CIREC MONTHLY NEWS

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

Edited by Andrew Sparshott CIREC Limited
Telephone: +441202 00319 Email: support@cirec.net Web: www.cirec.net

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

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Main Points from this issue

Central European petrochemical markets

- MOL is investing a total of $1.4 billion into the 200,000 tpa polyol plant at Tiszaújváros which is the focal point of MOL's strategic direction in moving from commodity polypropylene
- PKN Orlen's exports of PTA sales amounted to 373,500 tons in the first eleven months in 2020 for a total value of €187.759 million
- Ethylene production for MOL's two sites at Tiszaujvaros and Bratislava amounted to 588,000 tons in the first three quarters in 2020 versus 631,000 tons in 2019.
- Propylene imports into Poland amounted to 126,909 tons in the first eleven months in 2020 against 151,967 tons in the same period in 2019

Russian chemical production

- Russia's output of chemical products rose 6.6% in the period January to November 2020
- Russian propylene production amounted to 2.465 million tons in the first eleven months in 2020 from 2.165 million tons in the same period in 2019
- Russia produced 4.030 million tons of methanol in the first eleven months in 2020, down slightly from 4.037 million tons in the same period in 2019
- Russian phenol production rose in the first eleven months in 2020 to 214,800 tons from 203,600 tons in the same period in 2019

Russian chemical trade

- Over the past three years the major export destinations for Russian exports of chemicals and chemical products include Brazil, Finland, Kazakhstan, Belarus, China and Ukraine
- In the period January to November 2020 Russia imported 36,600 tons of isopropanol for a total cost of $57.2 million versus 23,800 tons in the same period in 2019 for $23.4 million
- Russian TDI imports amounted to 43,100 tons in the first eleven months in 2020 against 43,000 tons in the same period in 2019

Russian chemical projects

- Lummus Technology has been contracted to supply fourteen cracking furnaces for a gas chemical complex at Ust-Luga on the Gulf of Finland
- SIBUR has selected LyondellBasell's Spheripol technology for use at the Amur Gas Chemical Complex (GCC)
- The Irkutsk Polymer Plant (INK) plans to launch a polymer complex at Ust-Kut in 2024. At the peak of construction in 2021-2022, several thousand specialists will be involved at the site

Central & South East Europe

MOL-transfer of polyol R&D centre to Szazhalombatta

MOL has transferred its new polyol research and development centre from Tiszaujvaros to Százhalombatta, where polyol products are to be developed to meet the needs of the customer base. The experimental reactor system was supplied and operated by Thyssenkrupp Industrial Solutions, and the other devices were acquired from Hungarian suppliers.

MOL is investing a total of $1.4 billion into the 200,000 tpa polyol plant at Tiszaújváros which is the focal point of MOL's strategic direction in moving from commodity polypropylene to a semi-commodity polyol. This would allow a €400-500 per ton step-up in average margin capture. By 2023, the company estimates that it could gain an additional $100 million in EBITDA uplift from the polyol plant and other strategic projects. The EPC partner for the polyol project is Thyssenkrupp Industrial Solutions, which is constructing a 70,000 tpa plant for propylene glycol.

By July 2022, at least ten types of polyols will be developed in MOL's research and development centre at the new facility. The company plans to cooperate with the laboratories of several Hungarian universities and independent research institutions to compare and validate the results of the measurements.

MOL starts three year programme ABB

MOL started a three-year partnership with ABB at the start of 2021 with the aim of improving asset integrity at the company's four key chemical plants and refineries in Hungary, Slovakia and Croatia. ABB received a contract last year to improve asset integrity through standardisation of processes and software. Integrity management is also focused on selecting the right equipment. MOL is progressing to schedule with its huge strategic project in constructing a world scale polyol complex at Tiszaujvaros together with propylene oxide.

The effect of the changes is not only to improve the efficiency of chemical and petrochemical installations, but also to improve process safety and reduce the risk of failure. ABB, together with Metegrity Visions will integrate Danube, Slovnaft, MOL Petrochemicals and the INA chemical unit into a common digital platform. MOL estimates it can save up to €10 million per annum by controlling all its facilities through procedures, processes and systems for managing so-called asset integrity (AIM).

Orlen-Lotos meger and petrochemical strategy

Orlen is working to meet the conditions set out by the European Commission for finalising the merger with Lotos. This involves taking 30% of the Gdansk group's refinery shares and 80% of the stations of the network. Lotos has been told by the European Commission to dispose of partial assets in order for Orlen's takeover by PKN Orlen to go ahead. Saudi Aramco is reportedly interested in buying a 30% stake in Grupa Lotos's refinery at Gdansk, the potential of which could benefit Orlen from an increase in cheaper oil purchases and help to divert away from Russian dependence. About 70% of all crude oil processed at the Orlen Group is currently sourced from Russia.

PKN Orlen Production (unit-kilo tons)

Product	*Jan-Nov 20*	*Jan-Nov 19*
Ethylene	449.4	442.2
Propylene	409.0	404.2
Butadiene	55.6	58.1
Toluene	9.7	18.6
Phenol	39.9	41.6
Polyethylene	311.9	331.3
PVC	271.2	224.3
Polypropylene	322.8	319.0

The shortlist of potential buyers of assets belonging to Lotos is expected by the end of the first quarter of 2021 with November 2021 targeted for completion of the transaction. MOL had been linked as a potential buyer of the assets belonging to Lotos but there are question marks whether Orlen would allow its main regional competitor to establish a foothold in the Polish market.

PKN Orlen is allocating zl 8-9 billion annually on investments from petrochemicals through the energy sector, to the retail sector or new technologies. However, aside specific projects in propylene glycol and isopropyl alcohol Orlen is yet to outline its plans for strategic development in petrochemicals. When first announcing the petrochemical investments two years ago, the concern was operating in an exceptionally favourable market environment which allowed it to achieve record results. The situation today is very different taking into account the effects of the pandemic and that the process of taking over Lotos is taking much longer than expected.

Imports of aromatic monomers and derivatives to Poland

PKN Orlen is examining chemical product areas where Poland is particularly dependent on imports. In the area of aromatics and derivatives Poland depends on range of products including ethylbenzene, phenol,

styrene and TDI. Import volumes were mostly stable through 2020 in spite of the pandemic, although ethylbenzene deliveries from the Czech Republic did not take place in May and June last year. Ethylbenzene imports dropped from 135,500 tons in January to November 2019 to 89,200 tons in the same period in 2020.

Polish Aromatic Monomer & Derivative Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Adipic Acid	9.2	9.6
Benzene	9.3	11.7
Caprolactam	9.8	9.7
Ethylbenzene	89.2	135.5
Paraxylene	12.4	11.9
Phenol	83.7	93.0
P Anhydride	25.9	24.3
PTA	25.1	4.5
Styrene	115.0	90.5
TDI	73.9	74.5
Toluene	21.2	21.3

Product imports of TDI and styrene into Poland saw little change from 2019. Despite producing its own PTA imports rose in 2020 due to increased demand in the Polish market.

Polish monomer imports, Jan-Nov 2020

Propylene imports into Poland amounted to 126,909 tons in the first eleven months in 2020 against 151,967 tons in the same period in 2019. Besides an increase in production at Plock, imports into Poland were also made possible from Orlen Lietuva in Lithuania which rose to 18.783 tons in January to November 2020 against 27,521 tons in the previous year.

The main source of propylene imports into Poland in the first eleven months in 2019 was Ukraine, supplying 67,584 tons from the Karpatneftekhim plant at Kalush against 70,194 tons in the same period last year. Russian propylene imports into Poland dropped to 20,959 tons in January to November 2020 against 24,914 tons in 2019.

Polish Monomer & Intermediate Imports 2020 (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Butadiene	93.5	92.7
DEG	36.8	18.8
Ethylene Glycol	48.4	39.8
Ethylene Oxide	11.6	10.6
Propylene	126.9	152.0
Propylene Glycol	23.7	9.5
Propylene Oxide	2.3	19.5

For other monomers and derivatives Poland imported 93,500 tons of butadiene in the first eleven months in 2020 against 92,700 tons in the same period in 2019. Ethylene glycol imports rose from 39,800 tons to 48,400 tons and propylene glycol rose from 9,500 tons to 23,700 tons. Orlen is attempting to address the position on propylene glycol by building capacity at Orlen Poludnie.

Orlen Poludnie-transformation into biorefinery

Orlen Południe is being transformed into a modern biorefinery division at its two refineries at Trzebinia and Jedlicze, undertaking ecological investments. The first installation in Poland and the largest in Europe for the production of green propylene glycol, is under construction in Trzebinia. The company also plans to build a second-generation bioethanol production plant at Jedlicze.

Orlen Południe hopes to produce 30,000 tpa of ecological propylene glycol which would be 10,000 tpa more than the only installation of this type in Europe, which is located in Belgium. The investment, with an estimated value of approximately zl 400 million, will cover as much as 75% domestic demand for green glycol. This environmentally safe product is used, among others in cosmetics or the food industry, but also in medicine, for example for the production of hygiene and pharmaceutical products. Other projects for Trzebinia include a pilot installation for the production of lactic acid.

Polish PTA Exports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belarus	27.0	33.5
Germany	284.9	306.2
Lithuania	13.2	4.0
Switzerland	7.4	6.0
Turkey	13.1	28.4
Others	28.0	31.3
Total	373.5	409.3

PKN Orlen-PTA exports

PKN Orlen's exports of PTA sales amounted to 373,500 tons in the first eleven months in 2020 for a total value of €187.759 million. This measured against 409,300 tons in January to November 2019 for €300.050 million. Average prices per ton dropped from €733 per ton in 2019 to €503 per ton in 2020. Germany took the largest share of Polish PTA exports in 2020 at 284,900 tons against 306,200 tons in January to November 2019, followed by Belarus with 27,000 tons and 33,500 tons in the respective periods.

Besides exports and domestic sales of PTA, Poland imported 23,623 tons in the first eleven months in 2020 at an average cost of €503 per ton. Imports were sourced from Portugal, Belgium and the Netherlands. In addition to PTA, Poland imported 12,405 tons of paraxylene in the first eleven months this year to support production at Plock. Domestic PTA demand in Poland is driven mostly by PET followed by plasticizers. Poland's demand for PET bottle grade resin is estimated at around 260,000 tpa.

Polimery Police-capital increase
The first of five huge storage tanks was delivered from the Gdynia site on 17-18 January or the Polimery Police project. The tanks will be used to store propylene from the propane dehydration plant (PDH). Propylene will be stored in tanks to ensure the continuity of the installation for the production of polypropylene. Daesung Industrial Gases (DIG), a Korean company specialising in gas manufacturing and engineering, has exported an air separation package to Hyundai Engineering for the PDH/PP project. The complex includes a polypropylene production plant with a capacity of 437,000 tpa. The plant is being constructed together with transhipment and storage terminal port facilities for the unloading and storage of propane and ethylene from seagoing vessels.

Grupa Azoty raw material challenges
In line with higher crude prices Grupa Azoty is expecting higher costs for raw materials and feedstocks in 2021 for the production of alcohols and plasticizers. This compares against significant falls in prices for propylene and PTA in 2020.

The supplies of propylene to Grupa Azoty are undertaken mainly on the basis of annual contracts, and spot purchases are made as supplementary supplies. Lower prices of petrochemical feedstocks helped offset the impact of lower prices for oxo-alcohols. In other product areas melamine prices fell due mainly to a decline in demand from the furniture industry. Plastics sales for Grupa Azoty dropped zl 93 million in the third quarter to zl 245 million, resulting in an EBITDA margin of -3.3%.

Central European methanol trade, Jan-Nov 2020
Polish methanol imports amounted to 619,359 tons in the first eleven months in 2020 against 655,758 tons in the same period in 2019. Russia supplied 477,072 tons to Poland in the first eleven months in 2020 versus 396,447 tons in January to November 2019, whilst the second largest source imports came from Finland where imports declined from 92,221 tons to 62,580 tons. Other major suppliers to the Polish market included Norway which reduced export shipments to 41.224 tons against 62,160 tons in the first eleven months in 2019.

Czech Methanol Imports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Germany	14.1	14.3
Norway	0.9	11.9
Russia	35.7	42.0
Slovakia	0.6	0.1
Poland	29.8	4.0
Others	1.4	2.3
Total	82.5	74.7

Methanol imports into the Czech Republic amounted to 82,489 tons in the first eleven months against 74,700 tons in same period in 2019. Russian shipments dropped from 42,000 tons to 35,700 tons, whilst volumes from Poland jumped from 4,000 tons to 29,800 tons.

Polish shipments into the Czech market in 2020 were thought to be Russian produced methanol and thus the data reported by each country can appear confusing. Due to lower methanol prices costs of imports into the Czech Republic dropped from €22.382 million in the first eleven months in 2019 to €19.372 million in the same period in 2020.

In Serbia MSK Kikinda exported 102,100 tons of methanol in January to October 2020 against 91,700 tons in the same period in 2019, whilst acetic acid exports rose to 70,200 tons against 53,400 tons. Elsewhere in South East Europe Romgaz in Romania is considering construction of its own methanol plant.

Czech Petrochemical Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Ethylene	15.3	70.3
Propylene	5.1	7.1
Butadiene	0.0	3.9
Benzene	25.9	35.7
Toluene	6.6	9.9
Ethylbenzene	89.2	139.4

Czech petrochemical trade, Jan-Nov 2020
Due mainly to higher internal usage Unipetrol reduced exports of ethylene in the first eleven months to 15,264 tons against 70,325 tons in January to November 2019 whilst propylene exports amounted to 5,143 tons against 7,056 tons. Ethylbenzene exports from Kralupy dropped in the first eleven months to 89,211 tons against 139,367 tons in the same period in 2019. All Czech ethylbenzene is shipped to Poland to the Oswiecim plant owned by Synthos.

Czech Petrochemical Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Ethylene	3.5	1.3
Propylene	43.8	31.7
Butadiene	57.7	15.1
Benzene	74.5	90.7
Toluene	5.8	4.8
Styrene	34.1	13.9

For inward shipments, benzene imports into the Czech Republic amounted to 74,466 tons in the first eleven months against 90,689 tons. Poland shipped 69,049 tons of benzene to the Czech Republic versus 80,180 tons in January to November 2019, supplemented by 4,074 tons from Serbian refinery NIS at Pancevo. Propylene imports into the Czech Republic increased to 43,801 tons in the first eleven months, whilst styrene monomer shipments rose to 34,119 tons.

Central European isocyanate imports

TDI imports into Poland totalled 73,900 tons in January to November 2020 against 74,500 tons in the same period in 2019. Germany and Hungary were the two largest suppliers last year, providing 24,300 tons and 30,000 tons respectively. Costs in the first eleven months in 2020 totalled €123.710 million against €124.828 million in January to November 2019 which translated into average prices per ton of €1676 against €1674.

Polish TDI Imports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Germany	24.3	29.9
Netherlands	11.5	8.3
Hungary	30.0	28.3
Belgium	0.5	2.2
Saudi Arabia	5.3	3.8
Others	2.3	2
Total	73.9	74.5

MDI import costs into Poland rose from €175.168 million in January to November 2019 to €179.511 million in the same period in 2020. Hungary was the largest exporter of MDI to Poland last year, shipping €63.093 million of product against €71.809 million in January to November 2019. Overall Polish imports of MDI totalled 135,000 tons in the first eleven months in 2020 up from 120,100 tons in 2019, with average prices per ton falling from €1458 to €1324.

Czech MDI Imports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
China	3.3	2.0
Belgium	8.6	8.4
Germany	11.0	13.8
Italy	0.2	0.2
Hungary	4.1	4.2
Netherlands	3.0	1.5
Others	2.2	1.1
Total	32.4	31.3

TDI imports into the Czech Republic amounted to 4,649 tons in the first eleven months at a cost of €13.755 million, down from 6,220 tons in the same period in 2019 at a total cost of €16.710 million. MDI imports into the Czech Republic totalled 32,414 tons in the first eleven months in 2020 against 31,279 tons in the same period in 2019. Germany was the largest supplier, shipping 11,000 tons against 13,800 tons, followed by Belgium which shipped 8,600 tons versus 8,400 tons.

PCC Rokita-lower revenues and 2020 investments

Despite a fall in revenues in the third quarter in 2020 PCC Rokita's EBITDA margin for the polyurethane division rose from 6.4% to 10.7% due largely to significant price reductions in raw materials, including prices of propylene oxide and ethylene oxide. Sales of polyols in the segment stabilised in the third quarter after challenges in the second quarter.

Exports accounted for around 55% of sales from PCC Rokita's polyurethane sector in January to September 2020. Whilst PCC Rokita's performance dropped PCC Exol increased its net profit in the third quarter by 52% rising from zl 6.08 million to zl 9.22 million. In the first three quarters PCC Exol achieved higher profits after the pandemic induced an increase in demand for surfactants used in cosmetics and hygiene products.

PCC Rokita Sales (unit-kilo tons)		
Category	***Jan-Sep 20***	***Jan-Sep 19***
Polyurethanes	66.7	66.9
Chlorine Division	253.7	249.1
Other chemicals	19.1	19.9

PCC Rokita is undertaking investments with an estimated total value of €110.5 million. These investments include the expansion and modernisation of a pilot plant installation for the development of polyols, a pilot installation for the production of phosphates and phosphites, and investments in electrolysis and propylene oxide. In 2019 PCC Rokita expanded its propylene storage base and expanded the electrolysis plant to increase production capacity.

Other investments included the expansion of capacity for propylene oxide. In 2018 PCC increased the capacity of the monochloroacetic acid (MCAA) plant at Brzeg Dolny from 42,000 tpa to 50,000 tpa. The medium-term goal is to expand MCAA capacity to 100,000 tpa. Exports of MCAA have been increasing in the past two years.

Exports of MCAA totalled 37,558 tons in the period January to November 2020 against 34,704 tons in the same period in 2019.

PCC Exol-octyl alcohol & ethoxylation

In late 2020 PCC Exol started preparations for the synthesis of sodium salt of sulphated octyl alcohol. This product is in demand for the application of plasterboards and extinguishing agents. Currently, the installation is being adapted and retrofitted, and the synthesis process is optimized.

Polish Chemical Production (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Caustic Soda Liquid	355.2	331.5
Caustic Soda Solid	67.2	61.5
Caprolactam	142.4	153.0
Acetic Acid	5.1	5.6
Polystyrene	59.9	58.9
EPS	95.8	101.8
Synthetic Rubber	257.3	258.4
Ammonia (Gaseous)	2188.2	2207.0
Ammonia (Liquid)	95.0	93.9
Pesticides	60.6	54.4
Nitric Acid	2202.0	2123.0
Nitrogen Fertilisers	1905.0	1812.0
Phosphate Fertilisers	401.9	426.3
Potassium Fertilisers	338.9	384.0

Due to the pandemic PCC Exol decided to postpone the implementation of the company's largest development investment involving the production of high-molar oxyalkylates to add the group's unit under construction in Malaysia. The project in Poland will increase the production capacity of the ethoxylation plant in Brzeg Dolny by approximately 10,000 tpa.

The installation of oxyalkylates includes the construction of a production line with a warehouse base for increased volumes of modern low-foaming and anti-foaming products, intended for industrial applications.

PCC Exol's operating profit achieved zl 13.26 million in the first three quarters in 2020 compared to zl 10.62 million profit a year earlier (an increase of 25%). EBITDA profit was zl 16.03 million compared to zl 13.26 million a year earlier, an increase of 21%.

Polish Organic Chemical Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Acetic Acid	64.1	64.1
Acetone	3.3	3.3
DINP/DOP	18.9	20.8
Ethyl Acetate	15.2	15.4
Isopropanol	18.4	9.8
Lysine	51.8	55.3
Melamine	15.3	13.0
Methanol	619.4	655.8
VAM	13.6	17.3

Linde-BorsodChem industrial gas plant

Linde has signed a long-term agreement with BorsodChem for the supply of nitrogen, oxygen and compressed air to its chemical complex at Kazincbarcika. Linde will construct one of the largest air separation units in Hungary, which is expected to be completed by the end of 2021.

In addition to supporting BorsodChem's expansion, the plant will provide additional nitrogen, oxygen and compressed air to meet the increasing demand for industrial gases in Hungary and surrounding countries.

BorsodChem is targeting a third-quarter 2021 start-up for its new aniline plant at Kazincbarcika with a capacity of 300,000 tpa will help to reduce the company's reliance on imports of aniline from parent Wanhua Chemical. The new facility will produce feedstock for company's 300,000 tpa MDI unit. Besides isocyanates BorsodChem's goal is to become a PVC market leader in Central and East Europe developing new and profitable market opportunities across the region. The company looking to expand its production capacity and invest in new plant developments, increasing efficiency while also addressing environmental concerns. BorsodChem has selected Huawei to provide energy-saving technology with a view to pursuing a green strategy on production.

Ciech-LERG resin plant

Ciech has fulfilled all the legal requirements for the 100% sale of shares in the resin producer Ciech Żywice' to Polish company LERG for a sum of zl 160 million. The transaction is scheduled to close and settle the sale price by the end of February 2021 unless the parties to the transaction agree on a different date. LERG is one of the most important resin producers in Poland. In addition to manufacturing activities and export sales, LERG has its own R&D facilities and cooperates with many research centres.

RUSSIA

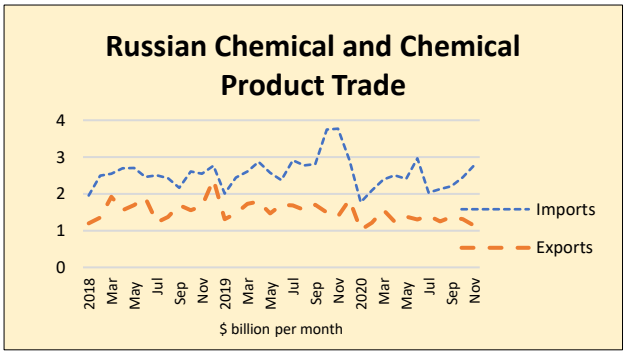
Russian Chemical Production (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Caustic Soda	1,174.6	1,180.9
Soda Ash	3,046.0	2,985.0
Ethylene	3,824.5	2,720.8
Propylene	2,464.8	2,165.1
Benzene	1,224.8	1,330.0
Xylenes	455.1	435.3
Styrene	671.6	668.7
Phenol	214.8	203.6
Ammonia	17,800.0	16,600.0
Nitrogen Fertilisers	10,007.0	10,232.0
Phosphate Fertilisers	3,926.0	3,782.0
Potash Fertilisers	8,972.0	7,633.0
Plastics in Bulk	9,237.0	7,795.0
Polyethylene	3,121.0	2,013.0
Polystyrene	531.6	497.3
PVC	963.5	952.9
Polypropylene	1,688.0	1,425.5
Polyamide	146.1	149.7
Synthetic Rubber	1,388.0	1,387.0

Russian chemical production, Jan-Nov 2020

Russia's output of chemical products rose 6.6% in the period January to November 2020, with primary polymers accounting for a large part of the increase. Ethylene production increased from 2.721 million tons in the first eleven months in 2019 to 3.825 million tons whilst propylene rose from 2.165 million tons to 2.465 million tons. Benzene production dropped from 1.330 million tons in January to November 2019 to 1.225 million tons. Overall Russian output of polymers in primary form totalled 9.240 million tons, up by 17.1% against the same period in 2019. Polyethylene production increased by over a million tons from 2.013 million tons to 3.121 million tons due predominantly the start-up of the ZapSibNeftekhim plant.

In the inorganic chemical sector Russian production of caustic soda dropped from 1.181 million tons in the first eleven months to 1.175 million tons whilst soda ash jumped from 2.985 million tons to 3.046 million tons in January to November 2020. Ammonia production in Russia has been increasing in the past two years due to the introduction of new capacity.

Russia's trade in chemical and allied industries in November 2020 amounted to $3.77 billion (of which exports comprsied $1.31 billion, and imports $2.45 billion), decreasing by 28.2% compared to the same month in 2019. Major exports included fertilisers (44%), inorganic chemicals (17%) and organic chemicals (13%). Imports comprised pharmaceutical products 34.55% and organic chemicals 14.8%.



The gap between import costs and export revenues for chemicals and chemical products oscillated in 2020 in accordance with the economic effects resulting from the pandemic. Whilst export revenues remained broadly the same as in 2018 and 2019 there was a sharp dip in import activity around the middle of 2020.

Russian Export Destinations for Chemicals & Chemical Products		
Country	***Jan 2018-Nov 2020)***	***Ratio***
Brazil	$5.03 billion	9.50%
Finland	$3.56 billion	6.70%
Kazakhstan	$3.34 billion	6.30%
Belarus	$3.27 billion	6.20%
China	$3.04 billion	5.80%
Ukraine	$2.75 billion	5.20%
USA	$2.37 billion	4.50%
Poland	$2.05 billion	3.90%

Over the past three years the major export destinations for Russian exports of chemicals and chemical products include Brazil, Finland, Kazakhstan, Belarus, China and Ukraine. To Finland Russia exports comprise a wide range of organic chemicals from xylenes to methanol which are mostly transhipped to other countries, whilst to countries such as Brazil and Ukraine fertilisers represent the dominant export category. Regarding imports Germany provides the largest source of chemical imports, accounting for 15.8% of values between January 2018 and November 2019 with pharmaceuticals the leading product sector. This was followed by China Accounting for 9.8$ of imports, mostly comprising organic chemicals such as PTA, citric acid and amino acids.

Russian petrochemical projects

Baltic Chemical Plant LLC-Lummus

Lummus Technology has been contracted to supply fourteen cracking furnaces for a gas chemical complex that is part of the ethane-rich gas processing complex located near Ust-Luga on the Gulf of Finland. The equipment is expected to yield a total ethylene product amount (ethylene crackers 1 and 2) of up to 2.8 million tpa, will be supplied under the ethylene technology license agreement between Baltic Chemical Plant LLC, a Project Operator (and a subsidiary of RusGasDobycha), and Lummus Technology in 2019.

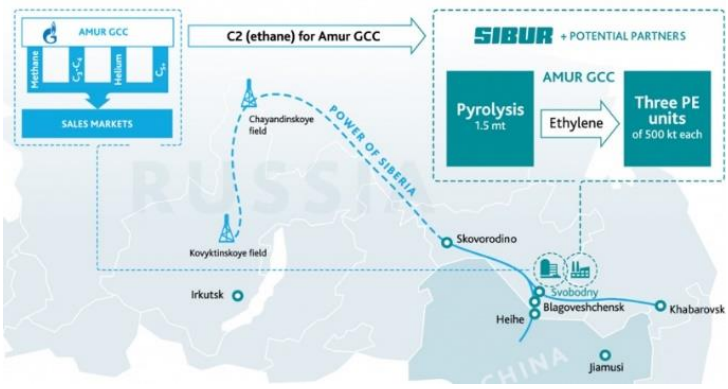
Baltic Chemical Plant main features	
Project construction	CNCEC (China)
Ethylene licensor	Lummus
Capacity	Ethylene 2.8 million ktpa
Capacity	Polyethylene 3.0 million ktpa
Raw materials	Ethane and Propane 872,000 ktpa
Raw materials	Ethane 807,000 tpa

China National Chemical Engineering and Construction Corporation has been appointed the contractor for the construction of the gas-chemical complex at Ust-Luga. Gazprom and RusGasDobycha are engaged in the construction of an integrated natural gas processing and liquefaction complex near the seaport of Ust-Luga. RusGasDobycha, in turn, is responsible for the construction of the interconnected gas-chemical plant, which will recycle the ethane received from the complex and produce up to 3 million tpa of different brands of polyethylene. The project is implemented in 2 queues (each with a capacity of about 1.4 million tpa).

The first phase of the petrochemical complex was originally scheduled for commissioning in late 2023 and early 2024, and the second phase for the end of 2024 and early 2025. However, these schedules may need to be revised as the construction of the gas processing plant at Ust Luga is unlikely to be operational until at least 2024-2025.

SIBUR selects Spheripol technology for Amur Gas Chemical Complex

SIBUR has selected LyondellBasell's Spheripol technology for use at the Amur Gas Chemical Complex (GCC). The technology will be used to install polypropylene with a capacity of 400,000 tpa.



Amur Gas Chemical Complex has thus far attracted a syndicated loan of $1.5 billion for a period of one year. At the end of 2020 SIBUR and its Chinese partner Sinopec established a joint venture based on the Amur Gas Chemical Complex. SIBUR owns 60% of the project and Sinopec 40%. The budget of the joint venture was tentatively estimated at $10-11 billion.

INK is preparing a site for the Irkutsk Polymer Plant

The Irkutsk Polymer Plant is progressing to schedule in its plans to launch a polymer complex at Ust-Kut in 2024. At the peak of construction in 2021-2022, several thousand specialists will be involved at the site. In September 2020, INK completed the delivery of equipment manufactured in Japan, Korea, China, and then loaded onto sea transport in the South Korean port of Masan.

Irkutsk Polymer Plant main characteristics	
Ethylene licensor	Toyo
Licence for PE Plant	Unipol
Capacity	Ethylene 650 ktpa
Capacity	Polyethylene 650 ktpa
Location	Ust Luga
Raw materials	Nadym-Pur-Tazov

It took about three months to deliver the goods to the customers' site. Engineering company Toyo Engineering Corporation is involved in the project. The Irkutsk Polymer Plant includes raw material processing capacity of either 872,000 tpa on a mixture of ethane and propane fractions, or 807,000 tpa using ethane alone. The projected output of commercial products is 650,000 tpa of HDPE and LDPE.

Russian petrochemical markets

Russian Ethylene Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Angarsk Polymer Plant	188.0	185.1
Kazanorgsintez	532.4	553.0
Stavrolen	313.2	262.5
Nizhnekamskneftekhim	564.0	562.5
Novokuibyshevsk Petrochemical	41.7	56.3
Gazprom N Salavat	345.1	306.7
SIBUR-Kstovo	352.7	375.5
SIBUR-Khimprom	52.3	50.0
Tomskneftekhim	250.6	251.7
Ufaorgsintez	104.8	115.2
ZapSibNeftekhim	1079.7	0.0
Total	3824.5	2718.6

Russian ethylene production, Jan-Nov 2020

Russian ethylene production amounted to 3.825 million tons in the first eleven months in 2020 versus 2.719 million tons in the same period in 2019. ZapSibNeftekhim produced 1.080 million tons of ethylene in the first eleven months from the new plant at Tobolsk.

Nizhnekamskneftekhim produced 564,000 tons of ethylene in January to November 2020 against 562,500 tons in the same period in 2019 whilst Kazanorgsintez reduced output to 532,400 tons against 553,000 tons. Gazprom neftekhim Salavat increased production from 306,700 tons to 345,100 tons in January to November 2020 whilst SIBUR-Kstovo reduced from 375,500 tons to 352,700 tons.

Russian propylene production, sales & exports, Jan-Nov 2020

Russian propylene production amounted to 2.465 million tons in the first eleven months in 2020 against 2.165 million tons in the same period in 2019. The rise was due largely to the addition of the new plant ZapSibNeftekhim at Tobolsk which produced 355,400 tons in January to November 2020.

Russian Propylene Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Angarsk Polymer Plant	107.6	101.8
Kazanorgsintez	85.2	40.6
Lukoil-NNOS	198.1	275.6
Stavrolen	116.2	106.8
Nizhnekamskneftekhim	269.9	279.9
Novokuibyshevsk	75.7	42.2
Omsk Kaucuk	73.3	42.8
Polyom	152.9	166.3
Gazprom neftekhim Salavat	139.0	133.3
SIBUR Kstovo	154.4	161.5
SIBUR-Khimprom	50.6	57.1
Tomskneftekhim	149.0	135.7
SIBUR Tobolsk	377.4	448.1
Ufaorgsintez	160.3	173.6
ZapSibNeftekhim	355.4	0.0
Total	2465.1	2165.1

ZapSibNeftekhim's neighbour SIBUR Tobolsk reduced production from 448,100 tons to 377,400 tons, whilst Nizhnekamskneftekhim produced 269,900 tons against 279,900 tons and Lukoil-NNOS produced 198,100 tons against 275,600 tons.

Russian propylene exports amounted to 57,800 tons in the first eleven months in 2020 against 57,400 tons in the same period in 2020. Exports were divided mostly between the plants in the Nizhny Novgorod region, including Lukoil-NNOS and SIBUR-Kstovo, in addition to Stavrolen.

The main destinations for Russian propylene exports included Poland and Belarus in 2020, although since the second half of 2019 Russian volumes to Poland declined due to competition from Karpatneftekhim in Ukraine.

Russian sales of propylene on the domestic merchant market amounted to 360,900 tons in the first eleven months in 2020 against 442,600 tons in the same period last year. A total of 73,400 tons of propylene were shipped to the SIBUR Tobolsk plant in the first eleven months in 2020 against 120,900 tons in the same period in 2019. Recently SIBUR merged SIBUR Tobolsk and ZapSibNeftekhim into one division.

Russian Propylene Exports (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Lukoil-NNOS	24.9	39.2
SIBUR-Kstovo	3.4	6.1
Angarsk Polymer Plant	16.4	0.0
Stavrolen	13.1	12.1
Total	57.8	57.4

Lukoil-NNOS at Kstovo shipped 153,200 tons to the domestic market in January to November 2020 against 222,400 tons in the first eleven months in 2019, whilst

SIBUR-Kstovo shipped 136,800 tons to the merchant market against 139,200 tons.

Russian Propylene Domestic Sales (unit-kilo tons)		
Company	***Jan-Nov 20***	***Jan-Nov 19***
Angarsk Polymer Plant	46.6	69.5
SIBUR-Kstovo	136.8	139.2
Lukoil-NNOS	153.2	222.4
Others	27.3	11.5
Total	360.9	442.6

The largest merchant consumer of propylene in Russia Saratovorgsintez at Saratov purchased 128,400 tons in the first eleven months in 2020 against 169,300 tons in the same period in 2019. SIBUR Tobolsk reduced purchases of merchant monomer from 96,000 tons in 2019 to 69,300 tons in the same period in 2020 whilst SIBUR-Khimprom reduced purchases from 54,000 tons to 51,000 tons.

Russian styrene production & sales, Jan-Nov 2020

Russian styrene production totalled 671,600 tons in the first eleven months in 2020 against 668,700 tons in the same period in 2019. Nizhnekamskneftekhim produced 278,200 tons in January to November 2020 against 280,000 tons whilst Gazprom neftekhim Salavat reduced production slightly from 180,400 tons to 180,100 tons. SIBUR-Khimprom increased production from 128,200 tons to 137,900 tons.

Russian Styrene Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Nizhnekamskneftekhim	278.2	280.0
Angarsk Polymer Plant	32.3	34.0
SIBUR-Khimprom	137.9	128.2
Gazprom n Salavat	180.1	180.4
Plastik, Uzlovaya	43.1	46.1
Total	671.6	668.7

Styrene exports from Russia totalled 97,300 tons in the first eleven months in 2020 against 104,700 tons in the same period in 2019. Gazprom neftekhim Salavat reduced exports from 89,600 tons to 76,100 tons, whilst Angarsk Polymer Plant shipped 14,300 tons in the first eleven months in 2020 against 7,300 tons.

Russian Styrene Exports (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Angarsk Polymer Plant	14.3	7.3
Plastik Uzlovaya	0.0	0.7
Gazprom n Salavat	76.1	89.6
Nizhnekamskneftekhim	0.4	4.6
SIBUR-Khimprom	6.4	2.4
Total	97.3	104.7

The main destination for styrene exported from Salavat is Finland taking 63% of shipments in the first eleven months last year quarters, followed by Turkey with 20% and Norway 5%.

Styrene sales on the Russian domestic merchant market totalled 109,400 tons in January to November 2020 against 105,600 tons in the same period in 2019. Gazprom neftekhim Salavat increased shipments from 46,100 tons to 58,100 tons and SIBUR-Khimprom reduced shipments from 37,500 tons to 31,900 tons.

Bulk Polymers

Russian HDPE production Jan-Nov 2020

Russian production of polyethylene rose 66% in the first eleven months in 2020 to 2.722 million tons against 1.639,000 tons a year earlier. HDPE production rose 99% to 1.664 million tons, whilst LDPE production dropped 2% to 574,600 tons. LLDPE production rose to 482,900 tons against 218,600 tons in the same period a year earlier.

Russian HDPE Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Kazanorgsintez	470.8	454.9
Stavrolen	293.9	242.0
Gazprom n Salavat	112.9	96.6
ZapSibNeftekhim	809.0	0.0
Total	1686.6	793.5

Due to the increase in production in 2020, mainly due to the start-up of ZapSibNeftekhim, Russia became a net exporter of LLDPE and HDPE for the first time. The country's share of the polyethylene market based on current facilities could grow to a record 3.5% of the world's production capacity.

Russian polyethylene trade, Jan-Nov 2020

In financial terms, revenues from polyethylene exports amounted to $730 million in the first eleven months in 2020 against $345 million in the same period in 2019, rising in volume from 321,000 tons to

945,000 tons. HDPE imports into Russia dropped 27% in January to November to 233,000 tons, LLDPE dropped 13% to 118,300 tons whilst LDPE imports increased 8% to 165,000 tons. Imports of polyethylene into Russia decreased in the period January to November last year to 600,00 tons against 753,000 tons.

Russian polypropylene trade Jan-Nov 2020

Russian polypropylene exports rose from 282,000 tons in the first eleven months in 2019 to 666,000 tons in the same period in 2020. Revenues from polypropylene exports jumped from $330 million to $595 million. The substantial increase in exports this year has been due to the start-up of ZapSibNeftekhim at Tobolsk. The polypropylene unit at ZapSibNeftekhim was put into operation earlier than the polyethylene plant and has capacity of 500,000 tpa.

Russian Polypropylene Imports (unit-kilo tons)		
Category	***Jan-Nov 20***	***Jan-Nov 19***
Homopolymers	82.9	52.1
Block	52.4	50.7
Random	32.6	30.0
Other	68.1	75.2
Total	236.0	208.0

Despite the sharp rise in domestic production polypropylene imports into the Russian market still rose from 208,000 tons to 236,000 tons in the first eleven months in 2020. In the first eleven months of the year, the total volume of PP-homo imports amounted to 82,900 tons against 54,100 tons whilst imports of PP-block amounted to 52,400 tons against 50,700 tons. Imports of propylene stat-polymers amounted to 32,600 tons against 30,100 tons. External supplies of other propylene polymers amounted to about 34,100 tons against 32,500 tons in January to November 2019.

Russian PVC production & trade, Jan-Nov 2020

Russian production of PVC amounted to 891,200 tons in January-November 2020, which was slightly down on the comparative yearly period at 893,600 tons. RusVinyl produced 305,500 tons against 316,700 tons in the same period in 2019 whilst Sayanskkhimplast produced 271,600 tons against 266,600 tons.

Russian PVC Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Bashkir Soda	244.5	239.1
Kaustik	69.6	71.1
RusVinyl	305.5	316.7
Sayanskkhimplast	271.6	266.6
Total	891.2	893.5

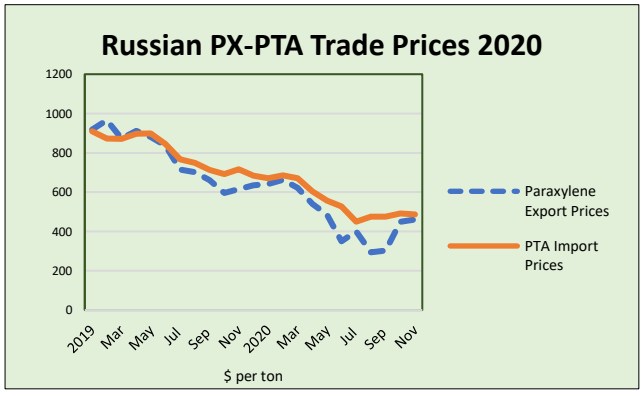
The Bashkir Soda Company produced 244,500 tons at its Sterlitamak plant, which is 2% more than a year earlier and Kaustik at Volgograd produced 69,600 tons against 71,200 tons. PVC exports from Russia amounted to 151,100 tons in the first eleven months against 148,700 tons, whilst imports of PVC into Russia dropped 16% in January to November 2020 to 36,300 tons against 43,000 tons.

Russian Paraxylene Exports (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Gazprom Neft	80.2	95.3
Kirishinefteorgsintez	42.8	39.0
Ufaneftekhim	11.4	13.6
Total	134.4	147.9

Paraxylene-PTA-PET

Russian paraxylene exports Jan-Nov 2020

Paraxylene exports from Russia totalled 134,000 tons in January to November 2020 for revenues of $57 million. This measured against 148,000 tons in January to November 2019 for total revenues of $117 million. Average prices for the first eleven months in 2020 comprised $474 per ton against $788 for the same period in 2019, following a similar pattern to PTA prices. Last year paraxylene exports were distributed to Finland (86.1%), the Netherlands (3.9%) and Belarus (10%). The largest Russian exporter of paraxylene is Gazprom Neft which shipped 80,200 tons in the period January to November 2020 against 95,300 tons in the same period in 2019. Kirishinefteorgsintez increased exports from 39,000 tons to 42,800 tons whilst Ufaneftekhim reduced shipments from 13,600 tons to 11,400 tons.



Russian PTA Imports by Country (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belgium	8.0	24.0
India	0.0	1.0
China	250.2	234.7
South Korea	7.0	63.0
Poland	3.0	12.3
Turkey	0.0	6.3
Thailand	0.0	3.0
Others	1.9	0.6
Total	270.0	344.9

Russian PTA imports, Jan-Nov 2020

PTA imports into Russia totalled 270,000 tons in the first eleven months in 2020 against 344,900 tons in January to November 2019. China increased shipments to Russia to 250,200 tons in January to November 2020 against 234,700 tons whilst South Korea reduced deliveries from 63,000 tons to 7,000 tons.

Imports of PTA into Kaliningrad totalled 186,700 tons in the first eleven months in 2020 against 223,100 tons in the same period in 2019. Ekopet also imports MEG into the Kaliningrad PET plant. The other major importer this year has been the Senezh plant in the Moscow region which accounted for a large part of the 77,500 tons imported.

Average monthly prices for Russian PTA imports dropped to $465 per ton in 2020 against $810 per ton in the same eleven months in 2019. The profitability of the production of PTA in 2021 will be under pressure due to increased capacity in China. In 2020-2021, China will commission seven new PTA production plants with a total capacity of 18 million tpa. Significant increases in PTA production capacity, storage restrictions and slower, back-to-demand growth will lead to stiffer competition in the market.

Russian PTA Imports by Region (unit-kilo tons)		
Location	***Jan-Nov 20***	***Jan-Nov 19***
Kaliningrad	186.7	223.1
Moscow	77.5	61.2
Perm	0.0	20.9
Tver	0.0	8.1
Tyumen	2.5	22.3
Others	3.3	9.3
Total	270.0	344.9

The sole Russian PTA producer Polief may have to pay up to 105.769 million roubles ($1.4 million) in fines for environmental damages caused by the industrial emission leaks into the nearby Izyak River in October 2019. The company was accused of polluting the river with chlorides, sulphates, nitrates and zinc, with considerable effect on fishing stocks.

Russian Benzene Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Angarsk Polymer Plant	76.4	72.8
Gazprom Neft	88.7	66.7
LUKoil-Neftekhim	24.4	39.6
LUKoil-Permnefteorgsintez	44.6	50.7
Magnitogorsk MK	39.2	47.4
Nizhnekamskneftekhim	259.2	249.1
Novolipetsk MK	1.1	6.9
Gazprom n Salavat	181.0	169.4
Severstal	32.5	37.1
SIBUR-Holding	66.8	75.2
Slavneft-Yaroslavlorgsintez	61.5	56.4
Surgutneftegaz	58.6	64.2
Ryazan RN Holding	30.2	35.2
Ufaneftekhim	80.9	71.3
Ural Steel	9.2	10.4
Uralorgsintez	79.3	79.1
Zapsib	53.1	66.0
Novokuibyshevsk Petrochemical	14.8	20.6
Total	1201.6	1218.2

Aromatics

Russian benzene production, Jan-Nov 2020

Russian benzene production amounted to 1.202 million tons in the first eleven months in 2020 against 1.218 million tons in the same period in 2019. Nizhnekamskneftekhim increased production from 249,100 tons to 259,200 tons, whilst Gazprom neftekhim Salavat increased production from 169,400 tons to 181,000 tons. Rosneft's three benzene plants at Angarsk, Novokuibyshevsk and Ryazan produced a combined total of 121,600 tons against 128,500 tons in January to November 2019, whilst Gazprom Neft at Omsk increased benzene production from 66,700 tons to 88,700 tons.

Of the coke-based benzene producers Magnitogorsk Metallurgical Combine produced 39,200 tons in the first eleven months in 2020 against 47,400 tons in the same period in 2019 whilst Severstal at Cherepovets produced 32,500 tons against 37,100 tons. One of the smaller producers Novolipetsk Metallurgical Combine which had stopped in early 2020 due to a ban on n-methylaniline, has upgraded its benzene technology that will allow it to sell to caprolactam producers.

Russian Benzene Consumers (unit-kilo tons)		
Consumer	***Jan-Nov 20***	***Jan-Nov 19***
Kuibyshevazot	153.8	158.1
Azot Kemerovo	102.3	109.7
Shchekinoazot	72.4	57.1
Kazanorgsintez	60.3	60.3
Omsk Kaucuk	23.6	16.2
Novokuibyshevsk Petrochemical	44.0	48.7
Zapsib	33.4	56.2
SIBUR-Khimprom	99.7	88.7
Ufaorgsintez	8.2	22.7
Uralorgsintez	65.9	68.5
Others	56.5	29.9
Total	720.3	716.1

Russian benzene sales, Jan-Nov 2020

More than 60% of Russian benzene production is sold on the domestic merchant market, divided mostly amongst producers of caprolactam, styrene and phenol. In the first eleven months in 2020 domestic merchant sales of benzene totalled 720,300 tons against 716,100 tons in the same period in 2019.

Kuibyshevazot reduced purchases from 158,100 tons in January to November 2019 to 153,800 tons whilst Azot at Kemerovo reduced purchases from 109,700 tons to 102,300 tons and Shchekinoazot increased shipments from 57,100 tons to 72,400 tons. SIBUR-Khimprom purchased 99,700 tons against 88,700 tons whilst Uralorgsintez reduced purchases from 68,500 tons to 65,900 tons. Kazanorgsintez purchased 60,300 tons in January-November 2020, unchanged from 2019. The largest suppliers to the domestic market in the first eleven months in 2020 included SIBUR-Kstovo which shipped 71,800 tons against 65,900 tons in 2019 and Gazprom Neft which shipped 57,200 tons against 66,900 tons.

Russian caprolactam production, Jan-Nov 2020

The three Russian caprolactam producers remain the largest domestic merchant consumers of benzene, followed by styrene and phenol producers. Russian caprolactam production amounted to 335,500 tons in January to November 2020 against 354,400 tons in the same period in 2019. Kuibyshevazot reduced production from 192,600 tons to 171,800 tons whilst SDS Azot at Kemerovo produced 106,300 tons from 109,000 tons. Production facilities for caprolactam and cyclohexanone at Shchekinoazot were modernised in 2020 which should lead to higher volumes in 2021. Shchekinoazot completed the installation of equipment for crystallisation of caprolactam and a new packaging line at the end of 2020.

Russian Caprolactam Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Kuibyshevazot	171.8	192.6
Shchekinoazot	54.6	55.6
SDS Azot	109.0	106.3
Total	335.5	354.4

Russian orthoxylene & toluene market, Jan-Nov 2020

Orthoxylene sales on the Russian domestic market rose in the first eleven months in 2020 to 149,700 tons against 129,000 tons in the same period in 2019, the rise due partly to increased usage in fuels. Kamteks-Khimprom remains the largest buyer in Russia, purchasing 59,000 tons in January to November 2020 for the production of phthalic anhydride against 71,000 tons in the same period in 2019. Gazprom neftekhim Salavat reduced purchases from 11,900 tons to 9,700 tons whilst other buyers were much smaller, taking volumes of several hundred tons.

Russian Orthoxylene Domestic Sales (unit-kilo tons)		
Company	***Jan-Nov 20***	***Jan-Nov 19***
Gazprom Neft	74.4	88.5
Ufaneftekhim	59.4	27.8
Kinef, Kirishi	16.0	12.7
Total	149.7	129.0

Russian Toluene Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Kinef	26.5	29.8
Gazprom N Salavat	18.5	21.5
Slavneft-Yanos	39.7	37.5
LUKoil-Perm	25.8	26.1
Gazprom Neft	73.6	84.4
RN Holding	40.7	41.0
Ufaneftekhim	42.0	38.5
Others	11.6	14.6
Total	278.4	293.4

Toluene production in Russia totalled 278,400 tons in the first eleven months in 2020 against 293,400 tons in the same period in 2019, whilst toluene sales on the Russian domestic market totalled dropped to 133,500 tons against 135,200 tons in the same period in 2019.

The largest supplier to the domestic market was Gazprom Neft at the Omsk refinery which shipped 54,000 tons against 55,000 tons in the previous year.

Kirishinefteorgsintez shipped 23,500 tons of toluene to the domestic market against 35,800 tons in the first eleven months in 2019. Consumers of toluene on the Russian domestic market are fairly widely dispersed both geographically and on average are small in volume.

Russian phenol market, Jan-Nov 2020

Russian phenol production rose in the first eleven months in 2020 to 214,800 tons from 203,600 tons in the same period in 2019. Novokuibyshevsk Petrochemical reduced production from 69,100 tons to 64,500 tons whilst Ufaorgsintez reduced production from 69,500 tons to 57,400 tons. Kazanorgsintez produced 66,400 tons versus 64,900 tons. The significant difference came from Omsk Kaucuk which produced 26,500 tons in the first eleven months.

Russian Phenol Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Ufaorgsintez	57.4	69.5
Kazanorgsintez	66.4	64.9
Novokuibyshevsk Petrochemical	64.5	69.1
Omsk Kaucuk	26.5	0.0
Total	214.8	203.6

Russian Phenol Exports (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Omsk Kaucuk	5.8	0.0
Kazanorgsintez	0.0	3.1
Ufaorgsintez	25.5	8.6
NNK	2.5	5.0
Total	33.8	16.7

Phenol exports from Russia rose in the first eleven months to33,800 tons in 2020 against 16,700 tons in the same period last year. The major exporter was Ufaorgsintez which shipped 25,500 tons versus 8,600 tons, followed by Omsk Kaucuk which exported 5,800 tons. Major destinations for Russian phenol exports included Poland, Belarus and Turkey.

Sales of phenol on the Russian domestic market amounted to 104,400 tons in the first eleven months in 2020 against 96,800 tons in the same period in 2019. The two largest suppliers were Novokuibyshevsk Petrochemical and Ufaorgsintez, shipping 53,000 tons and 32,400 tons respectively. At the beginning of December, Omsk Kaucuk resumed supplies of phenol to the domestic market.

Russian Market Phenol Sales by Supplier (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Omsk Kaucuk	18.8	0.0
Novokuibyshevsk Petrochemical	53.0	42.7
Kazanorgsintez	0.1	2.8
Ufaorgsintez	32.4	51.3
Total	104.4	96.8

Synthetic rubber

Russian rubber production-market balance Jan-Nov 2020

Russian synthetic rubber production amounted to 1.388 million tons in the first eleven months this year against 1.387 million tons in January to November 2019. Exports amounted to 872,300 tons against 911,700 tons whilst imports dropped from 205,300 tons to 180,400 tons. Overall domestic consumption amounted to 696,000 tons in the first eleven months against 680,600 tons in the same period last year.

Russian Synthetic & Natural Rubber Market (unit-kilo tons)		
	Jan-Nov 20	***Jan-Nov 19***
Production	1,388.0	1,387.0
Exports	872.3	911.7
Imports	180.4	205.3
Supply/Demand Balance	696.0	680.6

In 2020, total global demand for rubber decreased by around 8% to 26.5 million tons. In 2020 the global demand for rubber in the tyre sector decreased by 10.2%, in other sectors the decline was on average 5% due to the growing demand for gloves and other medical products against the background of the pandemic of coronavirus. The International Rubber Research Group (IRSG) predicts around 7% in growth in global natural and synthetic rubber markets in 2021. Natural rubber demand is forecast to grow by 7.1% due to the active recovery of the commercial vehicle segment after falling by 8.1% in 2020 to 12.53 million tons. Global demand for synthetic rubber is estimated to have fallen by 7.9% in 2020 to 13.97 million tons. Demand is expected to grow by 7.2% in 2021.

The Russian Ministry of Finance is discussing support for Russian rubber producers in the form of the introduction of negative excise duty. Reverse excise duty is a Russian mechanism designed to support processors, in which the government compensates for part of the cost of raw materials. At the same time, plants claiming such support must meet certain production requirements, as well as confirm plans for its modernisation and investment. Ultimately though, demand is the key factor.

Russian Synthetic Rubber Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
E-SBR	30.0	38.5
Block	47.2	37.4
SSBR	7.4	11.5
SBR	115.4	65.5
Polybutadiene	203.0	215.7
Butyl rubber	127.2	117.5
Halogenated butyl	100.7	128.3
NBR	30.9	32.1
Isoprene	190.9	245.3
Others	19.6	19.2
Total	872.3	911.0

Russian synthetic rubber exports, Jan-Nov 2020

Russian exports of synthetic rubber amounted to 872,300 tons in the first eleven months in 2020 against 911,000 tons in the same period last year. Revenues from exports dropped from $1455 million to $1100.3 million.

Average prices per ton dropped from $1596 to $1261 in 2020. Regarding shipment destinations China represented the largest market for Russian exporters in the first eleven months accounting for 20.3% of sales. This was followed by India with 10.8% and Poland with 9.4%.

China imported 196,600 tons of synthetic rubber from Russia in January to November 2020 against 121,800 tons in the same period in 2019. Further details of Russian synthetic rubber exports by product category and destination is available on the CIREC website at www.cirec.net.

Russian Synthetic Rubber Exports by Destination ($ million)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belarus	34.7	50.3
Brazil	30.6	45.8
China	215.0	182.9
Czech	34.1	55.3
Germany	40.7	47.6
Hungary	47.0	115.7
India	112.9	116.0
Mexico	31.5	74.7
Poland	106.9	164.2
Romania	35.4	66.9
Serbia	16.8	22.0
Slovakia	40.9	58.8
Turkey	71.9	67.7
Ukraine	17.6	24.3
US	45.0	79.1
Others	220.3	283.6
Total	1100.3	1454.9

The highest value product category exported from Russia is halogenated butyl rubber (HBR) where exports totalled 100,700 tons in January to November 2020 at a total value of $170 million. The largest product in terms of volume was polybutadiene which dropped from 215,700 tons to 203,000 tons followed by isoprene which dropped from 245,300 tons to 190,900 tons.

The fall in isoprene rubber exports was due to the increase in domestic consumption. More detail of volumes and revenues for rubber categories are available on the CIREC website or by contacting us at support@cirec.net.

Nizhnekamskneftekhim-to expand capacity for halogenated butyl rubber

Nizhnekamskneftekhim is planning to expand the capacity for halogenated butyl rubber (HBR) from 150,000 tpa to 200,000 tpa due mainly to its high margin attractiveness and strong demand. The start of production of halogenated butyl rubber at Nizhnekamskneftekhim took place in March 2004. The company's production of butyl rubber will remain unchanged or possibly be reduced to accommodate higher production of halogenated butyl rubber.

In the first eleven months in 2020 Nizhnekamskneftekhim reduced synthetic rubber exports to 489,800 tons versus 529,400 tons in the same period in 2019. Export revenues for Nizhnekamskneftekhim dropped from $891.1 million to $675.4 million. Isoprene rubber exports amounted to 157,800 tons in the period January to November 2020 against 183,000 tons last year whilst exports of halogenated butyl rubber amounted to 112,200 tons against 128,400 tons. Revenues from halogenated butyl rubber exports dropped from $301.9 million to $217.5 million.

Nizhnekamskneftekhim rubber exports (unit-kilo tons)		
Category	***Jan-Nov 20***	***Jan-Nov 19***
Isoprene Rubber	157.8	183.0
Butyl Rubber	68.6	63.0
HBR	112.2	128.4
Polybutadiene	140.4	154.9
Others	10.8	0.6
Total	489.8	529.4

Recently Nizhnekamskneftekhim started preparing for the launch of the production unit for styrene-butadiene rubber

(DSSK) which is in high demand. It means that Nizhnekamskneftekhim will produce all the necessary types of rubbers for the manufacture of tyres, with the exception of natural rubber.

Togliattikaucuk Rubber Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Isoprene Rubber	3.0	30.7
Butyl Rubber	44.6	55.4
SBR	33.0	38.2
Others	0.2	0.5
Total	80.8	124.8

Togliattikaucuk, Jan-Nov 2020
Togliattikaucuk reduced synthetic rubber exports in the first eleven months to 80,800 tons against 124,800 tons in the same period in 2019. Isoprene rubber exports dropped from 30,700 tons to 3,000 tons due to increased domestic usage whilst exports of butyl rubber fell from 55,400 tons to 44,600 tons. Revenues from synthetic rubber exports dropped from $171 million to $98 million.

Omsk Kaucuk Rubber Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
SBR	39.0	15.4
Others	0.2	0.5
Total	39.1	15.9

Omsk Kaucuk, rubber exports Jan-Nov 2020
Omsk Kaucuk increased exports of synthetic rubber in the first eleven months in 2020 to 39,100 tons against 15,900 tons in the same period in 2019. The company's share in the Russian production of general-purpose rubbers comprises around 24%. Exports are conducted through the Kombinatskaya station at Omsk where Russian Railways offers a discount if Omsk Kaucuk can ship enough volume of rubber, and other products such as MTBE and LPGs.

Methanol

Russian methanol production Jan-Nov 2020
Russia produced 4.030 million tons of methanol in the first eleven months in 2020, down slightly from 4.037 million tons in the same period in 2019. Metafrax produced 1.044 million tons in January to November 2020against 984,500 tons whilst Sibmetakhim at Tomsk reduced production from 798,200 tons to 783,800 tons. Tomet at Togliatti had exceeded 2019 levels until October but after the stoppage in November reduced production slightly to 751,700 tons from 752,800 tons.

In the Tula Oblast Shchekinoazot produced 869,200 tons against 900,300 tons, whilst Azot at Novomoskovsk reduced production from 232,000 tons to 197,200 tons. In Tatarstan Ammoni produced 96,900 tons of methanol in the first eleven months against 144,400 tons in the same period in 2019.

Russian Methanol Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Shchekinoazot	900.3	869.2
Sibmetakhim	783.8	798.2
Metafrax	1043.9	984.5
Akron	89.0	96.8
Azot, Novomoskovsk	197.2	232.0
Angarsk Petrochemical	52.7	42.8
Azot, Nevinnomyssk	113.1	117.5
Tomet	752.8	751.7
Ammoni	96.9	144.4
Totals	4029.7	4037.0

Tomet restarts briefly before halting again
After restarting at the end of the November Tomet was forced to stop production of methanol in the second week of December due to technical problems. From 3 December to 10 December a total 4,004 tons of methanol were delivered by Tomet to the domestic market and 2,381 tons were exported.

The plant had restarted under the introduction of the monitoring procedure by the courts in order to repay the outstanding debts of Togliattiazot to Uralkhim. On 25 November 2020, the Court of Arbitration of the Samara Region introduced a monitoring procedure on Tomet which helped to satisfy the demands made by Uralkhim. The stoppage in December caused another jump in the market price for a commercial product in Russia. The market reacted swiftly by increasing the selling price of methanol on the domestic market.

As part of the bankruptcy case of Tomet the size of creditors' claims could grow by almost 0.6 billion roubles (just under $8 million). On 8 February the region's arbitration court will consider the claims. The company,

which employs more than 160 people in 2020, has been in existence since 1998 and has positioned itself as one of the four largest methanol producers in Russia.

Russian Methanol Exports (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Azot Nevinnomyssk	7.5	0.0
Azot Novomoskovsk	68.8	71.5
Akron	14.7	8.5
Metafrax	456.5	362.4
Sibmetakhim	443.9	398.1
Tomet	316.3	343.8
Shchekinoazot	661.0	653.3
Ammoni	5.5	13.5
Total	1974.2	1851.1

Russian methanol export sales, Jan-Nov 2020

Russian methanol producers increased shipments for export in the first eleven months to 1.974 million tons from 1.851 million tons in the same period in 2019. Revenues from methanol exports in the first eleven months last year dropped to $355 million against $480 million in January to November 2019.

Shipments to foreign markets were led by Shchekinoazot which shipped 661,000 tons against 653,300 tons in the first eleven months in 2019. Due to the stoppage from mid-October to the end of November Tomet reduced exports in the eleven months 2020 to 316,300 tons versus 343,800 tons in the same period in 2019.

Summary of Russian Methanol Export Destinations (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belarus	102.1	67.6
Belgium	0.0	10.0
Bulgaria	4.5	0.2
Finland	882.8	803.1
Georgia	0.9	1.5
Germany	1.9	2.6
Israel	4.0	16.1
Kazakhstan	33.0	34.4
Latvia	11.8	10.8
Lithuania	77.1	103.7
Netherlands	186.4	181.1
Poland	348.4	335.0
Romania	60.8	97.5
Slovakia	130.0	141.6
Spain	5.5	9.9
Switzerland	0.0	11.6
Turkey	30.0	30.3
UK	54.7	11.0
Ukraine	41.3	34.6
Others	11.5	5.5
Total	1987	1918.2

Exports of Russian methanol increased in 2020 due to a slight rise in production and a more significant fall in merchant purchases on the Russian domestic market. Finland accounts the largest share of Russian exports, having received 882,800 tons in January to November 2020 against 696,500 tons in 2019. The bulk of methanol from Finnish ports is shipped to Rotterdam, as well as to Szczecin in Poland.

Railroad shipments of methanol from Russia to Slovakia in the first eleven months last year totalled 130,000 tons against 141,600 tons in the same period last year. Shipments to Romania over eleven months dropped from 97,500 tons to 60,800 tons. The sole Russian supplier of methanol to both countries is Shchekinoazot. Methanol shipments to Poland in the first eleven months of the year amounted to 348,400 tons versus 335,000 tons. Almost the entire volume of the product was handled through the Vilaris terminal, located at the Belarusian-Polish border crossing of Bruzgi-Kuznitsa.

In the first eleven months last year Russian methanol exports to Lithuania decreased from 103,700 tons to 77,100 tons. Methanol shipments from Russia to Kazakhstan dropped in January-November to 33,000 tons from 34,400 tons due to purchases made by the Atyrau refinery. The export of methanol to Belarus increased to 102,100 tons against 67,600 tons in January to November 2019.

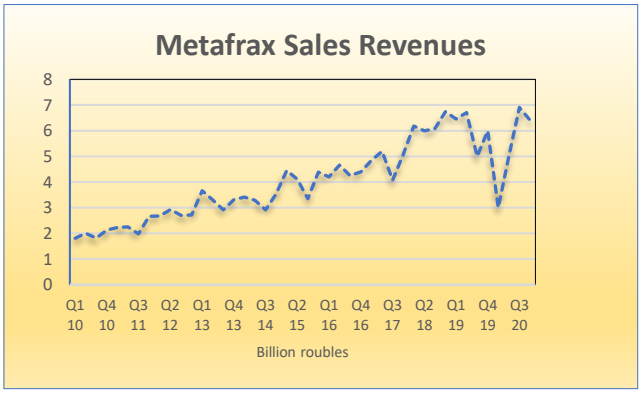
Russian Methanol Domestic Sales (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Azot Nevinnomyssk	13.9	31.5
Azot Novomoskovsk	130.6	140.8
Metafrax	306.5	226.1
Sibmetakhim	291.6	345.6
Tomet	359.1	527.3
Shchekinoazot	137.6	151.7
Ammoni (Mendeleevsk)	56.1	92.9
Total	1295.4	1515.9

Russian methanol domestic sales, Jan-Nov 2020

Despite non-activity of Tomet in November the volume of methanol sales to the Russian domestic market in November decreased against October by only 11% (or 14,000 tons). With the shutdown of methanol production capacities at the Tomet plant, other domestic producers filled the gap for merchant methanol. Ammoni increased deliveries 2.5 times to 5,000 tons in November whilst Metafrax increased its shipments by 60% or by 16,000 tons. Gazprom purchased 119,800 tons of methanol in the first eleven months in 2020 against 149,900 tons in the same

period in 2019. All purchases were made from Sibmetakhim at Tomsk. From the site of the Tomsk plant Sibmetakhim, 356.37 tons were delivered to Gazprom's Kamchatka fields, and 3,876.59 tons to the Chayanda field. Delivery to Kamchatka required tank containers with methanol crossing the Sea of Okhotsk.

Russian Methanol Consumption (unit-kilo tons)		
Consumer	***Jan-Nov 20***	***Jan-Nov 19***
Nizhnekamskneftekhim	193.5	221.7
Togliattikaucuk	123.6	142.5
Uralorgsintez	60.1	72.1
SIBUR-Khimprom	16.8	19.8
SIBUR Tobolsk	40.0	40.2
Ektos-Volga	36.1	54.5
Omsk Kaucuk	75.0	82.3
Novokuibyshevsk NPZ	37.7	44.5
Uralkhimplast	18.0	33.1
Slavneft-Yanos	10.8	13.6
Metadynea	70.6	72.1
Kronospan	85.6	97.8
Gazprom	119.8	149.9
Khimsintez	15.6	21.3
Volzhsky Orgsintez	9.8	10.8
Others	382.6	439.7
Total	1295.4	1515.9



In other areas of consumption Volgograd based Bykovogaz intends to process 300 tons of methanol in 2021. Bykovogaz is a vertically integrated company, producing hydrocarbons within the Yuzhno-Kislovskoye gas condensate field located in the Bykovsky district of the Volgograd region.

Metafrax performance 2020 and projects 2021-2022

For the whole of 2020 Metafrax estimates that sales turnover fell by 17% against 2019 down to 19.314 billion roubles. Methanol production is estimated at 1.152 million tons for the full year.

Other products included almost fifteen hundred tons of micronized urotropine was produced, sodium formate more than 12,000 tons, 2,000 tons of micronized pentaerythritol and 24,000 tons of pentaerythritol.

During 2020 Metafrax sold around 846,000 tons of methanol on the export and domestic markets, 182,000 tons of urea-formaldehyde concentrate and 93,000 tons of formaldehyde. The company exported around 43% of methanol production.

The investment policy for Metafrax is based on a gradual increase in internal processing of methanol and provision of raw materials for its own use and subsidiaries. Metafrax successfully completed the overhaul of the methanol unit at Gubakha in 2020 which enabled an increase in 20% of production on the design capacity to 3,500 tons per day. In 2021 Metafrax is continuing the reconstruction of the pentaerythritol unit which should be completed in the second half of the year, adding more capacity to feed the new production of dipentaerythritol which started in 2020.

Metafrax new investments		
Product	**Capacity**	**Completion estimate**
Formaldehyde 55%	180,000 tpa	2022
Paraformaldehyde	30,000 tpa	2022
Pentamethyl	+2,000 tpa	2021
Ammonia	307,000 tpa	2021
Urea	575,000 tpa	2021
Melamine	41,000 tpa	2021

Construction of a third formaldehyde plant at Gubakha is underway which will be integrated with a complex for the production of paraformaldehyde (capacity 30,000 tpa). In 2019 Metafrax signed a licensor contract with Dynea AS for the construction of a formaldehyde plant with a strength of 55% and a capacity of 180,000 tpa. Additional formaldehyde is required in order to balance the company's feedstock requirements. A target of internal methanol consumption of around 450,000 tpa has been set by Metafrax for 2025.

Metafrax plans to complete the construction of its main flagship project (AKM) the ammonia-urea-melamine complex in 2021, possibly by the end of the third quarter. The plant capacities include 307,000 tpa of ammonia, 575,000 tpa of urea and 41,000 tpa of melamine.

Shchekinoazot-new methanol based resin plants to be constructed

Shchekinoazot is expected to launch its third methanol unit of 500,000 tpa in early 2022 which raises the company's total capacity to 1.5 million tpa. Regarding other projects Shchekinoazot signed agreements at the end of December for the construction of production of concentrated low-methanol formaldehyde with a capacity of 110,000 tpa, as well as urea-formaldehyde resins and urea-melamine with a capacity of 220,000 tpa. The total amount of investments in these projects for formaldehyde and urea-formaldehyde resins is estimated at about 2.8 billion roubles ($37.8 million). The launch of the project will increase exports of non-commodity non-energy products, whilst possibly reducing the volume of methanol exports.

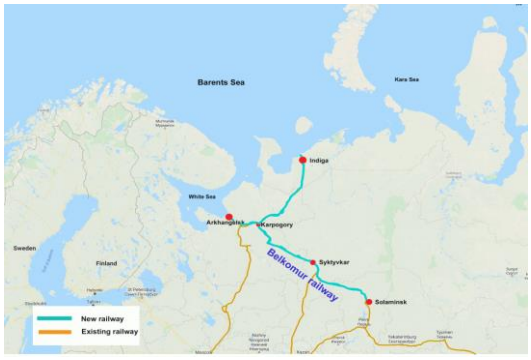
Shchekinoazot new investments		
Product	**Capacity**	**Completion estimate**
Methanol	+500,000 tpa	2022
Formaldehyde	110,000 tpa	2024
Urea formaldehyde resin	220,000 tpa	2024
Ammonia	525,000 tpa	2024
Urea	700,000 tpa	2024
Nitric acid	270,000 tpa	2022
Ammonium nitrate	340,000 tpa	2022

Shchekinoazot will start undertaking the investment project for the formaldehyde and resin plants by March 2021 and will be completed by June 2024. The new plants will help Shchekinoazot to increase the production of resins threefold over the next four years thus increasing internal processing of methanol. In addition, company aims to increase raw material availability for wood processing.

Methanol project in Kharbarovsk Kray faces referendum

The agreement on the construction of a 7.2 million tpa methanol plant was concluded in early September 2019 by Russian investors and China's Sherwood Energy (daughter of Sirius Holding). Gas from the fields of western Yakutia has been identified as the raw material source for the plant which is to be constructed 3.5 km from the village of Ayan in the Khabarovsk Kray in the Russian Far East. Gas will be supplied through the construction of a pipeline of 1,200 km length with a capacity of 20 billion cubic metres per annum. The estimated cost of the project is 740 billion roubles ($9.960 billion).

Local opposition is based on the premise that there is very little infrastructure with no roads to facilitate movement around the area. Risks are possible if not in the process of methanol production itself, then in the construction of the plant and the laying of the pipeline. The latter is likely to affect the local ecosystem and will certainly affect the established life of the traditional peoples of the North. A similar problem was in Yakutia, where the project was eventually cancelled which may be the eventual outcome of this project.



Pechora methanol project-Indiga

The RusKhimKom Group has turned its attention to constructing a methanol plant in the Yamal-Nenets region. Around 200 billion roubles have been estimated as the amount that could be invested in natural gas processing facilities and conversion into methanol. The Korovinskoye and Kumzhinskoe gas fields in the Nenets Autonomous Okrug have been identified as the raw material sources whereby the natural gas processing plant at Indiga will be linked to the gas fields through pipeline.

The RusKhimKom Group, owned by Vitaly Yuzhilin, purchased the Pechora LNG project with gas fields in 2020. The RusKhimKom Group expects to produce methanol for export, launching the first stage of the 1.7 million tpa plant by 2027. The location of the gas processing and methanol plants, Indiga next to the Barents Sea, requires a gas pipeline of around 300 km to the gas fields. The plant is to be located on the coast, which greatly facilitates logistics and taking into account its own raw materials and creates a significant advantage of the project over other exporters of methanol. Construction of a sea terminal capable of methanol transhipment is part of the project concept. RusKhimKom previously wanted to construct a methanol plant of 1.7 million tpa in addition to the plant and the sea terminal in the Kingisepp district, requiring construction of a 48-kilometre methanol pipeline and the lease of 225 hectares of land was to be constructed.

Organic chemicals

Russian N-Butanol Production (unit-kilo tons)		
	Jan-Nov 20	***Jan-Nov 19***
Angarsk Petrochemical Company	26.8	25.1
Azot, Nevinnomyssk	15.7	15.4
Gazprom neftekhim Salavat	59.1	54.8
SIBUR-Khimprom, Perm	28.3	38.0
Total	129.9	133.3
Russian Isobutanols Production (unit-kilo tons)		
	Jan-Nov 20	***Jan-Nov 19***
Angarsk Petrochemical Company	17.9	15.3
Gazprom neftekhim Salavat	33.9	30.8
SIBUR-Khimprom, Perm	42.5	50.3
Total	94.3	96.3

Russian butanol production Jan-Nov 2020

Russian normal butanol production totalled 129,900 tons in January to November 2020, against 133,300 tons in the same period in 2019. Gazprom neftekhim Salavat was the largest Russian producer, producing 59,100 tons against 54,800 tons.

Isobutanol production in Russia dropped slightly in the first eleven months to 94,300 tons from 96,300 tons. Gazprom neftekhim Salavat's isobutanol production amounted to 33,900 tons against 30,800 tons in January to November 2019, whilst SIBUR-Khimprom reduced production from 50,300 tons from 42,500 tons.

Russian Butanol Domestic Sales (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Gazprom n Salavat	6.8	5.6
SIBUR-Khimprom	22.5	26.1
Angarsk Polymer Plant	23.7	15.8
Azot Nevinnomyssk	2.3	2.0
Totals	55.3	49.6

Russian domestic butanol sales, Jan-Nov 2020

Russian butanol domestic sales in January to November 2020 amounted to 55,300 tons against 49,600 tons in the same period in 2019. SIBUR-Khimprom reduced shipments from 26,100 tons to 22,500 tons and Angarsk Petrochemical increased from 15,800 tons to 23,700 tons.

The two largest domestic purchasers in January to November 2020 were Dmitrievsky Chemical Plant which purchased 21,300 tons, versus 16,300 tons in the same period in 2019, and Akrilat at Dzerzhinsk which purchased 15,500 tons against 15,400 tons.

Russian Butanol Consumption (unit-kilo tons)		
Consumer	***Jan-Nov 20***	***Jan-Nov 19***
Akrilat	15.5	16.4
Dimitrievsky Chemical	21.3	16.3
Volzhskiy Orgsintez	0.0	0.4
Roshalsjy Plant of Plasticizers	8.4	8.9
Others	1.7	1.2
Total	8.4	6.4

Russian acetone market Jan-Nov 2020

Russian production of acetone in the first eleven months in 2020 totalled 129,500 tons against 128,200 tons in the same period in 2019. Whilst Omsk Kaucuk started production at the end of 2019 helping to increase supply in 2020, the other three producers all reduced production. Ufaorgsintez reduced production from 43,700 tons to 34,800 tons in January to November 2020 whilst Kazanorgsintez reduced production from 41,400 tons to 37,600 tons.

Russian acetone exports totalled 38,600 tons in January to December 2019 for $17.2 million. Exports were divided between Belarus (45%), the Netherlands (24.2%) and Turkey (14.3%). In January to November the Netherlands was the leading destination for Russian acetone exports taking 34.3%, followed by Belarus with 26.6% and Turkey 19%.

Russian Acetone Production (unit-kilo tons)		
Producer	***Jan-Nov 20***	***Jan-Nov 19***
Ufaorgsintez	34.8	43.7
Kazanorgsintez	37.6	41.4
Novokuibyshevsk PC	40.4	43.1
Omsk Kaucuk	16.8	0.0
Total	129.5	128.2

Omsk Kaucuk official opening of isopropyl alcohol plant

The official launch of the isopropyl alcohol plant at Omsk Kaucuk plant, which is part of the Titan Group, took place on 18 January. The launch of the production facilities for isopropanol will significantly reduce the share of consumption of Russian imports. In the period January to November 2020 Russia imported 36,600 tons of isopropanol for a total cost of $57.2 million versus 23,800 tons in the same period in 2019 for $23.4 million. China supplied around half of imports to the Russian market in 2020 with the Moscow and St Petersburg areas taking the largest share of volume.

As the Omsk plant will produce isopropanol of the highest medical quality, the project has received support from the Russian Ministry of Industry and Trade and the Industrial Development Fund. The next stage of the project will be the creation of cooperation chains for organising the processing of isopropanol into high-margin products such as epoxy resins. The Titan Group of Companies has been possibly the first Russian chemical company to put into practice a full chain of production from feedstocks benzene to cumene running through to Bisphenol A and high margin end-products.

Russian TDI Imports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belgium	0.5	0.7
China	5.0	0.4
Germany	12.5	18.2
Hungary	8.9	7.7
Japan	1.1	1.7
Netherlands	1.9	1.2
Saudi Arabia	7.2	7.2
South Korea	5.6	1.8
US	1.1	8.1
Others	1.4	4.6
Total	43.1	43.0

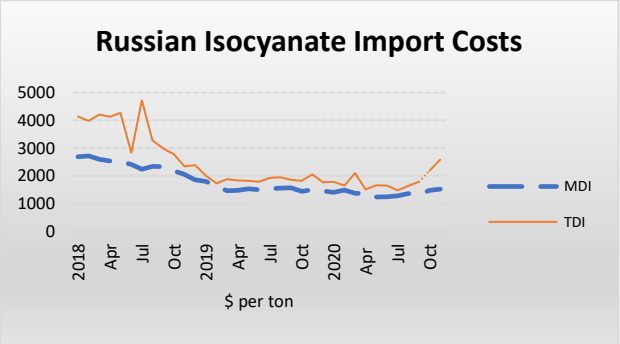
TDI/MDI

Russian TDI imports, Jan-Nov 2020

Russian TDI imports amounted to 43,100 tons in the first eleven months in 2020 against 43,000 tons in the same period in 2019. Germany increased shipments from 8,100 tons in January to November 2019 to 11,100 tons in 2020 with Hungary unchanged at 6,900 tons. Saudi Arabia supplied 5,400 tons of TDI to the Russian market in the first eleven months in 2020, down from 6,900 tons in the same period in 2019.

Russian TDI Imports Jan-Nov 2020 by region		
Region	***Volume (ktons)***	***Value ($ million)***
Moscow	24.2	42.6
Moscow Oblast	3.1	5.9
Tatarstan	7.1	13.5
Vladimir Oblast	3.9	7.3
Stavropol Krai	2.4	4.6
Others	2.4	10
Total	43.1	83.9

Despite the fall in TDI shipments in the middle of 2020 imports increased in August and September which enabled the total for the first eleven months to match last year's volume. Imports in the third quarter totalled 17,200 tons which is the largest quarterly volume on record for the Russian market. The main regions inside Russia accounting for TDI purchases, include Moscow and the Moscow area taking 24,100 tons in the first eleven months in 2020 followed by Tatarstan with 7,100 tons. Germany is the main supplier of TDI to Tatarstan where it accounted for over 40% in 2020 whereas in the Moscow region imports from Germany follow shipments from the US, South Korea and Saudi Arabia.



Russian TDI-MDI import costs, Jan-Nov 2020

Average prices per ton for Russian TDI imports rose to $2586 in November against $2192 in October. Overall, for the first eleven months in 2020 prices per ton of TDI imported into Russia averaged $1818 per ton against $1866 in the same period in 2019.

Isocyanate prices were under pressure at the start of 2020 and remained suppressed through the main lockdown period in the second quarter. In August-September there was an increase in prices of around 20% in the global market for isocyanates which affected import costs in October and November.

Russian Imports of MDI (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Belgium	15.2	14.2
China	30.8	25.7
Germany	19.7	14.6
Hungary	3.6	6.9
Japan	1.6	1.9
Netherlands	29.1	31.4
Portugal	2.9	0.0
Saudi Arabia	37.7	35.8
South Korea	1.0	2.1
Others	0.4	0.7
Total	142.2	134.6

Russian MDI imports, Jan-Nov 2020

MDI imports into the Russian market amounted to 142,200 tons in the first eleven months in 2020 against 134,600 tons in January to November 2019. Import costs for MDI totalled $193.8 million versus $192.8 million in the first eleven months in 2019, with average prices dropping to $1367 per ton versus $1540 per ton in the same period in 2019.

Saudi Arabia was the leading supplier in the first eleven months, increasing from 35,800 tons in January to November 2019 to 37,700 tons in the same period in 2020. The Netherlands reduced shipments to Russia from 31,400 tons to 29,100 tons whilst Germany increased volumes from 14,600 tons in January to November 2019 to 19,700 tons in 2020.

Russian MDI Imports Jan-Nov 2020 by region		
Region	***Volume (ktons)***	***Value ($ million)***
Vladimir Oblast	49.6	61.3
Moscow	31.0	41.6
Kaluga Oblast	18.5	26.5
Moscow Oblast	13.5	20.0
Tatarstan	6.8	9.4
St Petersburg	2.6	3.8
Others	20.2	42.8
Total	142.2	193.8

In terms of regional purchases, the Vladimir Oblast accounted for the largest volume of MDI imports, taking 38,600 tons in the first eleven months in 2020 for a total cost of $46.2 million. Moscow followed as the second most important market taking 26,400 tons for $35.0 million, and in third place the Kaluga Oblast which bought 14,000 tons for $20.4 million.

Ukraine

Ukrainian polymer imports & production, Jan-Nov 2020

In the first eleven months in 2020 imports of polyethylene into Ukraine dropped by 1% against 2019 to 245,000 tons. HDPE imports amounted to 88,600 tons against 87,600 tons for the same period inf 2019, whilst LDPE imports amounted to 73,200 tons against 73,800 tons. For January-November 2020, the total import of LLDPE amounted to 70,800 tons against 75,600 tons a year earlier. Imports of other types of polyethylene, including ethylene-vinyl acetate (EVA) amounted to 12,500 tons against 11,400 tons in 2019.

Ukrainian Polymer Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
PVC	31.1	44.7
LDPE	73.2	73.8
LLDPE	70.8	75.6
HDPE	88.6	87.6
Ethylene Vinyl Acetate	12.5	11.4
Polypropylene	124.4	123.4

For January-November 2020 the total volume of imports of propylene polymers amounted to 124,400 tons against 123,400 tons in the same period in 2019. Imports of polypropylene homopolymer grade amounted to 94,800 tons versus 93,900 tons, propylene block copolymer imports dropped from 13,100 tons against 12,300 tons and random copolymer imports totalled 15,100 tons versus 14,700 tons. The total volume of deliveries of other propylene copolymers amounted to 2,200 tons.

Ukrainian Polypropylene Imports (unit-kilo tons)		
Category	***Jan-Nov 20***	***Jan-Nov 19***
Homo	94.8	93.9
Block	13.1	12.3
Random	15.1	14.7
Other	2.2	1.4
Total	124.4	123.4

Imports of PVC into Ukraine amounted to 31,100 tons in the first eleven months in 2020 against 44,700 tons in the same period in 2019. Exports totalled 139,500 tons in January to November 2020 against 150,400 tons. The key suppliers of resin to the Ukrainian market are producers from Europe, their share in the total volume of imports comprised 78% in 2020. Karpatneftekhim reduced the volume of exports in November due to a planned stop for preventive repairs.

Karpatneftekhim Production (unit-kilo tons)				
Product	***Aug***	***Sep***	***Oct***	***Nov***
Benzene	8.7	8.8	1.3	1.4
Ethylene	*19.2*	*19.9*	*17.1*	*8.1*
Propylene	8.2	8.5	7.3	3.5

Karpatneftekhim, Jan-Nov 2020

Karpatneftekhim exported 139,500 tons of PVC in the first eleven months against 150,400 tons in the same period in 2019. Karpatneftekhim stopped production capacity for suspension PVC and HDPE in late October for planned preventive repairs and resumed cracking at Kalush on 16 November. Karpatneftekhim has a capacity of 250,000 tpa of ethylene, 117,000 tpa of propylene and 72,000 tpa of C4s. The company plans to add a butadiene unit to the complex with a capacity of 45,000 tpa.

Karpatneftekhim Petrochemical Exports (unit-kilo tons)		
Product	**Jan-Nov 20**	***Jan-Nov 19***
Propylene	89.3	81.4
Benzene	61.1	55.4

In the first eleven months Karpatneftekhim produced 53,900 tons of HDPE and 205,000 tons of PVC, which is 19% less and 19% more respectively more than in 2019. Karpatneftekhim exported 89,300 tons of propylene in the first eleven months in 2020 against 81,400 tons in the same period in 2019. Benzene exports rose from 55,400 tons to 61,100 tons.

Ukrainian chemical imports and news Jan-Nov 2020

Ukraine's chemical industry benefited from a significant reduction in 2020 through the cost of natural gas. As a result, the export of the chemical industry grew by 6.1% in 2020. Methanol imports into Ukraine rose to 67,217 tons in the first eleven months in 2020 against 51,000 tons in the same period in 2019. Russian producers supplied the largest share of methanol to the Ukrainian market.

The Crimean Soda Plant is currently completing modernisation and the facility will be commissioned in the first quarter of 2021. The plant is undergoing reconstruction of the pipeline in the workshop for the production of salt brine which will stabilise the provision of raw materials to production facilities for soda ash. The plant's design capacity for soda ash is 698,000 tpa. The other chemical plant in the north of Crimea, Crimean Titan, is faced with a potential closure due to difficulties with the supply of raw materials combined with the lack of water. Previously water came through the North-Crimean Canal, but after Ukraine blocked the canal in 2014-2015 the company switched to underground sources.

Those sources are now becoming more limited whilst at the same time the company is struggling to secure enough ilmenite for the production of titanium dioxide. Ukraine possesses production of ilmenite at Zhytomyr and Dnipropetrovsk, but these sources are no longer available and Crimean Titan is forced to purchase deep-sea raw materials which are far more costly.

Belarussian Chemical Production (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Ethylene	102.5	90.2
Propylene	63.0	57.8
Benzene	91.7	104.8
Caprolactam	54.1	104.0
Orthoxylene	22.3	8.6
Paraxylene	43.1	21.4
Methanol	61.7	76.2

Belarus

Belarussian chemical production Jan-Nov 2020

Ethylene production in Belarus totalled 102,500 tons in the first eleven months in 2020 against 90,200 tons in January to November 2019 whilst propylene production rose from 57,800 tons to 63,000 tons. Benzene production dropped from 104,800 tons to 91,700 tons and caprolactam production dropped from 104,000 tons to 91,700 tons.

Belarussian trade aromatics, Jan-Nov 2020

Orthoxylene imports into Belarus rose from 12,010 tons in the first eleven months in 2019 to 15,562 tons in the same period in 2020 whilst paraxylene imports rose from 12,775 tons to 14,148 tons. Prices for paraxylene imports into Belarus amounted to $599 per ton in the first eleven months in 2020 against $958 in January to November 2019.

Belarussian Aromatic Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
OX	*15.6*	*12.0*
PX	14.1	*12.8*
Toluene	5.0	5.8

Russia remains the main supplier of orthoxylene and paraxylene into Belarus, although Kazakhstan enter the paraxylene market for the first time in 2020 supplying 1,998 tons in the first eleven months. Paraxylene is produced in Kazakhstan at the Atyrau refinery. Benzene imports into Belarus have not been required this year whilst toluene imports dropped from 5,799 tons to 5,034 tons. The absence of benzene imports in 2020 was due to lower caprolactam production at Grodno.

Belarussian PTA Imports (kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
South Korea	24.8	10.5
Portugal	8.0	5.8
Poland	27.3	33.2
Thailand	0.0	0.2
Total	60.2	50.7

The sole consumer of paraxylene in Belarus Mogilevkhimvolokno undertook a tender in November for the purchase of 12,500 tons for delivery in 2021. The Atyrau plant in Kazakhstan is a potential supplier in addition to the Russian producers. The main volume of paraxylene is supplied to Mogilevkhimvolokno by the local producer Novopolotsk refinery Naftan.

Belarussian PTA imports Jan-Nov 2020

PTA imports into Belarus totalled 60,203 tons in the first eleven months in 2020 versus 50,669 tons in the same period in 2019. Average prices dropped from $855 per ton in January to November 2019 to $637 in 2020, as total import costs dropped from $43.305 million to $32.982 million.

Imports of PTA from South Korea increased to 24,508 tons in the first eleven months from 10,500 tons. Poland reduced shipments of PTA to Belarus from 33,178 tons to 27,351 tons, whilst Portugal shipped 8,020 tons, in the first eleven months against 5,817 tons in January to November 2019.

Belarussian Acrylonitrile Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Russia	3.2	2.1
Netherlands	4.1	11.6
Turkey	16.6	25.6
UAE	3.9	1.2
Others	2.0	1.7
Total	27.8	42.2

Belarussian acrylonitrile exports, Jan-Nov 2020
Exports of acrylonitrile from Belarus dropped from 42,212 tons in the first eleven months in 2019 against 27,331 tons in the same period in 2020. Prices dropped on average from $1326 per ton in 2019 to $848 in January to November 2020. Turkey reduced purchases from 25 tons to 16,616 tons in the first eleven months in 2020.

Belarussian Methanol Market (unit-kilo tons)		
	Jan-Nov 20	***Jan-Nov 19***
Production	45.7	61.4
Exports	12.8	32.4
Imports	82.2	48.3
Balance	115.2	77.3

Belarussian methanol market Jan-Nov 2020
Methanol exports from Belarus dropped from 32,363 tons in January to November 2019 to 12,756 tons with prices dropping from $252 per ton to $241.

Methanol imports into Belarus amounted to 82,207 tons in the first eleven months in 2020 from 48,286 tons in January to November 2019. Average prices dropped from $222 per ton in 2019 to $149 per ton in 2020. Besides formaldehyde resin production other consumers in Belarus include Mogilevkhimvolokno and the Mozyr refinery.

Belarussian Polymer Imports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
PVC	78.8	64.0
Polypropylene	108.7	104.7
LDPE	39.4	45.8
HDPE	56.1	63.9
Polystyrene	64.6	69.6

Belarussian polymer trade, Jan-Nov 2020
HDPE imports into Belarus totalled 56,052 tons in the first eleven months in 2020 against 63,895 tons in the same period in 2019. Prices per ton dropped from $1245 in 2019 to $926, with Azerbaijan acting as the major supplier for HDPE to Belarus in 2020. LDPE imports dropped to 39,397 tons versus 45,838 tons, with average prices per ton falling to $1180 from $1308. Russia is the main supplier of LDPE to the Belarussian market. Overall, imports of polyethylene into Belarus totalled 117,400 tons in the first eleven months in 2020 against 139,000 tons in the same period in 2019.

Belarussian Polymer Exports (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
PET	24.3	31.2
LDPE	84.2	84.8
HDPE	9.2	20.4
Polypropylene	1.5	4.4
Polyamide	27.3	54.8

Polyethylene exports from Belarus dropped to 103,200 tons in the first eleven months in 2020 against 119,000 tons in the same period in 2019. Belarussian exports of polyamide dropped from 54,793 tons in January to November 2019 to 27,300 tons in the same period in 2020, with at a price of $1,503 per ton against $1,732 per ton. Due to the fall in both volumes and prices, revenues dropped from $94.907 million to $41.051 million. One main reason for the fall in exports was the reduction in shipments to China from 20.800 tons January to November 2019 to 3,180 tons in 2020.

Belarussian MDI Imports (unit-kilo tons)		
Country	***Jan-Nov 20***	***Jan-Nov 19***
Russia	2.6	2.3
Belgium	0.8	4.0
Hungary	2.6	1.7
Germany	12.4	8.8
Saudi Arabia	0.9	1.1
Others	0.8	1.4
Total	20.1	19.3

Belarussian MDI imports, Jan-Nov 2020
Import deliveries of MDI into from Belarus in the first eleven months amounted to 20,138 tons against 19,307 tons in the same period in 2019. Germany was the largest supplier, increasing shipments from 8,771 tons at $1564 per ton up to 12,393 tons at a much-reduced price of $1378 per ton.

From its own imported MDI Russia supplied 2,598 tons against 2,300 tons in the first eleven months in 2019. Overall, MDI import prices per ton dropped from $1603 per ton in January to November 2019 to $1492 per ton in the same period in 2020.

Central Asia/Caucasus

Azerbaijan petrochemical production Jan-Nov 2020

In January-November 2020, Azerbaijan produced 90,700 tons of propylene (of which 73,100 tons comprised commercial propylene). Polyethylene and ethylene production in Azerbaijan totalled 118,300 tons and 102,400 tons of ethylene respectively. During the first eleven months in 2020 production of propylene increased by 17.6%, commercial propylene by 12.3%.

Azerbaijan Chemical Production (unit-kilo tons)		
Product	***Jan-Nov 20***	***Jan-Nov 19***
Ethylene	102.4	104.0
Polyethylene	118.3	79.4
Propylene	90.7	74.7
Methanol	368.2	314.0

SOCAR produced 439,900 tons of methanol in the first eleven months in 2020 which is 19.1% higher than in the same period in 2019. At the start of December SOCAR held an inventory of 7,300 tons of methanol.

Atyrau polypropylene project progress

Construction of the integrated gas-chemical complex in the Atyrau region by Kazakhstan Petrochemical Industries (KPI) is aimed to be completed by the end of 2021. The plant's capacity will comprise 500,000 tpa of polypropylene. At the end of 2020 around 95% of the equipment to the project had been ordered, most of it supplied through the Aktau ports.

The total cost of the entire gas-chemical complex, to be located in the special economic zone National Industrial Petrochemical Technology Park, is around $2.6 billion. The second phase of the project involves the launch of the production of polyethylene with a capacity of 800,000 tpa and butadiene, but this phase has been delayed due to the loss of the partner Borealis.

The polypropylene unit is being located 33 kilometres from Atyrau, and 8-9 kilometres north of the Karabatan railway station. The largest producer of liquefied gas in Kazakhstan, Tengizchevroil, will be the propane supplier to the plant. The operator of the polypropylene production project is Kazakhstan Petrochemical Industries (KPI Inc.). In December 2015, between KPI and China National Chemical Engineering Co. (CNCEC) signed an EPC contract worth $1.8 billion.

Uzbekneftegaz, cooperation with SIBUR and Gazprom Neft

Uzbekneftegaz has signed cooperation agreements with SIBUR and Gazprom Neft with the aim of undertaking two projects including the creation of a gas-chemical complex (GCC) using MTO (methanol to olefins) technology and the expansion of the production capacity of Shurtan GCC. Uzbekneftegaz commissioned the Shurtan GCC on the basis of the gas condensate field in Kashkadarya. The project capacity of the complex includes 125,000 tpa of polyethylene, 100,000 tpa of liquefied gas and 100,000 tpa of unstable condensate. The GCC expansion project envisages the commissioning of additional polymer production facilities of 280,000 tpa of polyethylene and 100,000 tpa of polypropylene in 2021.

Navoiazot, completion of ammonia and urea project

The consortium of Mitsubishi Heavy Industries and Mitsubishi Corporation has completed the construction of a chemical complex for the production of ammonia and urea at Navoiazot which is the largest chemical plant in Uzbekistan. Haldor Topsoe provided the license for the ammonia plant and Saipem for the production of urea. Navoiazot's production capacity at the new plants comprises 660,000 tpa for ammonia and 577,500 tpa of urea. About 330,000 tons of ammonia will be used for the production of urea and the same amount for the production of ammonium nitrate.

Kazakh Polyethylene Imports (unit-kilo tons)		
Polymer	***Jan-Nov 20***	***Jan-Nov 19***
HDPE	134.2	114.7
LDPE	16.7	20.2
LLDPE	11.4	11.5

Kazakh polyethylene imports, Jan-Nov 2020

Kazakh polyethylene imports totalled 162,400 tons in January to November 2020 against 143,300 tons in the same period in 2019. HDPE imports increased 17% to 134,200 tons whilst LDPE imports dropped 21% to 16,700 tons. LLDPE imports dropped 1% to 11,400 tons.

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