing shipments from 1,600 tons to 10,900 tons.

Phenol and acetone have both been placed under EU sanctions which means that any transactions to

Synthetic rubber

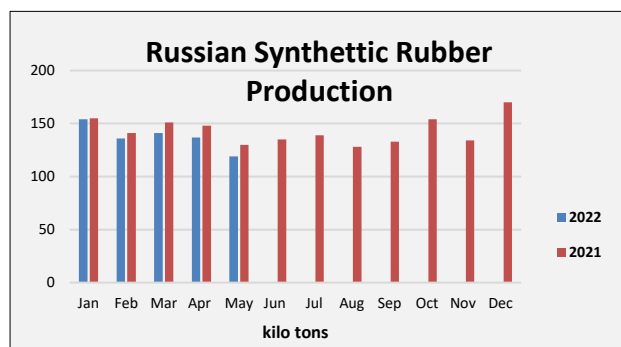
Russian Butadiene Production (unit-kilo tons)

Producer	Jan	Feb	Mar	April	May
ZapSibNeftekhim	28.125	24.000	28.468	21.88	18.625
Nizhnekamskneftekhim	21.635	19.110	24.705	17.095	17.835
Togliattikaucuk	4.390	2.920	5.250	4.845	5.435
Sterlitamak Petrochemical Plant	3.040	3.851	1.800	2.589	2.887
Omsk Kaucuk	2.325	3.445	2.845	3.445	2.920
Total	59.515	53.326	63.068	49.854	47.702

Russian rubber feedstocks Jan-May 2022

Butadiene production in Russia fell in May to 47,202 tons which is the lowest monthly volume in 2022. C4 rail shipments to the Russian market amounted to 158,600 tons in the first five months in 2022 against 203,100 tons in the same period in 2021.

All synthetic rubber producers purchased less C4s on the market due partly to lower production. Due to reduced demand on the domestic market Stavrolen started shipping C4s to the export market in May.



Synthetic rubber production in Russia totalled 687,000 tons in the first five months in 2022 against 725,000 tons in the same period in 2021. Production is expected to remain under the monthly 2021 levels for the rest of 2022. As a result, Nizhnekamskneftekhim may be forced to

reduce operating rates for some product lines. Butadiene rubber, butyl rubber and halogenated butyl rubber are all products affected directly by sanctions. Isoprene rubber has thus far been excluded from sanctions. The main problem facing isoprene rubber exports from Nizhnekamskneftekhim is logistics and the shipment of deliveries to European customers.

Russian tyre market-increased Chinese presence

Russian tyre production totalled 20.6 million pieces in the first five months in 2022 against 21.8 million pieces in the same period in 2021. Volumes in May showed signs of decline, falling to 3.2 million pieces against 4.8 million pieces in May 2021. Tyre manufacturers have faced difficulties with the supply of materials and raw materials due to problems with logistics and supply from European sources. Around 60 different materials are used in tyre formulation, some of which are not produced in Russia. About half of the raw materials come from outside Russia, although natural rubber imports have not been affected by sanctions.

Russian Tyre Production (unit-mil pieces)		
Product	Jan-May 22	Jan-May 21
Car Tyres	17.5	18.3
Lorry tyres	2.4	2.9
Agricultural tyres	0.7	0.6
Total	20.6	21.8

This year there has been a significant increase in tyre imports from China which has been in response to Western companies leaving the market.

On 28 June this year Michelin announced its departure from the Russian market and the transfer of business to local management, with intentions to complete this process before the end of 2022. The company referred to the lack of technical capacity to resume operations due to logistical difficulties in the current volatile and uncertain context. Michelin Russia has a production site at Davydovo, 100 km from Moscow, with a capacity of 1.5-2 million tyres for passenger cars. Michelin Russia's sales accounted for 2% of the Group's total sales and 1% of total passenger car tyre production.

Nokian Tyres, following Michelin, announced its departure from Russia at the end of June. Nokian produced around 80% of all its tyres at the Vsevolozhsk plant near St Petersburg. Due to Russia's invasion of Ukraine, starting from March the company gradually began to transfer production to sites in other countries. The Russian plant in Vsevolozhsk will be reflected in the impairment of Russian assets in the second quarter of 2022 in the amount of about €300 million. Other tyre manufacturers Bridgestone, Pirelli and Continental are closely monitoring and analysing the situation on the market, continuing to work to determine the optimal solution for business in Russia.

Methanol

Russian Methanol Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Shchekinoazot	631.9	415.5
Gazprom Methanol	315.5	421.6
Metafrax Chemicals	546.8	528.7
Akron	44.3	44.4
Azot Novomoskovsk	101.7	122.3
Angarsk Petrochemical	13.5	17.1
Azot Nevinnomyssk	51.3	50.2
Tomet	297.8	170.6
Ammoni	45.5	57.2
Totals	2048.4	1827.4

Russian methanol production Jan-May 2022

Russia produced 2.048 million tons of methanol in the first five months in 2022 against 1.827 million tons in the same period in 2021. The rise in production runs against the disruptions and restrictions placed on methanol trade and is due almost exclusively to the increases at two producers Shchekinoazot and Tomet. For other plants, the picture is one of stability or declines. Metafrax made a slight increase in production from 528,700 tons to 546,800 tons but Gazprom Methanol reduced production from 421,600 tons to 315,500 tons.

Tomet produced 297,800 tons of methanol in the first five months in 2022 against 170,600 tons in the same period in 2021. Production was higher due to both units operating for most of the first five months whilst in 2021 only one unit

worked for most of this five-month period. As Tomet is now facing restrictions on export possibilities only line has operated since June this year.

Shchekinoazot produced 631,900 tons in the first five months in 2022 against 415,500 tons in January to May 2021, the increase due to the addition of new capacity. More than two thirds of production was sent for export by Shchekinoazot. Also, in the Tula Oblast Azot at Novomoskovsk reduced production from 122,300 tons to 101,700 tons. Ammoni in Tatarstan reduced methanol production from 57,200 tons in the first five months in 2021 to 45,500 tons in 2022.

Gazprom gas prices rise from 1 July

The regulated price of Gazprom's gas in Russia increased by 5% from 1 July for industrial consumers. The price of gas in Russia is still only about \$100 per thousand cubic metres which is 10 to 15 times less than spot gas prices in Europe. With this indexation, the price of gas for industrial consumers of the most

Russian Gas Prices (per thousand cubic metres)		
Region	Roubles	\$ per metres
Moscow	5303	101
St Petersburg	5115	96
Yamalo-Nenets	3421	65
Rostov	5409	103

remote from the places of production will rise from 5155 to 5413 roubles per thousand cubic metres, or \$103 at the current exchange rate.

The increase in the price of Gazprom's gas may also affect the price of gas supplies from independent producers. For 2023, it is planned to index wholesale

regulated gas prices for industry by 4%, and in 2024 by 4%.

Russian Methanol Exports by Producer (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Azot Nevinnomyssk	1.0	3.6
Azot Novomoskovsk	31.1	39.4
Akron	4.9	4.2
Metafrax Chemicals	200.6	183.2
Gazprom Methanol	96.1	210.5
Tomet	119.0	59.4
Shchekinoazot	477.6	300.3
Ammoni	1.5	0.0
Total	931.8	800.5

Russian methanol market overview Jan-May 2022

Export volumes for Russian methanol in the first five months increased to 931,800 tons versus 800,500 tons in the same period in 2021. The main reason for the higher export estimates was due to the start-up of the third unit M-500 at Shchekinoazot in September 2021 where shipments rose from 300,300 tons to 477,600 tons.

Due to increased production Tomet was able to increase export shipments to 119,000 tons against 59,400 tons in January to May last year. Despite the increase Tomet exported very small volumes in May whilst Shchekinoazot reduced shipments slightly against April.

Gazprom Methanol at Tomsk reduced export shipments from 210,500 tons in January to May 2021 to 96,100 tons after the Finnish route became difficult to use. However, Gazprom Methanol was able to resume exports through Finland in June as the Finnish railways strived to complete outstanding contracts.

Summary of Russian Methanol Export Destinations (unit-kilo tons)		
Country	Jan-May 22	Jan-Mar 21
Belarus	92.8	54.9
Finland	333.6	413.3
Kazakhstan	14.2	9.6
Latvia	31.0	6.7
Lithuania	35.1	37.5
Netherlands	120.3	37.0
Poland	182.0	134.4
Romania	26.5	33.4
Slovakia	49.0	105.3
Turkey	35.7	6.4
UK	8.4	0.0
Ukraine	11.9	27.1
Others	0.5	1.4
Total	942.0	867.0

established shippers Gazprom Methanol and Metafrax Chemicals. Russian producers are actively seeking new customers and alternative routes for shipments to replace lost business in northern Europe.

Russian methanol exports to Belarus increased to 92,800 tons in the first five months against 54,900 tons last year. Exports to Kazakhstan in January-May 2022 rose to 14,200 tons from 9,600 tons whilst shipments to Poland rose from 134,400 tons to 182,000 tons.

Although Romania has not been able to receive methanol from Russia since the end of February imports still amounted to 26,500 tons in the first five months from 33,400 tons. Slovakia is facing the same delivery issues reduced imports from 105,300 to 49,000 tons.

Methanol exports to Finland declined from 413,300 tons in January to May 2021 to 333,600 tons this year. The decline occurred despite the start by Shchekinoazot to ship product through the Finnish ports in addition to the more

Russian methanol export options and project update

The most pressing issue for methanol producers is the shortage of methanol terminals and the over-reliance on non-Russian ports. Inside Russia small volumes of methanol are transhipped from the ports of

Russian methanol domestic prices May 2022

Russian methanol producers reduced prices on the domestic market in May in an effort to stimulate greater demand. Export difficulties of Russian producers have increased interest in the domestic market, but demand is limited.

Another problem for Russian methanol producers is the return of rail cars which have been tied up much longer than normal at various ports, border crossings, etc. Finland has seized over a thousand Russian rail cars; it is not clear if any methanol cars are included in this capture.

Overall, producers have accumulated much higher-than-normal inventories as large volumes of exports have not been able to compensate for the decrease in consumption in the external market. Although the current rouble exchange rate lacks credibility methanol prices range from 28,000 to 34,000 roubles per ton in the Central region (which includes Moscow) and including 24,000-32,800 roubles per ton for the Volga region. Phenol-formaldehyde resin producers were noted as buying less methanol in May due to lower demand for resins.

Kavkaz and Temryuk in the southern parts of the country, but the main volume has always gone through went through the Finnish port of Hamina-Kotka. Turkey represents an obvious market for the ports of Kavkaz and Temryuk, but volumes are not yet significant. Options for Russian methanol exporters include the re-profiling of petroleum terminals to accept and ship methanol. Lukoil has already started investing in the Vysotsk terminal on the Gulf of Finland for transshipment of methanol, intended to operate on the basis of the methanol plant which is under construction.

The long-term aim, as seen at present, consists of a gradual reorientation of methanol exports to East and South East Asia. Russia's current relations with Europe raises questions about construction of methanol plants in the Baltic region. Thus, it

is quite possible that projects under planning for Vysotsk, Ust Luga and Kingisepp could be postponed until sanctions are removed. Even though methanol is not sanctioned shipping routes and ports are now being blocked. In theory these new plants under construction or planning could ship product to Asia but transport costs may be too high to make exports worthwhile.

The two most advanced projects were thought to comprise Skovorodino and Nizhnekamsk, the former using Johnson Matthey technology and the latter Haldor Topsoe. No project updates have been given since the outbreak of the war, but unconfirmed assumptions are that construction is progressing very slowly. As for less advanced projects, AEON at Volgograd is seeking a new partner after the withdrawal of Marubeni, Nakhodka Mineral Fertiliser has passed necessary safety checks whilst Ruskhim continues to work on its infrastructure and feedstock foundations for its Indiga project.

For the Vysotsk project in the Leningrad region Lukoil is undertaking a comprehensive environmental and social impact assessment of the project for the reconstruction and construction of new facilities in the port for the transshipment of acrylonitrile and methanol. The first stage of the project involves the reconstruction

Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Azot Nevinnomyssk	12.4	8.9
Azot Novomoskovsk	55.7	77.6
Metafrax	154.7	170.3
Gazprom Methanol	166.0	184.8
Tomet	164.8	118.1
Shchekinoazot	112.1	79.8
Ammoni (Mendeleevsk)	24.8	36.9
Total	690.5	676.5

of facilities to ensure the transshipment of acrylonitrile from tank cars and tank containers arriving by rail to sea tankers. The volume of transshipment is 160,000 tpa.

After the implementation of the second stage at the facility, it will be possible to tranship 1 million tpa of methanol. Acrylonitrile is produced at Saratov, but the methanol project is still under construction with no imminent sign of completion.

Russian methanol domestic sales, Jan-May 2022

Merchant sales of methanol on the Russian domestic market amounted to 690,500 tons in the first five months against 676,500 tons in the same period in 2021. The slight rise in domestic consumption helped

Russian Methanol Purchases by Consumer (unit-kilo tons)		
Consumer	Jan-May 22	Jan-May 21
Nizhnekamskneftekhim	133.7	127.6
Togliattikaucuk	24.5	51.2
Uralorgsintez	14.4	21.1
SIBUR-Khimprom	1.1	12.5
SIBUR Tobolsk	18.0	12.8
Omsk Kaucuk	43.9	36.7
Novokuibyshevsk NPZ	12.3	12.1
Uralkhimplast	9.2	8.8
Slavneft-Yanos	4.9	5.5
Metadynea	32.2	40.4
Kronospan	45.1	53.4
Gazprom	110.0	85.8
Khimsintez	21.5	7.7
Volzhsky Orgsintez	22.0	3.0
Togliattiazot	58.3	29.9
Others	139.3	183.2
Total	690.5	691.5

offset the decline in export activity. Tomet supplied 164,800 tons in the first five months, making it the second largest provider on the domestic merchant market. The largest consumer for Tomet is Togliattiazot where methanol is used for the production of urea-formaldehyde concentrate.

Despite being the largest supplier to the domestic market Gazprom Methanol reduced domestic shipments of methanol from 184,800 tons in the first five months in 2021 to 166,200 tons in the same period in 2021. Shchekinoazot increased domestic sales from 79,800 tons to 112,100 tons. Metafrax Chemicals reduced merchant shipments to the domestic market from 170,300 tons in January to May 2021 to 154,700 tons in the first five months this year.

Nizhnekamskneftekhim purchased 133,700 tons of methanol in the first five months against 127,600 tons in the same period in 2021 whilst Gazprom increased purchases from 85,800 tons to 110,000 tons. Gazprom is the fastest growing consumer of methanol in the Russian market. Togliattikaucuk reduced methanol purchases from 51,200 tons in January to May to 24,500 tons.

Nizhnekamskneftekhim Methanol Purchases by Producer 2022					
Producer	Jan	Feb	Mar	Apr	May
Metafrax	16.406	13.009	13.916	17.533	9.805
Shchekinoazot	6.618	6.568	6.491	3.249	1.369
Tomet	9.475	7.625	7.998	9.952	3.662
Total	32.519	27.202	28.405	30.734	14.836

Nizhnekamskneftekhim purchases methanol largely from Metafrax, Shchekinoazot and Tomet. Purchases in May were lower this year due to a build-up of inventory in March and April. The construction of a methanol plant by Nizhnekamskneftekhim was scheduled to be completed by 2023 but it is

unclear if this will materialise. It would though lead to increased availability in the Russian market.

Kronospan bought 45,100 tons of methanol against 53,400 tons in the first five months last year and Metadynea reduced purchases from 40,400 tons to 32,200 tons. Kronospan buys methanol largely from Azot at Novomoskovsk and Shchekinoazot whilst Metadynea buys largely from Azot at Novomoskovsk. Uralkhimplast at Nizhniy Tagil increased methanol purchases for resin production in the first five months in 2021 from 8,800 tons to 9,200 tons. Almost all of the methanol supplied to Uralkhimplast came from Gazprom Methanol at Tomsk.

Schekinoazot increased production and ammonia installation

In the first quarter Shchekinoazot increased the production of methanol from 249,400 tons to 390,800 tons and exports from 179,800 tons to 275,800 tons. Domestic merchant sales rose from 49,500 tons in the first quarter this year to 68,000 tons, whilst for inventory and internal processing volumes rose from 20,100 tons to 47,000 tons. Shchekinoazot does not process much methanol, but inventory has been higher this year.

Shchekinoazot Methanol Balance (unit-kilo tons)		
	Q1 22	Q1 21
Production	390.8	249.4
Exports	275.8	179.8
Domestic sales	68.0	49.5
Captive/Inventory	47.0	20.1

The company completed its maintenance in May for urea-formaldehyde concentrate and related plants.

This shutdown was the first of a number of planned outages this year. The next stop on schedule is in early June, for the caprolactam and cyclohexanone plants where it is planned to service the Samsung air compressor in the cyclohexanone workshop and conduct maintenance in the hydroxylamine sulphate workshop. All the main workshops of Shchekinoazot are stopped for major repairs in order of priority, according to a pre-approved schedule, depending on the urgency of repairs and market conditions.

Overhauls at the first methanol and in the ammonia compression and synthesis workshop are scheduled for mid-summer, and the next ones for autumn. Preparations for the summer shutdowns are already underway. In order to replace spare parts of foreign production, if necessary, the company's service is now working on options for interaction with domestic manufacturers in Central Russia, in the Urals. There are many enterprises that are now reorienting themselves to this direction of non-standard spare parts for imported equipment, oil seals, bearings, seals, etc.

Shchekinoazot has started the installation of an ammonia synthesis column where the capacities include 525,000 tpa of ammonia and 700,000 tpa of urea. The project is being constructed by China National Chemical Engineering.

Last year we achieved record results - 463 thousand tons were produced (in general for the year). This year we are ahead of schedule, 5% higher (the indicator of the first half of last year)," Interfax quoted Makarov as saying.

Metafrax methanol processing and production

In the first quarter this year Metafrax Chemicals increased production, exports and internal processing, but a decline was noted for merchant sales on the domestic market. Last year Metafrax Chemicals increased its capacity for processing of methanol to 450,000 tpa through the addition of the third and new formalin plant. With exports set to face declines over the next few months Metafrax Chemicals is trying to focus more the domestic market, either through internal processing or merchant sales. The strategy is nothing new for Metafrax Chemicals as for the many years has involved not only developing the methanol chain in order to reduce the dependency on export sales and the domestic merchant market, but also to diversify its product range. However, this strategy has now become more significant in the face of economic isolation from European countries.

Metafrax Methanol Balance (unit-kilo tons)		
	Q1 22	Q1 21
Production	323.8	314.3
Exports	125.0	116.4
Domestic sales	92.8	110.5
Captive/Inventory	106.1	87.3

Metafrax Group's green projects are divided into three interrelated groups. The first is aimed at reducing the negative impact on the environment and provides for the development and implementation of solutions aimed at reducing emissions and production waste. The second group of "green projects" is aimed at creating new closed-loop production facilities with minimal emissions and the most modern reliable equipment.

Within the framework of the AKM project, the largest carbon dioxide emission plant in Russia will be put into operation. The launch of the unit will eliminate the daily ingress of 1120 tons of carbon dioxide into the atmosphere. CO2 emissions from Metalrax's production facilities will be reduced by more than half."

The third group of projects provides for the creation of a line of "green" products from biodegradable natural raw materials. The key requirements for the selection of such projects are environmentally friendly production methods and safe solutions with a reduced content of harmful components.

In the sphere of interests of Metafrax Group in this area is the production of formaldehyde resins with low emission, bio-methanol from bio-raw materials and "fine" chemistry (perfume fragrances, food essences and dyes). One of the largest "product" projects is the design of the production of bio-propylene glycol (BIO-MPG) at the Site of Metadynea in the Moscow Region.

The BIO-IPG synthesis process used here will reduce greenhouse gas emissions by more than 60% compared to the classical propylene oxide production process,

ESG initiatives in action

The provision on a responsible attitude to the environment is laid down in the strategy of Metafrax Group and is being implemented in several directions. According to the adopted strategy, priority is given to projects with an environmental component, investments are made in fixed assets for environmental protection and rational nature management. In addition, a special environmental programme is currently in place within the Group. The environmental program of Metafrax Group is designed for 3 years and provides for more than 5 billion roubles of investment."

In 2021, the volume of investments in fixed assets for environmental protection and rational use of natural resources exceeded 294.8 million roubles. The implementation of the ESG initiative related to corporate responsibility in the review was presented by the active social policy of the Group of Companies, compliance with industrial safety standards, charitable activities, job creation, development of human resources and reserve.

Kuibyshevazot-urea

Kuibyshevazot is implementing a number of major investment projects, including the construction of urea production with a capacity of 525,000 tpa and weak nitric acid with a capacity of 547,500 tpa. Togliattiazot continues the construction of the third unit for the production of urea with a capacity of 730,000 tpa.

The Nord Stream pipeline, which runs through Ust Luga, needs to operate at a certain pressure no lower than 0.9 and can only do so with an anchor customer which was to be Germany. Possibly the gas processing plant under construction at Ust Luga could act as the anchor consumer for the pipeline from Siberia, but this may not be ready for several years. According to the project, the complex will process about 45 billion cubic metres of natural gas per annum, of which 20 billion cubic metres will go to liquefaction, and 25 billion to the production of gas chemical products. Evrokhim-methanol project Kingisepp

Evrokhim plans to invest 140 billion roubles in the construction of a methanol plant and terminal in the Kingisepp region of Leningrad. An agreement has been reached on cooperation and cooperation to create a modern enterprise using the best available technologies in the production of methanol with a maximum capacity of 2.5 million tpa. This is in addition to the construction of a methanol pipeline and a port terminal for shipment of products.

The terminal is one of the main keys to the project as otherwise methanol would need to be shipped by rail to other Baltic ports such as Sillamae in Estonia. The new plant will be built on the territory of the industrial zone "Phosphorite" in the Kingisepp district, where Evrokhim-Northwest-2 is building an ammonia and urea plant. The Evrokhim North-West-3 methanol project is aimed at a start-up in 2025.

The agreement on the construction of a methanol plant was concluded last year between the government of the Leningrad region and Evrokhim. The project also provides for the construction of a terminal for the shipment of finished products in the seaport in Ust-Luga. The methanol plant is one of the stages in the development of chemical and gas processing enterprises, and it is very important for our company to participate in this large-scale industrial development project of the Leningrad Region. On a plot of 63

hectares, Springald Group will dismantle existing buildings, reclaim land, and prepare a construction site. Work on the preparation of the territory will be completed in the second quarter of 2022.

Shchekinoazot-railway logistics

The modernised Kaznacheevka station in the Tula region was opened in December, after a large-scale reconstruction which took place largely in order to help Shchekinoazot cope with the introduction of new plants. This includes the new 500,000 tpa methanol plant opened in October last year in addition to other units including nitric acid with a capacity of 270,000 tpa and ammonium nitrate with a capacity of 340,000 tpa. Other projects which are still under construction include the ammonia and urea complex with respective capacities of 525,000 tpa and 700,000 tpa.

As a result of these investments Shchekinoazot has been required to invest in new additional railway tracks. The pre-existing rail infrastructure would not have been able to cope with the increasing volume of traffic that is emerging from the new facilities, combined with the plants already in operation. Consequently, the company has developed a large program for the expansion of the entire railway infrastructure which also included track repairs.

Arkhangelsk methanol project

In early June this year, the Arkhangelsk authorities announced the construction of a methanol plant which would be capable of bringing more than 15 billion roubles to the regional budget. However, Greenpeace, the public and environmentalists expressed their concerns about the new industrial plants. The authorities have talked about new jobs and assessed the economic prospects for construction. The production of methanol will create a technology park and unite a smaller business that uses the substance in production.

Within the framework of Russian law, citizens have many opportunities to defend their position. Such production belongs to the 2nd class of danger, in construction it is necessary to take into account a number of environmental measures. Whether a closed cycle will be used, for example, for wastewater, so that they do not get into the environment, and to be cleaned, return to production. If after the cleaning system the water returns to production, then where all the dirt goes.

Residents expressed their concerns about the impact on the ecosystem in the region and the possible consequences for life. The fact that residents of Khabarovsk region were able to stop the construction of the methanol giant gives reason to believe that any project can be halted.

Alternative solution logistics

Most producers do expect a change in the international environment that would allow some return to normal business any time soon, and thus are having to develop new strategies in order to survive. This means finding both new logistical routes and new customers simultaneously, and thus difficult challenges to overcome quickly. Although methanol has not been sanctioned by individual governments or the EU, self-sanctioning by companies wishing to distance Russia has impacted significantly on export routes and destinations.

Studies are underway in the field of containerization, but this is also a limited opportunity for the transportation of mass cargo. Re-profiling of transshipment complexes for petrochemical nomenclature may be in demand. A methanol terminal was built in the port of Vostochny, which was switched to transshipment of petroleum products. There is such experience, although in the opposite direction.

Logistics for most Russian trade towards Europe has become extremely difficult since the invasion of Ukraine, the Russian Ministry of Transport is seeking out possible solutions that could help some products, including methanol. Around 60% of Russian exports of methanol is shipped through seaports, and about 40% by land routes. Railways have been affected by the war in Ukraine for delivery to Romania, Slovakia and Hungary.

It is almost impossible to quickly build the appropriate port infrastructure, so the only way out in the short term may be the containerisation of these cargoes. For the containerization of methanol and its transportation in tank containers, then there are significant difficulties: although it is possible to do this and

the corresponding tank containers exist, such logistics may be too expensive, taking into account the cost of the transported product itself.

One of the options for solving the problem of the shortage of domestic terminals for transshipment of gas chemistry could be the re-profiling of liquefied petroleum gas (LPG) terminals, but there are also few of them in Russia (Ust-Luga, Taman and Temryuk). There is also a shortage of capacities for transshipment of urea in bulk, more than half of the volume of which went through foreign ports (Sillamae, Riga, Hamina-Kotka).

Evrokhim-Kingisepp methanol project

Russian company Springald Group is reported to have started engineering preparation of Evrokhim's methanol project for the Kingisepp district in the Leningrad region. The plot of more than 60 hectares will be handed over to Evrokhim in the summer of 2022. The chances of the plant materialising on schedule by 2025 seem small as the project depends on acquiring Western technology.

In 2021 Evrokhim outlined plans for investment into the construction of a methanol plant and terminal in the Kingisepp region of Leningrad. This involved the construction of a methanol pipeline and a port terminal for shipment of products. The terminal is one of the main keys to the project. Alternative solutions for methanol would include being shipped by rail to other Baltic ports such as Sillamae in Estonia. Evrokhim is proceeding as far as it can with the project for now.

Marubeni exits Volgograd methanol project

Construction work on the Volgograd methanol project officially started in April despite the current uncertainty over deliveries technology and equipment, particularly from Haldor Topsoe. In March Marubeni withdrew from the Volgograd methanol project where it was participating as a joint investor with the Russian group AEON Corporation. The methanol plant is under construction on the site of the former Khimprom company which closed in 2014.

The project cost for 1.0 million tpa of methanol was estimated at \$800 million and AEON reached agreement with Japanese companies Marubeni Corporation and Mitsubishi as technology partners. US and European companies were afraid to work with Russia based on those sanctions imposed on Russia after it occupied Crimea. At the end of March, the Japanese companies decided to withdraw from the project which now means that the Russian company is seeking another investor, possibly China. The most likely outcome is that the project construction will go as far as possible without foreign partners with hope of change in the overall political environment.

Ammoni-2 construction and methanol expansion

Ammoni is assessing plans for its second chemical complex consisting of units of ammonia, methanol and urea to be built on a site adjacent to the existing Ammoni plant. Construction could finish by the end of 2027.

The production capacity of the new complex has been proposed at 1.2 million tpa for ammonia, 500,000 tpa of methanol and 1.4 million tpa of urea. Investment costs have thus far been estimated at around €1.5 billion. The current Ammoni-1 plant comprises capacities of 717,500 tpa for ammonia and urea, and for methanol 233,800 tpa. Regarding gas feedstocks a new pipeline would be required to supply around 1.1 billion cubic metres per annum to the site. This will be dependent on concluding an agreement between Ammoni's owners SDS Azot at Kemerovo and Gazprom.

Concentrated formalin from the new plant from the new plant at Gubakha will be used for the production of resins, as well as for production of pentaerythritol and hexamine within internal plant consumption. The new formalin plant produces 23 tons per hour or 550 tons per day, with formaldehyde content of 55% and less than 1% of methanol. The plant is working in a commissioning mode after the first methanol was supplied to the unit on 23 October.

Organic chemicals

Russian butanol production Jan-May 2022

Russian normal butanol production fell from 57,700 tons in the first five months in 2022 to 54,700 tons in 2022. Gazprom neftekhim Salavat was the largest Russian producer, reducing production to 20,900 tons against 27,200 tons in January to May 2021.

Russian N-Butanol Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Petrochemical company	15.8	14.2
Azot Nevinnomyssk	6.5	5.9
Gazprom neftekhim Salavat	20.9	27.2
SIBUR-Khimprom, Perm	11.5	10.4
Total	54.7	57.7

Russian Isobutanol Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Angarsk Petrochemical Company	11.2	7.4
Gazprom neftekhim Salavat	12.2	14.4
SIBUR-Khimprom, Perm	22.7	11.3
Total	46.2	33.1

Isobutanol production in Russia increased from 33,100 tons to 46,200 tons in January to May 2022 during which Gazprom neftekhim Salavat reduced production from 14,400 tons to 12,200 tons, and SIBUR-Khimprom increased production from 11,300 tons to 22,700 tons.

Gazprom neftekhim Salavat has completed the overhaul of equipment at the production of butanols of the Monomer plant. In particular, the company's specialists carried out cleaning, audit of pipelines and devices, repair of existing equipment.

Russian paints market

Prior to the Russian invasion the share of foreign manufacturers in the Russian market is estimated at about 30-35% (including companies Tikkurila, AkzoNobel, Huntsman, Hempel, etc.). The leading foreign brand was Tikkurila (taking around 13% of the market). The largest participant in the Russian market is TEX, which is 100% owned by the Finnish Tikkurila. Since sanctions on Russia were

Russian Plasticizer Trade 2022 (unit-kilo tons)					
Exports					
	Jan	Feb	Mar	Apr	May
DOTP	2.339	1.044	0.542	0.136	0.604
Imports					
	Jan	Feb	Mar	Apr	May
DOP	0	0	0	0.023	0.154
DOTP	0.669	0.483	0.823	0.989	1.258
DINP	1.923	2.535	0.907	2.411	1.737

introduced, domestic manufacturers have sought to fill gaps left by foreign manufacturers where possible. Companies that previously worked only on Finnish or Norwegian materials are switching to domestic suppliers. Some Russian producers have noted a large influx of buyers, and this is due not only to seasonal demand.

Russian plasticizers market Jan-May 2022

Both Russian exports and imports of plasticizers have been lower this year which is attributable due to a range of issues including logistics, sanctions, etc. SIBUR has been reducing exports of DOTP from Perm due to increased sales on the domestic market and the replacement of imports. Regarding imported plasticizers logistical bottlenecks have held up deliveries across of the board of DOP, DOTP and DINP.

For the domestic market prices for plasticizers in Russia have fallen in recent months due weakening demand. Availability is tight also despite low demand which means that producers such as Gazprom neftekhim Salavat and Roshalsky Plasticizer Plant are both quoting higher numbers. The cost of dioctyl terephthalate (DOTP) varies in the range of 145,000-151,000 roubles. On the trading floor, SIBUR-Khimprom offers DOTP for 162,000 roubles.

For plasticizer raw materials, domestically produced 2-ethylhexanol (2-EH) fell in price in July to 202,000-210,000 roubles from 215,000-225,000 roubles in June. The main merchant suppliers of 2-EH are Angarsk Petrochemical and SIBUR-Khimprom. Despite lower domestic prices consumers of

2-EH have begun to buy imported product from China. For other plasticizer raw materials, the cost of phthalic anhydride increased at the beginning of the month due to the high cost of orthoxylene.

Kamteks-Khimprom stopped production of phthalic anhydride due to logistical problems

Kamteks-Khimprom stopped production at the start of June and hopes to resume as soon as it is possible to restore the disrupted export supply chains. Other chemical companies are also preparing for a possible reduction in production volumes or a temporary suspension.

Kamteks-Khimprom Phthalic Anhydride Exports 2022 (unit-kilo tons)					
Country	Jan	Feb	Mar	Apr	May
Poland	0.880	1.140	1.020	0.160	0.976
Turkey	2.080	1.040	0.000	3.120	0.000
Others	1.500	2.952	1.491	0.446	0.961
Total	4.460	5.132	2.511	3.726	1.937

Up to 80% of products from Kamteks-Khimprom have traditionally been exported but the company has faced numerous problems regarding logistical, trade and production ties. The company is now

seeking new export routes and has stopped production whilst this process is underway. At the same time, Kamteks-Khimprom has sufficient stock to meet the needs of domestic customers. It is planned to launch production in July. Sales markets will remain the same, logistics will simply change.

Kamteks-Khimprom produces phthalic anhydride and dioctyl phthalate (DOP). In addition, Kamteks-Khimprom produces fumaric and benzoic acids. The capacity of the complex for the production of phthalic

Russian Phthalic Anhydride Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Gazprom neftekhim Salavat	5.0	5.3
Kamteks-Khimprom	25.3	39.9
Roshalsky Plasticizer Plant	3.2	4.3
Total	33.5	45.1

anhydride and fumaric acid is 90,000 tpa, whilst the daily production volume of DOP reaches 140 tons. The revenue of Kamteks-Khimprom at the end of last year amounted to 4.8 billion roubles, and a net profit of 886.5 million roubles.

Kamteks-Khimprom to re-establish supplies and enter the previous mode of operation than for large players. When the volume of production and, accordingly, the goods sent are not so high, it is easier to organize the sale of products. At a minimum, the possibilities of its delivery are expanding you can send

Russian Acetone Production (unit-kilo tons)		
Producer	Jan-May 22	Jan-May 21
Ufaorgsintez	15.6	20.0
Kazanorgsintez	23.1	22.4
Novokuibyshevsk Petrochemical	14.9	19.1
Omsk Kaucuk	15.5	6.3
Total	69.1	67.9

It may be even easier for small companies like goods not only by rail or water transport, but also by road.

Russian acetone market Jan-May 2022

Russian acetone production rose from 67,900 tons in the first five months in 2021 to 69,100 tons in the same period in 2022. Omsk Kaucuk produced 15,500 tons of acetone in the first five months this year against 6,300 tons whilst Kazanorgsintez increased

production from 22,400 tons to 23,100 tons.

Acetone exports from Russia totalled 15,600 tons in the first five months against 20,900 tons in the same period in 2021. Lower export activity in the first quarter was due to a range of factors including logistical problems and the war in Ukraine. Acetone has now been placed under EU sanctions and all transactions

Russian Acetone Exports (unit-kilo tons)		
Country	Jan-May 22	Jan-Mar 21
Belarus	1.9	5.3
Netherlands	10.8	11.3
Turkey	1.8	1.2
Lithuania	0.0	1.4
Latvia	0.3	3.4
Others	0.3	1.7
Total	15.6	20.9

needed to be completed by 10 July. Thus, no new business is possible with the Netherlands which has hitherto been the main destination for Russian acetone.

Regarding the domestic market a surplus of product has started to rise due in part to low demand. Sales of acetone to companies engaged in the production of paints and varnishes have significantly decreased. Combined with the decline in demand for Russian-produced acetone in foreign markets low domestic demand means that prices are under pressure. All market players are ready to provide discounts from the price

list. Rosneft plants were selling spot volumes of acetone in May at 70,000 roubles per ton, Kazanorgsintez at 73,000 roubles per ton and the Titan Group in the range 75,000-78,000 roubles per ton.

Central Asia

Kazakh polypropylene plant to start production in August 2022

Production at the new polypropylene plant in the Atyrau region is scheduled to start in August. Propane supply to installations started in early July which was followed by loading the catalyst into propane dehydrogenation reactors. The design capacity of the new polypropylene plant is 500,000 tpa which is focused on the export of products and sales to the domestic market of Kazakhstan. Exports are expected to be much greater though as the domestic market is worth around 45-50,000 tpa.

In the initial stage, the plant will produce 11 brands of polypropylene, which will eventually increase to a maximum of 65. The first commercial batches of polypropylene will be produced in the third quarter of 2022. The first phase will produce approximately seven grades of polypropylene with a melt flow rate (MFR) of 3 to 35 g/10 min for injection moulding, raffia, and BOPP films and nonwovens. In 2023, the brand range for the production of polypropylene is planned to be significantly expanded.

SIBUR Holding and Kazakhstan Petrochemical Industries (KPI) are preparing to create a JV for the polypropylene plant, with SIBUR's stake not expected to exceed 40%. The JV may be accompanied by another JV which includes the proposed 1.25 million tpa polyethylene project. Kazakhstan Petrochemical Industries is not concerned about SIBUR's involvement and any potential for sanctions based on the premise that the Kazakh side will retain a larger stake in this project. SIBUR will only enter the polypropylene project as one of the shareholders.

Navoiyazot-PVC project construction

Navoiyazot in Uzbekistan is currently undertaking construction of the second stage of the plant for the production of PVC. The project is worth \$400 million will increase the production capacity of PVC to 220,000 tpa from 165,000 tpa. The general contractors of the project include the Turkish group Tatarstan Trade House and China National Chemical Engineering No.7 Construction.

Navoiyazot-selected products	
Product	Capacity (unit-tons)
Methanol	352,000
Ammonia aqueous	99,840
Nitric acid unconcentrated	480,000
Formalin	8,000
Unsaturated polyester resins	1,000
PVC	165,000
Caustic soda	75,000

Previously, around 80% of Navoiyazot's production focused on fertilisers and associated chemicals but in recent years the production of polymers and other chemicals such as methanol has risen. State holding Uzkimyosanoat aims to create a large integrated chemical and technological cluster based on Navoiyazot. In this cluster, a total of 23 projects

have been identified which have estimated at a value of around \$3.4 billion. In the renewable energy sector Navoiyazot is currently installing a solar power plant with a capacity of 200 kW. This is intended to generate more than 296.4 thousand kWh of green electricity per annum which is a key plank of Uzkimyosanoat's energy strategy and target for the chemical industry.

GTL plant at Shurtan starts production of synthetic fuel

The Uzbekistan GTL plant has started production of synthetic diesel fuel, the first batch in the amount of 10 tons was delivered to the Navoi Mining and Metallurgical Plant (NMMC) in July. Synthetic naphtha is also about to be produced at the Uzbek GTL plant which can be used as a feedstock for petrochemical industry and steam cracking. The effectiveness of GTL naphtha is due to higher product yield and quality of final product when it is used as a feedstock.

The Uzbekistan GTL plant in the Kashkadarya region (south-west of Uzbekistan) worth \$3.42 billion was launched in December 2021. The production of liquid synthetic fuel is organized from the purified methane of the Shurtan Gas Chemical Complex. For the petrochemical facilities the Shurtan Gas Chemical Complex is currently expanding its polyethylene plant and installing a new polypropylene plant. Both projects will be completed by 2023.

Bukhara MTO project and derivative plans

The MTO project planned for the Bukhara region in Uzbekistan has received further approvals for construction and has been identified as providing the basis for a chemical and high-tech industry cluster. Rather than exporting natural gas as a raw material, Uzbekistan is investing into deep processing capacity to enable domestic production of fuels, plastics and other products. The methanol to olefins (MTO) plant planned by Jizzakh Petroleum for the Bukhara region in Uzbekistan has been set a target for commissioning by the end of 2025. The project is estimated to cost around \$4 billion and will act as the focus for a new free economic zone in the Bukhara region entitled FEZ Karakul.

In 2021, Jizzakh Petroleum signed a memorandum of understanding with three Russian companies on the construction of the MTO complex in Karakul. However, these companies have now been sanctioned and thus Uzbekistan is looking for new contractors.

Bukhara MTO Derivatives		
Product	Licensor	Capacity (ktpa)
PET	Chemtex	n/a
MEG	Scientific Design	n/a
Polypropylene	W. R. Grace & Co	257
LDPE/EVA	Versalis	180

countries and Southeast Asia.

The complex will produce up to 730,000 tpa of polymer products and will become the largest producer of polymers in the country and one of the few in the world producing such materials from methane. More than 70% of the plant's products will be sold in the domestic market, which will allow the industry of Uzbekistan to meet domestic demand, as well as export various finished products to China, Turkey, the CIS

Kazan Synthetic Rubber Plant-polyurethane JV in Uzbekistan

Kazan Synthetic Rubber Plant plans to soon open a JV at Chirchik, specializing in the production of chemicals for the shoe industry, for example, polyurethanes and rubber compounds. Polyurethane and rubber compounds are mainly imported to Uzbekistan from abroad.

plant comprising LDPE and ethylene vinyl acetate. The production of polypropylene will be carried out in cooperation with W. R. Grace using its UNIPOL PP technology. This is expected to be launched by-2025 and will include one reactor line with the capacity to produce 257,000 tpa of polypropylene.

PET is intended to be produced based on the technology of Chemtex Global Corporation (USA), whilst monoethylene glycol (MEG) will be produced using technology from Scientific Design Company Inc. (USA). The production of LDPE will also be established for the first time in the republic on the equipment and technology of Versalis. This technology makes it possible to consistently produce two types of final products at one

EU and Azerbaijan draft deal on extra gas supplies

The EU is preparing to sign a no-strings-attached gas-import deal with Azerbaijan to reduce dependence on Russia following cut-offs to Europe. This could include delivery of at least 20 billion cubic metres of gas per annum by 2027. That would entail significant investments to the expansion of the Southern Gas Corridor pipeline network, which is a set of pipelines from the Caspian Sea, via Turkey, to South-East Europe.

SOCAR methanol Jan-May 2022

SOCAR Methanol produced 230,100 tons of methanol in the first five months in 2022, which is 4.9 times higher than in the same period in 2021. As of 1 June, the company held 47,200 tons of methanol inventory. In the period January to May 2022 SOCAR Methanol exported 191,688 tons of methanol worth \$60.467 million. The increase in value amounted to 18.2 times over the same period in 2021.

In January-May 2022, Azerbaijan exported 9.4 billion cubic metres of gas, which is 27% higher than in the same period last year. Around 48% of gas exports went to Europe through the TAP gas pipeline. The pipeline is designed to transport 10 billion cubic metres per annum of natural gas from the Shah Deniz field as part of the "Stage-2" of its development through Greece and Albania to West Europe. The capacity of the gas pipeline makes it possible to double its capacity up to 20 billion cubic metres per annum. Last year's total exports of gas amounted to 22 billion cubic metres which is expected to rise to 24 billion in 2022.

Contents from Issue No 380

CENTRAL AND SOUTH EAST EUROPE	2
Orlen Group-Lotos & PGNiG merger.....	2
Orlen Unipetrol-force majeure after fire in July	2
Orlen-Saudi petrochemical plans for Gdansk.....	2
Saudi Aramco-Orlen and oil sources	2
Gdansk and petrochemicals, required investments	2
PKN Orlen production Jan-May 2022 and margins	3
Polish polyethylene trade Jan-May 2022	3
PKN Orlen-Basell Orlen Polyolefins.....	3
Czech polyethylene trade Jan-May 2022	4
HIP Petrohemija investment outline	4
Czech petrochemical trade, Jan-May 22	5
Polish propylene & butadiene imports, Jan-May 22	5
Synthos-production Jan-May 22	5
Polish PTA sales Jan-May 2022	6
Grupa Azoty-melamine & plasticizer shutdowns	6
Gas prices-Grupa Azoty.....	6
Gas agreements PGNiG-Azoty	6
Orlen-Unipetrol refinery damage expected to be corrected in two to three weeks.....	7
Spolana caprolactam exports Jan-May 2022	7
Linde to expand Slovnaft polypropylene plant.....	7
MOL maintenance in Hungary & Slovakia.....	7
Polish organic chemical trade Jan-May 2022	8
Central European isocyanates, Jan-May 22	8
Central European methanol trade Jan-May 22	8
Chimcomplex opens new polyol plant	9
Orlen Poludnie esters and biogas	9
RUSSIA	10
Russian petrochemical production Jan-May 2022	10
Russian chemical industry's mixed signals	10
SIBUR production first half of 2022	10
RUSSIAN PETROCHEMICAL MARKETS.....	11
Russian ethylene production, Jan-May 2022.....	11
Russian propylene production, sales and exports, Jan-May 2022	11
Russian propylene exports and domestic sales Jan-May 22	12
Russian styrene production, sales and exports, Jan-May 22	12
PARAXYLENE-PTA-PET	13
Russian paraxylene production & exports Jan-May 2022	13
Polief-PTA production Jan-May 2022.....	13
Ekopet raw material logistics.....	13
PET-PTA import duties zeroed by Eurasian Economic Commission	13
AROMATICS	14
Russian benzene production Jan-May 2022	14
Russian caprolactam production, Jan-May 2022	14
Russian orthoxylene market, Jan-May 2022	15
Russian phenol market, Jan-May 2022	15
SYNTHETIC RUBBER	16
Russian rubber feedstocks Jan-May 2022.....	16
Russian tyre market-increased Chinese presence	16
METHANOL.....	17
Russian methanol production Jan-May 2022	17

Gazprom gas prices rise from 1 July	17
Russian methanol market overview Jan-May 2022	17
Russian methanol domestic prices May 2022	18
Russian methanol export options and project update	18
Russian methanol domestic sales, Jan-May 2022	19
ORGANIC CHEMICALS	24
Russian butanol production Jan-May 2022	24
Russian paints market	24
Russian plasticizers market Jan-May 2022	24
Kamteks-Khimprom stopped production of phthalic anhydride due to logistical problems	25
Russian acetone market Jan-May 2022	25
CENTRAL ASIA.....	26
Kazakh polypropylene plant to start production in August 2022	26
Navoiyot-PVC project construction	26
GTL plant at Shurtan starts production of synthetic fuel	26
Bukhara MTO project and derivative plans	27
Kazan Synthetic Rubber Plant-polyurethane JV in Uzbekistan	27
EU and Azerbaijan draft deal on extra gas supplies	27
SOCAR methanol Jan-May 2022	27