

CIREC

MONTHLY NEWS

Chemical Industry News for Central Europe, South East Europe and Eurasia

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MARKET NEWS

- **CENTRAL EUROPEAN REFINING MARGINS FALL TO LOWEST LEVELS FOR MORE THAN A YEAR**
- **RUSSIAN TOLUENE AND ORTHOXYLENE DOMESTIC SALES SHOW GROWTH IN 1ST HALF**
- **SAYANSKKHIMPLAST IN DEEPER CONFLICT WITH ANGARSK POLYMER OVER ETHYLENE PRICE**
- **RUSSIAN PAINT PRODUCTION SHOWS RISE IN FIRST HALF OF 2016, DESPITE WEAK DEMAND**
- **UKRAINIAN POLYMER MARKET EXPECTED TO CONTINUE RISING IN SECOND HALF OF 2016**

COMPANY NEWS

- **UNIPETROL WANTS TO INTEGRATE SPOLANA INTO GROUP AND RESOLVE CHLORINE PLANT CONVERSION**
- **MOL REPORTED STRONG RESULTS IN 1ST TWO QUARTERS, DRIVEN BY PETROCHEMICAL SECTOR**
- **SHCHEKINOAZOT INVESTS I LOGISTICS SYSTEM, TO IMPROVE ACCESS ROADS AND RAIL SIDINGS**
- **SIBMETAKHIM COMPLETES PLANT RECONSTRUCTION OF FORMALDEHYDE PLANT AT TOMSK**
- **ROSNANO WITHDRAWS FROM NIKOKHIM JV FOR THE PRODUCTION OF MAGNESIUM COMPOUNDS**

TRADE NEWS

- **CZECH ETHYLENE IMPORTS DROP IN JUNE AS UNIPETROL IS CLOSE TO RESTART**
- **CZECH BISPHENOL A IMPORTS CHANGE IN 1ST HALF OF 2016 FROM RUSSIA TO SOUTH KOREA**
- **METHANOL EXPORTS FROM BELARUS IN THE FIRST FIVE MONTHS IN 2016 DOWN BY OVER 11,000 TONS**
- **CHINA, POLAND AND INDIA ACCOUNTED FOR 176,000 TONS OF RUSSIAN RUBBER EXPORTS, JAN-MAY**

PRODUCTION NEWS

- **ANGARSK POLYMER PLANT SHUTS AGAIN IN JULY TEMPORARILY, BUT IS NOW OPERATING**
- **POLISH PRODUCTION OF CAUSTIC SODA AND SODA ASH RISE IN 1ST HALF OF 2016 DUE TO EXPANSIONS**
- **RUSSIAN FAR EAST CHEMICAL PRODUCER BOR CEASES BORIC ACID PRODUCTION TO FOCUS ON SILICA**
- **RUSSIAN PROPYLENE RISES IN FIRST HALF OF 2016, AND SHOULD GO HIGHER IN SECOND HALF**

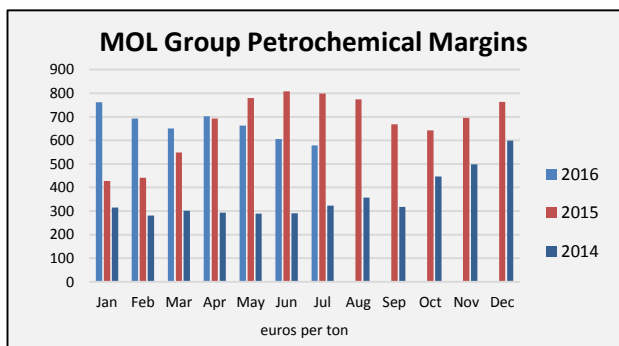
PROJECT NEWS

- **PKN ORLEN ANNOUNCES PLANS FOR PROPYLENE METATHESIS UNIT AT PLOCK**
- **SIBUR APPROVES PROMSTROY GROUP TO INSTALL THE 500,000 TPA PP PLANT AS PART OF ZAPSIB-2**
- **TURKMENISTAN PETROCHEMICAL PROJECT ON SCHEDULE FOR 2018 START-UP**
- **KURSKKHHIMVOLOKNO TO INCREASE CAPACITY FOR TECHNICAL YARNS**
- **VNESHECONOMBANK UNDERTAKING EXAMINATION INTO METHYLCHLOROSILANE PROJECT AT KAZAN**

CENTRAL & SOUTH EAST EUROPE

Central European refining & petrochemical margins, July 2016

Petrochemical margins for the major Central European producers, Orlen and MOL, fell slightly in July whilst



a more significant drop was recorded in refining margins. For the MOL Group overall the refining margin dropped to \$4.0 per barrel, which was the lowest level since October, although in Slovakia Slovnaft achieved \$4.6. Orlen's refining margin dropped from \$6.0 per barrel in June to \$3.9 in July, the lowest level since December 2014 whilst Unipetrol dropped further to \$1.3 per barrel which was last seen in June 2014. Petrochemical margins performed much better, and although MOL's model petrochemical margin of €578.1 per ton was the lowest since March last year it considerably exceeds the long term average

margin. For the second quarter this year MOL's petrochemical margin averaged €679.1 per ton against €701.6 in the first quarter.

Orlen's petrochemical margin achieved €970 per ton in July, which was down against June when it was €979 and even further down than the record level of €1181 in July 2015. However, €970 is still higher than the average margins achieved for 2015, 2014 and 2013 which were €881, €708 and €662 respectively. Unipetrol's margins for olefins and polyolefins followed a similar pattern to MOL's and Orlen's petrochemical margins, but still remaining above recent historical trends. Due to the extended outage at Litvinov Unipetrol has been only able to benefit in part from the high margins seen in the past twelve months.

Central European olefin & polyolefin production, Jan-Jun 2016

Production of olefins and polyolefins in Central Europe were down in the first half of 2016, due mainly to the Litvinov outage. The MOL group increased production from its two petrochemical plants at TVK and

CE Olefin & Polyolefin Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Ethylene	656.2	816.3
Propylene	401.2	469.0
Polyethylene	562.0	626.9
Polypropylene	441.2	494.4

Slovnaft, including a rise in ethylene production from 365,000 tons in the first half of 2015 to 393,000 tons in 2016. By contrast, as the Litvinov ethylene cracker was idle in the first half of 2016 the Orlen group's ethylene production dropped from 451,300 tons in January to June 2015 to 272,200 tons in 2016, all of which this year has been produced at Plock.

Propylene production for the Orlen group fell to 197,200 tons against 288,000 tons last year, whilst rising for the MOL group from 183,000 tons to 204,000 tons. Polyethylene production rose for the MOL group in the first half of 2016, from 266,000 tons to 291,400 tons, whilst polypropylene increased from 237,000 tons to 240,000 tons. Despite Unipetrol importing olefins to support polyolefin production this year, overall production for the Orlen group fell by around 25% for polyethylene in the first half of 2016 and polypropylene by around 22%.

PKN Orlen Group Chemical Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Monomers	385	477
Polymers	115	300
Aromatics	118	236
Fertilisers	624	596
Plastics	206	270
PTA	341	326

PKN Orlen, Jan-Jun 2016

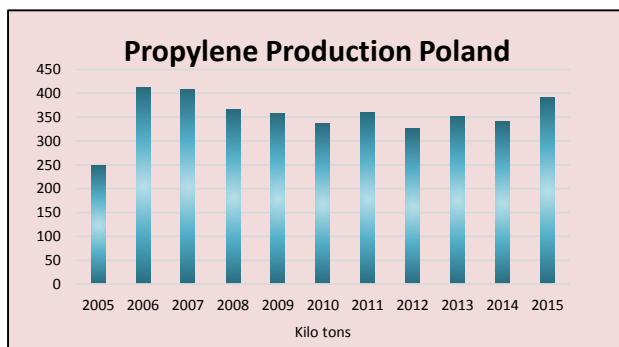
PKN Orlen's revenues fell by zł 9 billion in the first half of 2016 and profits fell to zł 1.94 billion. Orlen Group revenues in the period from April to June amounted to zł 19.35 billion which was zł 5 billion lower than in the same period last year. The decline in revenue is a result of lower oil prices and lower sales volumes.

In Lithuania, Orlen Lietuva's first half net profit in 2016 dropped by 12% in the first half to €116.23 million, attributing the decline to lower market and refining margins. First-half revenues for Orlen Lietuva fell by 27% to €1.402 billion and EBITDA fell by

34% to €121.7 million. In the second quarter alone, the company's net profit declined by 21% €69.92 million as revenue went down by 30% to €800.87 million.

PKN Orlen-propylene capacity increase

PKN Orlen has announced project plans to increase the production of propylene by constructing an on-purpose unit, the costs of which are estimated approximately at zł 400 million. This will result in the addition of 100,000 tpa, bringing the company's total propylene capacity at Plock to 550,000 tpa. Combined with the project in the early stages of construction at Grupa Azoty Police in northern Poland, total domestic capacity for propylene should rise to 950,000 tpa by 2019-2020.



more feedstock which is in strong demand in Poland, the objective of the project is to diversify revenue sources and strengthen the efficiency of the Orlen Group's downstream division. Orlen wants to focus on products with a broad range of applications in the plastics industry, whilst promoting greater integration between petrochemical and refining production.

Orlen Group investments

Currently the largest investment project in petrochemicals for the Orlen Group comprises the construction of polyethylene plant at Litvinov. Important projects for the group also consist of the building blocks for gas and steam at both Wloclawek and Plock. The value of the project at Wloclawek zł 1.4 billion and is managed by General Electric and SNC-Lavalin Poland. This project has been delayed as faults have been detected in the design. The value of the project at Plock to zł 1.65 billion for which completion is scheduled for the end of 2017.

The metathesis unit is to be built under a licence purchased from Lummus Technology, a company of the CB&I group. PKN Orlen and Polish company Elektrobudowa have signed a contract to design, supply and construction of the turnkey installation, the estimated net value of which is zł 250 million.

Unipetrol Jan-Jun 2016

Unipetrol reported a net profit of Kc 3.1 billion (\$126.61 million) in the second quarter this year, a rise of 4% which was due largely to the insurance payments for the damaged steam cracker unit after the accident in August 2015. However,

Unipetrol's revenue in the quarter fell 37% to Kc 20.6 billion due to lower crude oil prices and weaker petrochemical product sales, which were hit by limited production because of outages.

The company stated that its damaged steam cracker, out of service since a fire in August 2015, is expected to restart at the end of August at eight out of 10 furnaces and should reach full capacity in October. Unipetrol has received insurance payments of Kc 3.9 billion in the second quarter, helping raise the EBITDA by to Kc 4.6 billion. Repair costs for the cracker are estimated at around Kc 4.1 billion whilst lost profits due to the outage have been estimated at Kc 6.6 billion. Unipetrol has also been affected this year by the outage at the Kralupy refinery which started in May and will last until October, costing around Kc 400 million in repairs.

Unipetrol cracker repairs

PKN Orlen expects that repairs at Unipetrol's cracker at Litvinov will be completed in the third quarter of 2016. There is a probability that in the fourth quarter Unipetrol will be working at full capacity.

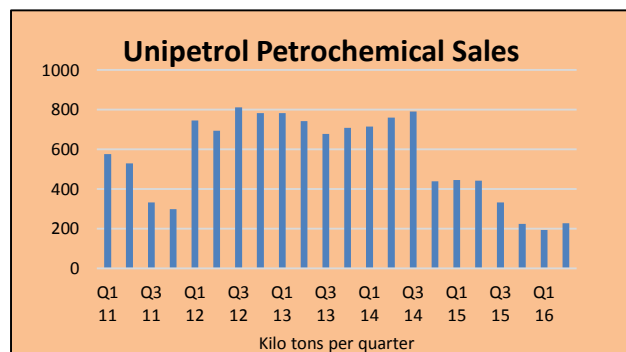
In June, Unipetrol signed a share purchase agreement with Anwil to take the 100% share capital in Spolana for €1 million. The transaction supports Unipetrol's reorganisation of activities, which was triggered by taking full control over the refining assets in the Czech Republic and will allow the group to be more flexible and resilient in terms of production optimisation, production

and sales of ethylene as well as facilitate better coordination and extension of the group's value chain. Unipetrol's Litvinov cracker is linked by ethylene pipeline to Spolana's Neratovice plant.

Spolana's main challenge involves the conversion of chlorine production from mercury electrolysis to membrane. The Regional Office of Central Bohemian Region extended Spolana's licence in 2014 to operate the mercury plant until 30 June 2017. At the same time, the company is obliged to submit an

action plan aiming to cease production of chlorine using mercury electrolysis by 31 December 2016. Thus, it presents a priority for Unipetrol to organise a definitive programme for conversion by the end of this year.

At Kralupy in 2016 Unipetrol is investing into the reconstruction of FCC unit after the extraordinary event occurred in May. Unipetrol's petrochemical part of the downstream division will focus on the continuation of two major projects including the new polyethylene unit (PE3) and finalisation of reconstruction of the steam cracker unit at Litvinov. A tender for a new boiler house for the steam cracker should also start in the second half of 2016.



The steam cracker unit is planned to be back in operation at 80% of its capacity by the end of August and at full capacity by the end of October 2016.

for Unipetrol in the second quarter was the scheduled turnaround of the Litvinov chemical complex, which took place in March and April which affected the polyolefin plants. The accident at the FCC unit

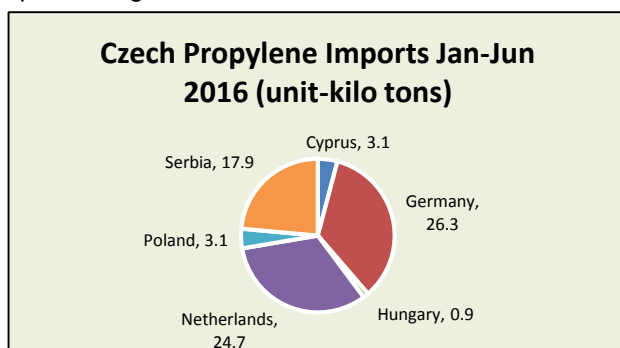
Czech Petrochemical Imports (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Ethylene	73.8	4.8
Propylene	76.5	10.9
Butadiene	28.8	10.4
Benzene	50.1	44.7
Ethylbenzene	34.5	1.0

Besides the extended cracker outage, the other factor which affected petrochemical production at Kralupy in the middle of May also resulted in the suspension of crude oil processing at Kralupy refinery. It is currently estimated that the Kralupy refinery will be restarted at the beginning of October 2016.

Czech petrochemical trade, Jan-Jun 2016

Imports of ethylene into the Czech Republic dropped in June to 1,707 tons against 13,136 tons in June and representing the lowest inward flow of monomer since July 2015. As Unipetrol approaches a restart of

the cracker at Litvinov the company is trying to manage inventory tightly in order to avoid over-purchasing. Propylene continues to be imported, amounting to 15,231 tons in June against 15,656 tons in May. The main sources of propylene imports for the Czech Republic in the first half of 2016 included Germany, the Netherlands and Serbia.



Export activity for petrochemicals from the Czech Republic has been minimal thus far in 2016. The largest proportional rise in product

imports in 2016 has been for ethylbenzene where imports rose from 1,031 tons in January to June 2015 to 34,500 tons in the same period in 2016.

Czech petrochemical trade, Jan-Jun 2016

Methanol imports into the Czech Republic totalled 43,808 tons in the first half of 2016 against 48,819 tons in the same period in 2015. The main supplier in 2016 has been Russia, accounting for around

Czech Bisphenol A Imports (unit-kilo tons)		
Country	Jan-Jun 16	Jan-Jun 15
Belgium	0.8	1.6
Germany	0.5	0.0
Netherlands	2.3	1.8
Russia	0.0	6.6
South Korea	7.2	2.4
Spain	1.8	1.8
Total	12.6	14.3

60% of inward shipments, followed by Germany with about 30%. Other imported organic chemicals included 2-EH where shipments totalled 15,151 tons in the first half last year against 14,312 tons in 2016, with Poland accounting for 9,795 tons.

Imports of normal butanol rose slightly from 5,672 tons in January to June 2016 to 6,696 tons in the same period this year. Poland has supplied 95% of normal butanol imports into the Czech Republic to date in 2016. The

Czech Republic has become reliant on imports of oxo alcohols since Unipetrol closed its plant at Litvinov.

Bisphenol A imports into the Czech Republic fell slightly from 14,300 tons in the first half last year to 12,600 tons this year. The most noticeable feature of the domestic market was the increase in imports from South Korea rising from 2,400 tons to 7,200 tons Russia declined from 6,644 tons in the first half of 2015 to zero to date in 2016.

Czech Caprolactam Exports (unit-kilo tons)		
Country	Jan-Jun 16	Jan-Jun 15
Belgium	1.9	1.8
Germany	11.0	8.5
Italy	3.8	4.8
Poland	3.1	3.3
Slovenia	2.1	0.6
Others	1.2	4.7
Total	23.0	23.6

Regarding organic chemical exports, Deza at Valasske Mezirici increased phthalate shipments to 17,382 tons in the first half of 2016 against 12,316 tons last year. Most of the phthalate exports are sold in Central and East Europe. Phthalic anhydride exports from Deza totalled 9,444 tons in the period January to June 2016 versus 9,693 tons last year. Caprolactam exports from Spolana were slightly down in the first half of the year to 22,995 tons, with Germany accounting for just under 50% of shipments.

Polish Chemical Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Caustic Soda Liquid	166.9	152.4
Caustic Soda Solid	36.8	25.9
Soda Ash	619.7	513.5
Ethylene	272.2	278.6
Propylene	197.2	198.0
Butadiene	33.1	29.4
Toluene	7.9	4.9
Phenol	18.1	20.7
Caprolactam	82.9	85.3
Acetic Acid	4.0	5.2
Polyethylene	193.0	198.5
Polystyrene	27.7	23.1
EPS	43.8	36.7
PVC	141.0	162.8
Polypropylene	135.2	126.4
Synthetic Rubber	112.8	97.2
Ammonia (Gaseous)	1377.0	702.3
Ammonia (Liquid)	47.2	719.1
Pesticides	14.0	16.4
Nitric Acid	1196.0	1188.0

Polish chemical production, Jan-Jun 2016

Increases were recorded in Polish chemical production the first half of 2016 for caustic soda, benefiting from PCC Rokita's upgrade, and soda ash for which Ciech has expanded capacity. In the petrochemical sector olefins were largely unchanged whilst in the polymer division the largest fall was seen in PVC and the largest rise was seen in synthetic rubber as the result of expansions undertaken by Synthos.

MOL, Jan-Jun 2016

MOL's net income rose 45% in the second quarter in 2016 to Ft 83.5 billion as corporate tax costs fell on the one-off impact of a transition to International Financial Reporting Standards. MOL stated that revenue from its downstream business fell 17% in the second quarter in 2016 to Ft 859.2 billion, whilst the operating profit dropped 6% to Ft 107.4 billion. Revenue from the upstream business declined 20% to Ft 90.9 billion, but its operating profit jumped 104% to Ft 8.4 billion.

Overall for the first half of 2016 petrochemicals and retail contributed 60% of MOL's EBITDA and in particular petrochemicals recorded an improvement of

MOL's Olefin & Polyolefin Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Ethylene	393	365
Propylene	204	190
Butadiene	25	0
Raffinate	38	0
Product	Jan-Jun 16	Jan-Jun 15
LDPE	102	96
HDPE	189	176
PP	270	238

31% over the same period in 2015. The result was supported by a 7% increase of the integrated petrochemicals margin, s and a 5% rise in total sales (including butadiene). MOL Group's petrochemical business plays an important role in the company's integrated downstream value chain as 11% of the production of its refineries are destined for the two petrochemical plants in Hungary and Slovakia.

Polyolefin production increased for the MOL Group in the first half of 2016, with polypropylene recording the largest rise from 238,000 tons to 270,000 tons. The start of production of the butadiene extraction plant at Tiszaujvaros resulted in the

production of 25,000 tons of butadiene and 38,000 tons of raffinate. In the first half of 2016 MOL exported 7,632 tons of butadiene to the Czech Republic and over 12,000 tons to Poland. Export activity will continue until construction of the synthetic rubber plant at Tiszaujvaros is completed.

RUSSIA

Russian Chemical Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Caustic Soda	540.5	565.0
Soda Ash	1,408.7	1,522.0
Ethylene	1,385.2	1,426.0
Propylene	1,097.1	1,045.1
Benzene	598.8	624.8
Xylenes	290.4	275.9
Styrene	365.4	347.7
Phenol	122.2	123.2
Ammonia	8,000.0	7,300.0
Nitrogen Fertilisers	4,854.0	4,292.0
Phosphate Fertilisers	1,756.0	1,654.0
Potash Fertilisers	3,655.0	3,978.0
Plastics in Bulk	3,855.0	3,641.0
Polyethylene	1,116.0	905.0
Polystyrene	274.9	264.5
PVC	378.1	398.6
Polypropylene	690.1	658.0
Polyamide	77.1	68.7
Synthetic Rubber	714.7	799.0
Synthetic Fibres	75.7	62.1

Russian chemical production Jan-Jun 2016

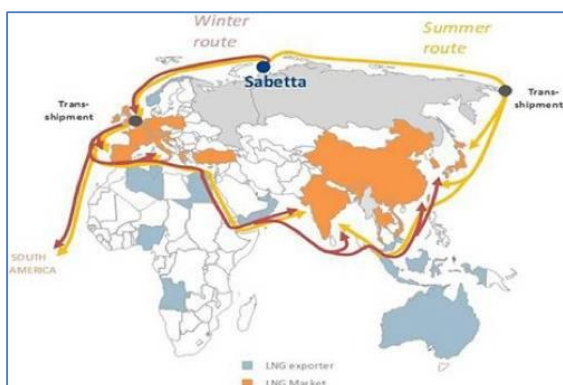
Russian chemical production rose 1.6% in the first half of 2016, the second quarter decline of 3.2% being offset by the 3.7% rise in the first quarter. Ethylene production dropped from 1.426 million tons in the first half of last year to 1.385 million tons in the same period in 2016, due largely to the extended outage at Angarsk which has now been resolved. Polyolefin production increased in the first half of the year, despite the outage at Angarsk. However, the Angarsk repair programme for five months meant that Sayanskkhimplast was unable to secure ethylene and this meant that Russian PVC production dropped from 398,600 tons in the first half of 2015 to 378,100 tons in 2015.

Whilst the economic outlook for Russia remains languid at best the chemical industry continues to provide one of the most successful sectors of the economy. Petrochemical companies are continuing to report profits, with both Kazanorgsintez and Nizhnekamskneftekhim recording good results for the first half of 2016. At the same time some producers have been affected by rising production costs which has eroded profitability. A prevailing theory in some parts of the chemical industry indicate that profits may have peaked and the that the advantages of the weaker rouble started to diminish.

ZapSibNeftekhim project August 2016

Schneider Electric-ZapSib-2

Schneider Electric has won the tender for the supply of power for the construction of the ZapSib-2 complex as part of ZapSibNeftekhim. The package will include electrical equipment transformers, switchgear, transformer substations and low-voltage complex devices. The first delivery is expected before the end of 2016. Schneider Electric acquired a 100% stake in the Samara GC Elektroschit TM Samara in 2013, which currently produces more than a third of all electrical products on the Russian market.



Equipment deliveries through Sabetta Port

Some of the main equipment deliveries for ZapSib-2, as part of the ZapSibNeftekhim complex, are being made through the Sabetta port in the Yamal region. The Sabetta port is located on the west bank of the Ob Bay of the Kara Sea, and was opened in 2012 with the involvement of Novatek. The port has seen trade develop slowly but in the first half of 2016 the Sabetta port handled 541,000 tons of cargo, 5.3 times higher than in 2015. The number of ships arriving should increase towards the end of this year with equipment for both the Yamal LNG and ZapSib-2 projects. The

LNG project is probably more important at this stage, as production is scheduled to start in 2017 based on a capacity of 16.5 million tpa. Other projects being served by Sabetta include refineries at Omsk and Pavlodar in Kazakhstan. An air-freight checkpoint will soon become fully operational in preparation for more plane deliveries.

Atomenergomash (AEM) signs contract for ZapSibNeftekhim

SverdNIIkhimmash (part of Rosatom's engineering division AEM) has won a contract to develop, manufacture and supply of equipment for ZapSibNeftekhim. The contract covers recycling of water for

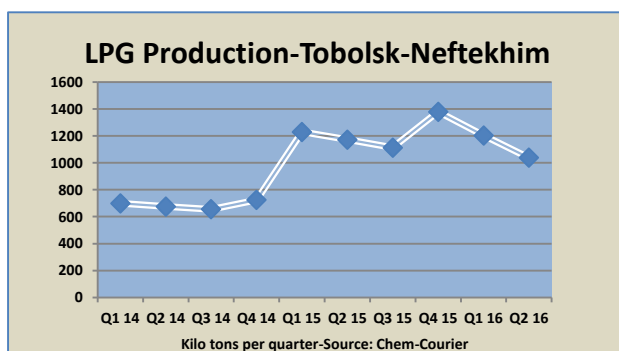
production and the supply of a centrifuge which traditionally is sold only to the nuclear industry. Deliveries of the equipment are scheduled for March 2017 and represent AEM's first entry into the petrochemical industry. AEM hopes for increased demand from petrochemical plants in Russia in future. Atomenergomash is a supplier of integrated solutions for the nuclear power, thermal power, gas and petrochemical industries. It consists of about 30 power engineering enterprises, including research, engineering, manufacturing, and construction organisations.

Promstroy Group to install polypropylene plant for ZapSib-2

SIBUR has approved a deal for the Russian construction company Promstroy Group to install the polypropylene plant for the ZapSib-2 complex, running from 30 June 2016 to 1 May 2019. The plant capacity of 500,000 tpa is to be installed at a cost of 8.2 billion roubles (\$127 million). The Promstroy Group operates as a general contractor in the petrochemical industry as well as oil and gas facilities.

Tobolsk Gas Fractionating Plant expansion

SIBUR has completed the reconstruction of the Tobolsk gas fractionating unit, raising capacity from 6.6 million tpa to 8 million tpa. Investments in the project amounted to 5.5 billion roubles (excluding VAT). In 2014, the gas fractionation plant increased its capacity from 2.8 to 4.2 million tpa and production has risen accordingly. In 2014, SIBUR completed construction of the product pipeline with capacity of up to 8 million tpa, and length of 1100 km from Purovsky to Tobolsk. The increase in light hydrocarbon exports has been synchronized with the expansion of gas fractionation capacity at Tobolsk for both Tobolsk Polymer and the new ZapSib-2 complex under construction.

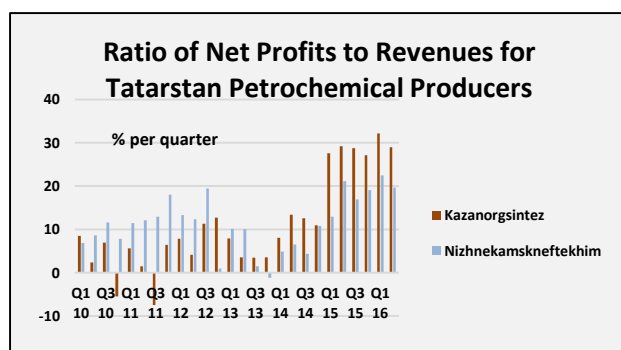


The ZapSib-2 complex is estimated to require in the range of 2.5-3 million tpa of LPG when completed, which would account for most of the production currently undertaken at Tobolsk. After modernisation, however, the gas fractionation facilities at Tobolsk will be capable of a significant increase in LPG production. Part of the volume of LPG produced in Tobolsk and not used captively for polymers and petrochemicals, will be sent to the markets of North-West Europe through the terminal at Ust-Luga on the Baltic coast.

Russian petrochemical producers & markets

Kazanorgsintez & Nizhnekamskneftekhim, Jan-Jun 2016

Kazanorgsintez increased its net profit by 27% to 11.75 billion roubles for the first six months of 2016 after increasing revenues by 12% to 38.430 billion roubles. The gross profit also increased by 27% to 17.6 billion roubles. Kazanorgsintez, as shown in the graphic opposite, has traditionally achieved a better ratio of net profits to revenues than its larger Tatar petrochemical neighbour Nizhnekamskneftekhim.

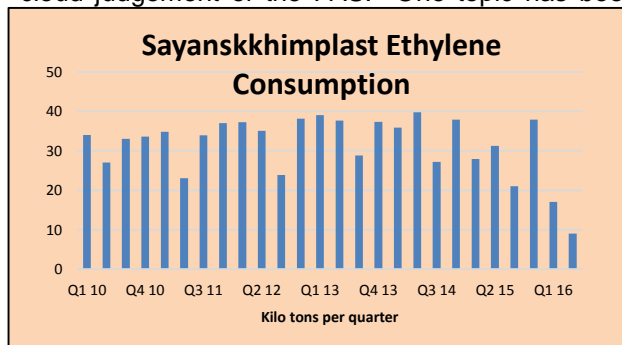


in the first half of 2016. Production costs increased by 1.8% to 55.850 billion roubles, allowing a rise in gross profit of 22.3% to 22.23 roubles. The operating profit for Nizhnekamskneftekhim increased by 22.3% to 15.35 billion roubles whilst profit before tax amounted to 20.68 billion roubles. Overall, Tatarstan increased output in the chemical industries by 2% in the first half of 2016 compared to the same period last year. Nizhnekamskneftekhim produced 338,000 tons of synthetic rubber, whilst together with Kazanorgsintez plastics production totalled 823,500 tons.

Ethylene price dispute between Sayanskkhimplast and Angarsk Polymer Plant

Sayanskkhimplast yet to submit its calculations on ethylene consumption per ton of PVC as well as technical regulations for the gas compressor station. The local administration has been looking for a formula price for ethylene for some time. The current formula is tied to the profitability of 15% but Sayanskkhimplast insists on profitability of 20%. This is now under discussion in the arbitration process. The proposals put forward are complex and the challenge of the FAS is to find a suitable solution acceptable to both Angarsk Polymer Plant and Sayanskkhimplast without contravening the principles and laws on market competition.

Hearings at the arbitration court are constantly postponed, and even now the earliest date the subject of the ethylene price will be considered is 6 September. The issue has become highly controversial in that with Sayanskkhimplast claiming that misinformation has been put out by certain parties in order to cloud judgement of the FAS. One topic has been how much PVC Sayanskkhimplast was able to produce in 2015 from the 100,796 tons of ethylene received from Angarsk, but the company is yet to state its case.

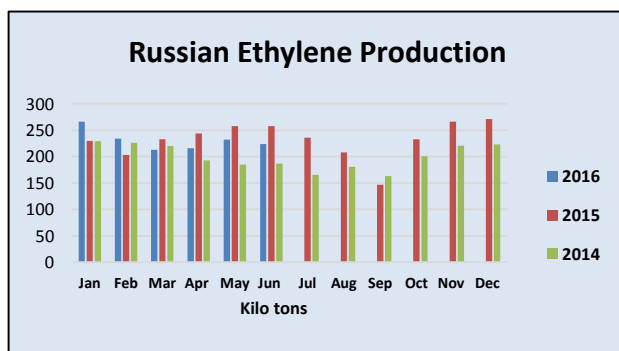


Sayanskkhimplast and Angarsk Polymer Plant have been in dispute over the ethylene price as part of a long term contract for the past few years, despite a proposed price formula provided by the FAS serving as a third party. Negotiations on the price of ethylene between Sayanskkhimplast and Angarsk Polymer Plant are always difficult because of the monopoly position of the seller

and the buyer in relation to each other. Ethylene is supplied from Angarsk to Sayansk through a 231 km pipeline and there are no realistic alternatives.

Russian ethylene market, Jan-Jun 2016

Russian ethylene production totalled 641,300 tons for the second quarter this year against 713,700 tons in the first quarter and 683,100 tons in the second quarter in 2015. The main factor affecting production



in the second quarter this year was the absence of Angarsk Polymer Plant from the market, whilst it undertook repairs, whilst in addition maintenance was undertaken at Kazanorgsintez. Increases in production were recorded by several plants, including SIBUR-Kstovo and Gazprom neftekhim Salavat both of which have been modernised and Stavrolen which has now resumed full production.

tons in the first half of 2016 against 282,484 tons in the same period last year. The reason for the rise this year is that the annual maintenance outage for the cracker was undertaken in the first part of 2015 but was delayed to the second half of 2016. Nizhnekamskneftekhim stopped production of ethylene on

Alpha olefins-Nizhnekamskneftekhim

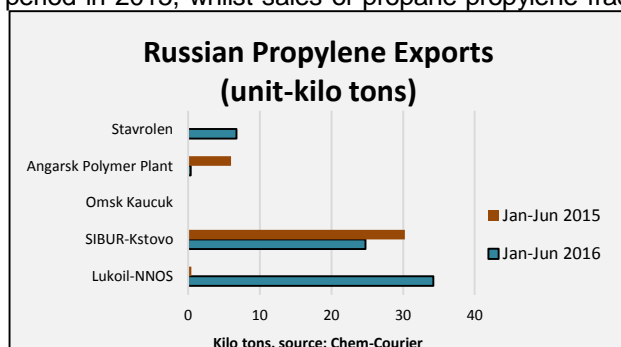
Start-up of the modernised alpha olefin plant at Nizhnekamskneftekhim has been complicated in the commissioning process, and difficulties in working with new equipment. Linde AG has been in charge of the reconstruction of the alpha olefin plant, increasing capacity to 37,500 tpa. The main feature of the reconstruction was to facilitate the introduction of the technology alpha-Sablin, which is co-owned Linde and SABIC. This technology, with a primary output C4-C6 fraction, is assessed as highly economical and highly flexible in terms of the possibility of a reaction to produce light and heavy hydrocarbons.

Nizhnekamskneftekhim remains Russia's largest ethylene producer, producing 318,120 tons in the first half of 2016 against 282,484 tons in the same period last year. The reason for the rise this year is that the annual maintenance outage for the cracker was undertaken in the first part of 2015 but was delayed to the second half of 2016. Nizhnekamskneftekhim stopped production of ethylene on 16 July for maintenance, including process equipment, steaming, etc. In parallel with the repairs to the ethylene plant work will be undertaken on the benzene unit. The butadiene plant was not affected by the ethylene outage, and will undergo maintenance in 2017. Nizhnekamskneftekhim can produce 600,000 tpa of ethylene, and is currently examining plans for two further incremental rises in capacity of 600,000 tpa, thus raising full capacity to 1.8 million

tpa by 2025.

Russian propylene, Jan-Jun 2016

Propylene sales on the domestic market totalled 177,600 tons in the first half of 2016, 9% down on the same period in 2015, whilst sales of propane-propylene fractions rose 22% to 83,100 tons. At the same time propylene exports totalled 66,100 tons against 36,600 tons in the first half of 2015. Following expansion Lukoil-NNOS at Nizhny Novgorod has become the largest Russian exporter in addition to being the largest supplier to the domestic market. Regarding imports Azerkhimya is the only constant source of inward shipments into Russia imports whilst Volzhskiy Orgsintez is the main importing company. Imports totalled 1,400 tons in the first half of 2016, 3.3 times down on the same period in 2015.



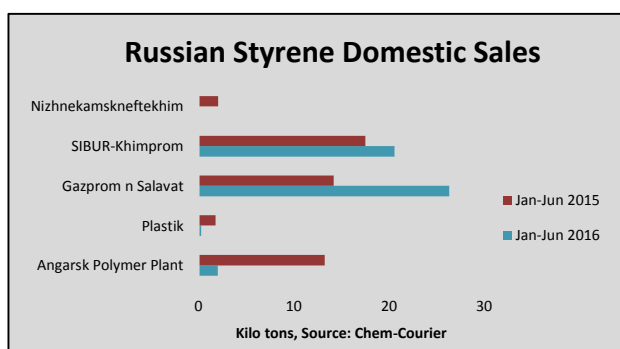
Lower propylene monomer sales from the main Russian producers on the domestic market in the first half of 2016 were compensated by extra sales of propane-propylene fractions. In June sales of propane-propylene fractions rose 8% against May to 17,700 tons. Exports of propane-propylene fraction also increased by 1.7 times in June to 2,800 tons, all of which came from the Ryazan refinery and all of which was sent to Hungary. In the first half of 2016, the Ryazan refinery increased domestic sales of propane-propylene fractions to 54,490 tons against 28,800 tons in January to June 2015, whilst exports dropped from 29,000 tons to 26,300 tons.

Ryazan refinery, Propane-Propylene Fraction Sales

	Jan-Jun 16	Jan-Jun 15
Exports	26,3	29.0
Domestic Sales	54.5	28.8

Russian styrene, Jan-Jul 2016

According to Chem-Courier, styrene sales to the Russian domestic market amounted to 6,200 tons in July which was 29% down on June. The maintenance outage at Gazprom neftekhim was the cause of the decline, reducing shipments to 1,500 tons, whilst one of the main merchant buyers Penoplex at Kirishi was down in July for a planned outage. SIBUR-Khimprom supplied 3,950 tons to the domestic market in July, whilst the resumption of production at Angarsk allowed the Irkutsk based producer to sell 1,150 tons to the market. Russian sales of styrene on the domestic merchant market totalled 53,700 tons in the first seven months in 2016, 2% up on the same period in 2015. Gazprom neftekhim Salavat stopped production of polystyrene for scheduled repairs in July for a period of about 30 days.



Conference Petrochemicals Russia 2017, 8 November 2016 Moscow

Chem-Courier is holding a conference entitled Petrochemicals in Russia 2017 on 8 November 2016 in Moscow. This will include product coverage of hydrocarbons and petrochemical raw materials, ranging from LPGs to olefins, and downstream product areas such as aromatic and olefin derivatives.

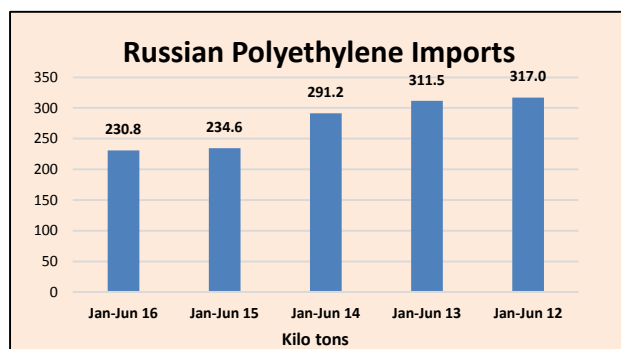
For details of the conference programme please contact Natalia Otroschenko at N.Otroschenko@chem-courier.com and for advertising/marketing opportunities please contact Kseniia Shyriaieva at K.Shyriaieva@chem-courier.ru. A link to the conference is provided on the CIREC homepage.

Bulk Polymers

Russian polyethylene imports, Jan-Jun 2016

Polyethylene imports into Russia declined by 11% in the first half of 2016 to 230,800 tons, mainly due to falls in volumes of LLDPE and HDPE. LDPE imports were 16.3% higher than in the first half in 2015 and totalled 52,800 tons, whilst HDPE imports fell 23.6% to 65,100 tons. Imports of LLDPE totalled 81,900 tons in the

first half of 2016 compared to 103,400 tons last year. Domestic manufacturers of stretch film have preferred this year to buy raw materials at Nizhnekamskneftekhim, which has a negative impact on the level of external supply. Ethylene vinyl acetate imports totalled 12,000 tons in the first half of 2016 against 8,800 tons in the same period in 2015.



Imports of polyethylene into Russia have been in decline over the past few years, as shown in the graphic opposite for the respective periods of six months. The declining trend has been due to a combination of higher domestic production and weaker domestic demand.

Following the modernisation at Tomskneftekhim LDPE supply and 10% increase in capacity, a rise in production and availability can be expected in the second half of 2016. Regarding the internal

market options for expanding LDPE consumption are promising. Current application areas include packaging, shrink, agricultural films, as well as injection moulding products, wire and cable insulation and pipe coatings. The main current area for consumption for LDPE is general purpose film where around 300,000 tpa is used, followed by 150,000 tpa of shrink film.

The modernisation of Tomskneftekhim's polyolefin units have raised LDPE capacity from 240,000 tpa to 270,000 tpa. Based on a license agreement with LyondellBasell three new brands of LDPE can now be produced meeting higher standards. Tomskneftekhim reported that all the basic technological components of the LDPE plant were upgraded or replaced, including suppliers JSW, Japan, Coperion, Germany, BHDT, Austria), and Schneider Electric, Russia.

Russian HDPE Production (unit-kilo tons)		
Producer	Jan-Jun 16	Jan-Jun 15
Kazanorgsintez	237.5	260.6
Stavrolen	131.2	54.6
Nizhnekamskneftekhim	72.2	82.6
Gazprom n Salavat	55.9	52
Total	496.8	449.8

Salavat increased by 10% to 55,900 tons.

Russian HDPE production, Jan-Jun 2016

Russian HDPE production rose 14% in the first half of 2016, despite raw material shortages experienced by Kazanorgsintez. Production totalled 449,800 tons in the first six months last year against 496,800 tons in same period in 2016. Kazanorgsintez produced 237,500 tons in the first six months, 9% down on the previous year whilst Nizhnekamskneftekhim increased production by 8% to 72,200 tons. Stavrolen produced 131,200 tons in the first six months against 55,500 tons whilst Gazprom neftekhim

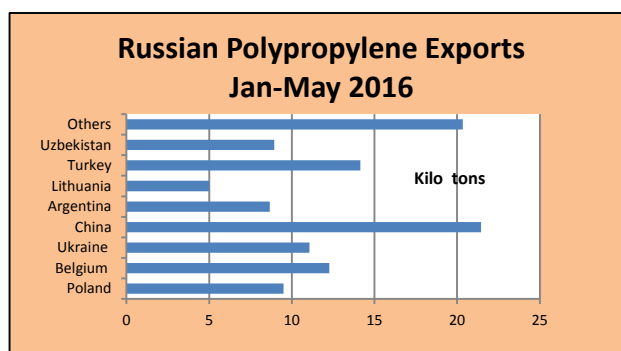
Gazprom neftekhim Salavat resumed production of HDPE and LDPE on 29 July after the completion of scheduled maintenance. The LDPE plant was stopped on 1 July and the HDPE plant on 23 July. In 2015 Gazprom neftekhim Salavat produced 34,600 tons of LDPE and 93,900 tons of HDPE. In the first half of 2016 production totalled 20,800 tons for LDPE and 55,900 tons of HDPE.

Russian Polypropylene Production (unit-kilo tons)		
Producer	Jan-Jun 16	Jan-Jun 15
Ufaorgsintez	58.1	65.0
Stavrolen	57.5	54.5
Moscow NPZ	64.0	56.6
Nizhnekamskneftekhim	109.3	108.5
Polyom	102.2	98.9
Tomskneftekhim	66.6	69.8
Tobolsk-Polymer	232.4	215.0
Total	690.1	658.0

Russian polypropylene, Jan-Jun 2016

Russian polypropylene production totalled 690,100 tons in the first half of 2016, 3% up on the same period last year. Production dropped by 30% in June against May to 87,200 tons which was due to maintenance outages at Ufaorgsintez, Tobolsk-Polymer and Tomskneftekhim.

For the first six months in 2016 Tobolsk-Polymer produced 232,400 tons of polypropylene against 215,100 tons in the same period in 2015, despite the repairs in June which reduced production to 17,800 tons against 44,300 tons in May.



Polyom at Omsk increased production of polypropylene by 3.3% in the first half of 2016 to 102,200 tons, producing 17,900 tons in June against 18,600 tons in May. Nizhnekamskneftekhim increased production from 108,500 tons in the first half of 2015 to 109,300 tons in 2016, producing 18,100 tons in June against 18,900 tons in May.

Smaller producers include Stavrolen which increased production by 5.5% in the first half of 2016 to 57,500 tons and NPP Neftekhimya at

Moscow which produced 64,000 tons, 14% up on 2015. Due to planned downtime Ufaorgsintez and Tomskneftekhim both reduced production by 9.2% and 6% respectively in the first half of 2016, dropping to 58,100 tons and 66,600 tons.

NPP Neftekhimya at the Kapotnya refinery in Moscow has successfully upgraded the control system for polypropylene production. The implemented system of automated DeltaV™ control with the use of technology, Electronic Marshalling is designed to reduce downtime for the complex. OOO NPP Petrochemicals, a JV between SIBUR and Gazprom Neft, is able to produce 120,000 tpa of polypropylene.

Into the third quarter Stavrolen stopped production of polypropylene on 11 July for a short planned turnaround, restarting on 18 July. Stavrolen conducted repair work on the HDPE plant in May, and has no further plans to carry out repairs on polyolefin units in 2016.

Tomskneftekhim started a start trial run of polyolefin production on 21 July after completion of the modernisation process and halting production on 20 June. Along with maintenance, the company used the shutdown planned to complete the modernisation of the production of LDPE plant, raising capacity from 245,000 tpa to 270,000 tpa and the polypropylene unit from 130,000 tpa to 140,000 tpa. The previous outage for Tomskneftekhim took place on 6 April where production was forced to stop for a few days after a fire.

Bashkir Soda to increase PVC by 2% in 2016

Bashkir Soda Company has set a target of increasing PVC production by 2% in 2016 over 2015 to 247,000 tons. In the first half of 2016 Bashkir Soda accounted for 36% of Russian PVC production, 29% of caustic soda and 16% of cable compounds.

Sayanskkhimplast resumption

Sayanskkhimplast restarted production of suspension PVC on 9 July after a long period of inactivity, but was then forced to suspend production by 18 July due to further ethylene shortages. Compressor problems at the Angarsk cracker resulted in an additional shutdown in the period 18-31 July, less than three weeks from resumption after the five-month outage. The PVC plant at Sayansk

was retained in circulation mode until the cracker restarted.

Russian PVC Production (unit-kilo tons)		
Producer	Jan-Jun 16	Jan-Jun 15
Bashkir Soda	105.9	125.3
Kaustik	44.8	47.7
RusVinyl	173.3	106.8
Sayanskkhimplast	54.0	118.8
Total	378.0	398.6

Sayanskkhimplast started to receive ethylene in July in the amount of 15-17 tons per hour, which is not only sufficient for VCM production but also gives an opportunity to build some inventory.

Regarding the price Sayanskkhimplast pays for ethylene from Angarsk, the government has been asked to intervene and come up with measures. For many years Sayanskkhimplast has not

been able to conclude long-term contracts both in price and in terms of ethylene supplies from Angarsk Polymer Plant. It does not allow the company's management to be able to plan properly and develop the plant.

Russian PVC imports, Jan-Jun 2016

Russian PVC imports totalled 39,000 tons in the first half of 2016, almost four times more than in 2015. The main reason for such a serious import volume growth was unplanned stoppage by Sayanskkhimplast. Imports in June amounted to 12,700 tons against 13,600 tons in May as consumers tried not to overstock

prior to the restart at Sayanskkhimplast. China was responsible for 31,300 tons of imports into Russia in the first half of 2016 against 7,700 tons in 2015, whilst shipments from the US totalled 4,200 tons against 66 tons. Imports are expected to weaken in the second half of the year. Regarding exports Russian shipments totalled 30,600 tons in the first half of the year against 26,100 tons in the same period in 2015.

Russian PX Production		
Producer	Jan-Jun 16	Jan-Jun 15
Gazprom Neft	35.7	93.8
Ufaneftkhim	86.6	49.7
Kinef, Kirishi	63.9	31.3
Total	186.2	174.8
Russian PX Domestic Sales		
Producer	Jan-Jun 16	Jan-Jun 15
Gazprom Neft	34.0	43.4
Ufaneftkhim	53.9	48.0
Kinef	0.2	0.2
Total	88.1	91.6
Russian PX Exports		
Producer	Jan-Jun 16	Jan-Jun 15
Gazprom Neft	48.5	25.7
Ufaneftkhim	10.0	2.0
Kinef	31.9	30.2
Total	90.4	57.9

PET Chain

Russian paraxylene market 2015

Domestic sales of paraxylene totalled 88,100 tons in the first half of 2016 against 91,600 tons last year. Bashneft's refinery Ufaneftkhim suffered a serious accident on its hydrocracking unit on 16 July, resulting in six fatalities. Paraxylene exports from Russia totalled 113,000 tons in 2015 against 81,000 tons in 2014. Exports were distributed mainly through Finnish ports, being shipped by rail through Karelia, whilst around 10% of shipments went to Belarus. The increase in 2015 was stimulated largely by the dramatic devaluation of the rouble which made foreign transactions more attractive.

Etana PET project & Russian-Chinese partners

Russian and Chinese parties intend to sign the general agreement on 4-5 September at Hangzhou in China on the construction of the Etana venture for the production of PET in Kabardino-Balkaria. This follows the preliminary agreement in December 2015 when the regional government, Etana and the Chinese state corporation set the outline for the establishment of an industrial complex in the North Caucasus republic. The Chinese partners of the project include China Petroleum Technology and Development Corporation (CPTDC) and China Kunlun Contracting and Engineering Corporation (CKCEC).

It has been necessary to specify the cost of the investment, including a modern enterprise for the production of PET, PTA and acetic acid, as well as facilities for the production of bottled drinking water and transport logistics. Manufacturing will help attract to processors the economy of Kabardino-Balkaria and give impetus

Ivanovo PET project

The government of the Ivanovo region has sent the investment request to Vnesheconombank for a loan of 18 billion roubles. for the construction of the Vichuga plant for the production of PET. The total project cost is 22 billion roubles to construct a plant of 200,000 tpa. Delays appear to be occurring in this project with concern over cost, which is considerably higher now than the original estimates. The Vichuga project is seen by the local Ivanovo government as key to the region's economic development in that the PET will used for further processing in the newly established industrial park.

to the development of food and light industry.

The project originally comprised 486,000 tpa of PET, but this may now be expanded into three trains of 500,000 tpa. Work on the project is carried out since 2010 during which time, the Investment Fund has allocated 1.34 billion roubles for the infrastructure sector. No further information is available on the proposed project for

500,000 tpa of PTA.

Russian MEG Sales, Jan-Jun 2016 (unit-kilo tons)		
Company	Domestic	Exports
SIBUR-Neftekhim	55.4	42.8
Nizhnekamskneftekhim	8.8	18.1
Others	4.8	11.0
Total	68.9	71.9
Source: Chem-Courier		

Russian MEG, Jan-Jun 2016

Russian MEG sales on the domestic market amounted to 13,600 tons in June, 10% more than in May. SIBUR-Neftekhim shipped 9,600 tons in June, followed by Nizhnekamskneftekhim with 3,800 tons and the remainder supplied by traders. Polief remains the main consumer of MEG, purchasing 7,200 tons in June or 53% of purchases. BaltTechProm bought 3,400 tons of MEG, Obninskorgsintez. 2,000 tons, and small companies,

consumers and traders 959 tons. In the first half of 2016 MEG sales totalled 68,950 tons which is 11% less than in the same period in 2015.

Regarding exports, Russian MEG shipments amounted to 12,700 tons in June, 13% less than in May. SIBUR-Neftekhim supplied 7,800 tons and 4,900 tons was supplied by Nizhnekamskneftekhim. Belarus bought 7,600 tons in June, followed by Lithuania with 1,200 tons, Turkey 984 tons and Belgium 939 tons. The average cost of exported MEG was unchanged from May at \$615 per ton. Exports in the first half of 2016 totalled 71,900 tons, 51% more than in the same period in 2015. Imports in the first half of 2016 totalled 15,900 tons, up 15% on 2015.

Aromatics & derivatives

Leading Russian Benzene Consumers (unit-kilo tons)

Consumer	Jan-Jun 16	Jan-Jun 15
Kuibyshevazot	56.3	74.8
Azot Kemerovo	47.0	55.4
Shchekinoazot	24.6	22.5
Kazanorgsintez	34.9	37.1
SIBUR-Khimprom	59.3	38.8
Uralorgsintez	39.1	32.3
SANORS	28.5	28.7
West Siberian MC	22.6	20.1
Promsintez	7.8	9.9
Uralorgsintez	39.1	32.3
Sverdlov	6.6	9.5
Others	6.9	2.6
Total;	365.8	361.4

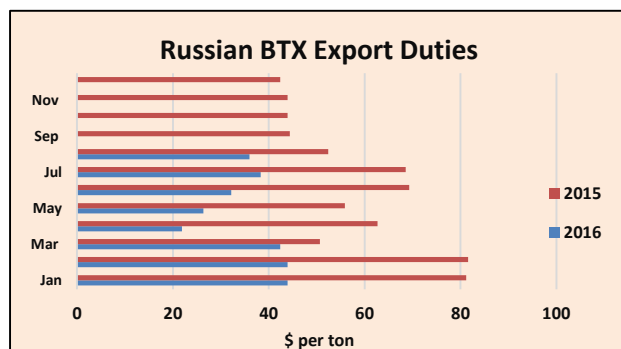
Source: Chem-Courier

Russian benzene, Jan-June 2016

Russian benzene producers shipped 47,400 tons for synthesis in June according to Chem-Courier, almost unchanged in May. Gazprom neftekhim Salavat increased shipments by 3.5 times to 2,100 tons which was due to styrene outage at Salavat in July reducing the need for benzene. In addition, the Ryazan Refinery increased their shipments of benzene domestic processors by 19% up to 2,900 tons and Uralorgsintez by 7% up to 8,100 tons. Severstal reduced the sale of products by 17% to 3,000 tons, and SIBUR-Kstovo.by 10% to 5,200 tons. For the first half of 2016 sales on the domestic market totalled 302,000 tons of benzene, 6% less than in the first half of last year.

In the coke based benzene sector Evraz NTMK has completed the construction of a loading unit for its benzene plant at Nizhny Tagil for a cost of 75 million roubles. Due to the upgrade emissions of crude benzene will be reduced whilst at the same time improving efficiency.

The new unit will allow Evraz NTMK to carry out a sealed shipment of crude benzene in the tank and send it to Evraz West Siberian Metallurgical Plant (Evraz ZSMK) without pre-processing. The project was completed in a period of 10 months, the Nizhny Tagil plant can produce around 24,000 tpa of crude benzene which can be used for further processing into xylenes, toluene and pure benzene. In the first seven months in 2016 Evraz NTMK shipped 7,900 tons from the Nizhny Tagil plant.



Aromatic duties drop in August

The export duty on aromatic hydrocarbons decreased by 6% in August to \$36 per ton.

Russian orthoxylene market, Jan-Jun 2016

Orthoxylene exports amounted to 19,680 tons in June, 3.4 times up on May. Gazprom Neft exported 12,210 tons in June against only 90 tons in May whilst Kirishinefteorgsintez exported 4,000 tons and Ufaneftekhim 3,470 tons. Finland accounted for 18,290 tons of Russian export shipments in June. According to Chem-Courier, for the first six months this year Russian exports totalled 58,180 tons which was 65% higher than in the same period in 2015.

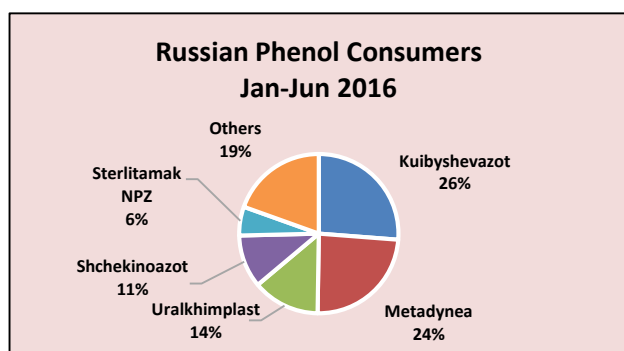
Russian phenol, Jan-Jun 2016

Domestic sales of phenol amounted to 11,000 tons in June, 10% less than in May.

Russian Orthoxylene Domestic Sales (unit-kilo tons)

Producer	Jan-Jul 16	Jan-Jul 15
Gazprom Neft	32.6	34.9
Ufaneftekhim	26.7	18.8
Kirishinefteorgsintez	19.8	21.7
Total	79.0	75.3

Source: Chem-Courier



Ufaorgsintez supplied 6,800 tons, followed by 3,900 tons for Novokuibyshevsk Petrochemical Company and 360 tons for Kazanorgsintez. Regarding consumption phenol-formaldehyde resin producers accounted for 7,900 tons of purchases in June, whilst another 1,100 tons was purchased by Sterlitamak Petrochemical Plant. Kuibyshevazot reduced phenol purchases in June by 95% against May. Phenol imports from Finland rose 2.5 times in June over May to 1,700 tons, 575 tons of which went to MetaDynea, 350 tons to the Sverdlov plant and 660 tons to the company

Astatine. According to Chem-Courier, sales of phenol on the domestic market (including imports from Borealis) totalled 66,400 tons in the first half of 2016 against 55,600 tons in the same period last year. The key factor behind the rise was the usage of phenol by Kuibyshevazot instead of benzene.

Kuibyshevazot, Jan-Jun 2016

Kuibyshevazot increased sales by 5.4% in the first half of 2016, whilst registering a fall in net profits of 18.4% to 3.08 billion roubles and a fall in gross profit of 21.4% to 5.4 billion roubles. The reasons for the weaker results are due to the rise in production costs, which increased by 21.4% to 14.04 billion roubles. This was mainly down to rising rouble costs for gas and other raw materials such as benzene and phenol.

Kuibyshevazot-Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Polyamide-6	70.6	65.9
Tyre Cord Fabric	6.3	2.8
Caprolactam	97.8	84.0
Ammonia	322.1	319.1
Urea	171.9	175.9
Ammonium Nitrate	311	293.2
Ammonium Sulphate	252.8	210.4

Caprolactam production by Kuibyshevazot increased by 16.4% in the first half of 2016 to 97,800 tons and polyamide increased by 7.1% to 70,600 tons. At the same time the production of cord fabric dropped 9.4% to 4.1 million linear metres and technical yarns and cord by 8.9% to 6,300 tons. Sberbank has agreed to open a non-

revolving line of credit of 9 billion roubles with Kuibyshevazot to finance the jv Linde Togliatti Azot, which has been set up for a new ammonia complex.

Synthetic Rubber

Russian tyre market, Jan-Jun 2016

Finnish manufacturer Nokian Tyres from its St Petersburg plant recorded a fall in sales in the Russian market by around a quarter in the first half of 2016. Lower demand for cars has hit the domestic market for tyres although production overall increased in the first half of 2016. The rise in production has been helped by rising export activity. In the domestic market the sales of new cars fell by 14% in the first half of 2016, and the overall forecast for the year indicates a 10% fall against 2015. The decline in Russia's economic activity has slowed down according to car manufacturers, but not yet transferred to the growth.

Synthetic Rubber used in Russian Tyre Industry (unit-kilo tons)		
Tyre category	Jan-Jun 16	Jan-Jun 15
Car Tyres	171.6	159.3
Lorry tyres	152.2	148.5
Agricultural tyres	76.2	68.2
Total	400.1	376.0

Overall it is foreign sales that have helped to support Russian tyre producers where consumption of synthetic rubber rose by 24,100 tons in the first half of 2016. However, not all Russian tyre manufacturers are increasing production, for instance Nizhnekamskshina at Nizhnekamsk reduced output by 12% in the first half of 2016 to 5.770 million pieces. Increases were only noted in new types of tyres such as. SSC, light truck and passenger tyres under the brand Viatti.

Last year was largely profitable for Russian tyre manufacturers, one of the best performers was Voltyre-Prom in the Volgograd region which achieved a net profit of 1.16 billion roubles against a loss of 1.1 billion roubles of net loss in 2014. At the same time revenues from sales increased by 24.1% to 4,7 billion roubles. For 2016 most Russian tyre manufacturers expect lower profits than last year.

Russian Synthetic Rubber Exports, Jan-May 2016

Country	Kilo tons	Av price/ton (\$000)
Belarus	15.5	1.25
Brazil	15.5	1.23
China	74.9	1.06
Czech Republic	14.9	1.18
Germany	11.1	1.16
Hungary	33.6	1.52
India	44	1.13
Finland	1.1	1.21
France	1.3	1.15
Mexico	10.2	1.38
Poland	58.3	1.27
Romania	17.2	1.12
Slovakia	15.1	1.24
Japan	8.3	1.37
Latvia	3.2	1.4
Lithuania	4.5	1.31
Malaysia	1.6	1.09
Turkey	10.1	1.29
Ukraine	10.1	1.14
USA	27.2	1.29
Others	66	1.03
Total Exports	436 ktons	\$529 million

Russian synthetic rubber exports

China continues to represent the largest export market for Russian synthetic rubber shipments, accounting for 74,900 tons in the first five months in 2016 from the total 436,000 tons. Average prices per ton of rubber sold to China are however at the lower end of the price range, amounting to \$1060 in January to May 2016 against the second and third largest destinations Poland \$1270 and India \$1130.

Hungary has imported the most expensive synthetic rubber from Russia so far this year, averaging \$1520 per ton in the first five months, whilst Central and East Europe comprised the largest geographical region for Russian exports. The average price per ton for all Russian rubber exports totalled \$1215 per ton in January to May 2016 against \$1484 per ton in 2015.

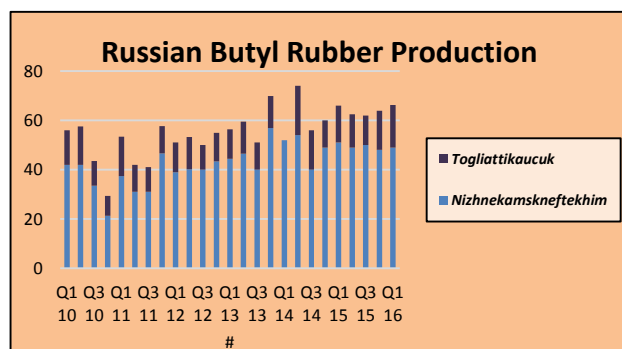
Voronezhskintezkavuk planned outage July

Voronezhskintezkavuk completed planned repairs on its rubber production facilities in July. The planned outage lasted ten days instead of the planned twelve days. During this period, work was carried out on more than 400 pieces of equipment, whilst a proportional replacement was made of the pump and heat exchange equipment. Voronezhskintezkavuk includes capacities for thermoplastic elastomers of 85,000 tpa and styrene-butadiene rubbers of 30,000 tpa.

Nizhnekamskneftekhim-butyl rubber expansion

Nizhnekamskneftekhim has launched new equipment for its butyl rubber plant designed to eliminate bottlenecks in the quality improvement programme for the production of halobutyl rubbers and butyl rubber, raising capacity up to 220,000 tpa by February 2017.

production, covering halobutyl rubber, chloro or bromobutyl rubbers. The launch was carried out as part of



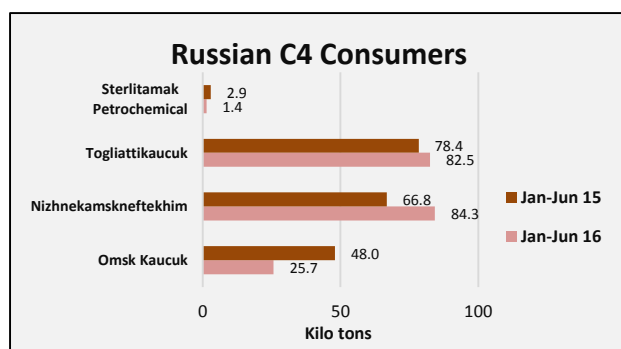
After a planned shutdown in September this year, the company will add new equipment that in the long term will increase the productivity.

The ongoing reconstruction in of the butyl rubber unit will allow Nizhnekamskneftekhim to increase performance output to global suppliers of tyres,

in particular Pirelli, Michelin, Bridgestone. In 2015 Nizhnekamskneftekhim produced 198,000 tons of butyl rubber, of which 126,900 tons was halogenated. Nizhnekamskneftekhim is the largest producer of butyl rubber in Russia, the other plant Tagliattikavuk belonging to SIBUR.

Russian C4s, Jan-Jun 2016

C4 shipments to the domestic Russian market totalled 193, 800 tons in the first half of 2016 against 198,100 tons in the same period last year. Nizhnekamskneftekhim was the largest buyer, purchasing 84,300 tons in the first six months in 2016 followed by Tagliattikavuk with 82,500 tons. Omsk Kavuk reduced purchases from 48,000 tons in the first half of 2015 to 25,700 tons in the same period this year. The smallest buyer in the Russian market is Sterlitamak Petrochemical Plant, purchasing 1,400 tons against 2,900 tons in January to June 2015. The largest suppliers to the domestic market comprise Angarsk Polymer Plant, SIBUR-Kstovo, Stavrolen, and Tomskneftekhim, whilst the largest importer remains Belarus. Other import sources

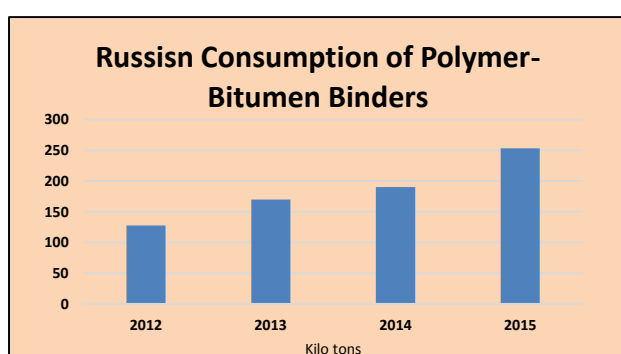


include Azerbaijan and occasionally Iran. For the first six months in 2016 Russian C4 imports totalled 39,200 tons which was 6% down on 2015.

Russian consumption of PBBs

In July this year SIBUR organised a customer conference at Voronezh on thermoplastic elastomers (TPE), covering applications. The event was attended by over 90 companies specializing in road construction, production of roofing materials, compounds, and general-

purpose products. This involved Technonikol, Gazprom Neft, Tekhprogress as well as new customers such as the TEP group for Rosneft, TAIF-NK, RusPlast, etc. The representatives of the Voronezhsintezkaucuk noted that the butadiene-styrene thermoplastic elastomers are one of the fastest growing products of the company. For correct alignment of the development strategy of this product requires quality and constant feedback from consumers.



Consumption of polymer-bitumen binders (PBB) in Russia increased by 33% in 2015 against 2014 and totalled 253,000 tons rising from 190,000 tons. In 2013 consumption totalled 170,000 tons, a 75% rise over 2012. Rosavtodor predicts an increase in domestic consumption in PBBs in road construction, in particular materials based on styrene-butadiene-styrene polymers. Russian production of polymer-bitumen binders in 2015 decreased by 7% to 170,000 tons, with imports comprising around a third of the market.

Methanol & Ammonia

Russian Methanol Domestic Sales (unit-kilo tons)		
Supplier	Jan-Jun 16	Jan-Jun 15
Azot Nevinnomyssk	10.6	11.9
Azot Novomoskovsk	43.4	61.7
Metafrax	190.4	203.4
Sibmetakhim	166.1	256.3
Tomet	199.4	187.8
Shchekinoazot	49.7	15.8
Ammoni	45.1	0.0
Others	16.7	22.7
Total	721.2	759.6

Source: Chem-Courier

Russia methanol, Jan-Jun 2016

Domestic sales of methanol amounted to 107,500 tons in June, 2,000 tons less than in May. Metafrax, Sibmetakhim and Tomet accounted for 75% of merchant domestic sales in June, shipping 22,000 tons, 22,000 tons and 34,400 tons respectively.

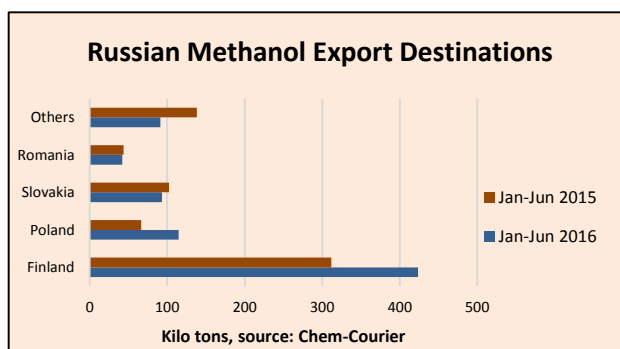
Leading consumers in June comprised MTBE producers accounting for around 35% of purchases whilst domestic gas production companies and formaldehyde producers accounted for 15% and 18% respectively). Rubber producers reduced purchases by 30% in June. In June 2016 Sibmetakhim launched a new production unit for urea-formaldehyde concentrate. Production of formaldehyde resins is the major outlet for methanol consumption in the Russian Federation, and

totalled 1.6 million tons in 2015.

Currently, the domestic selling price of methanol manufacturers varies within a wide range of 12,500-19,500 roubles per ton including VAT (depending on the manufacturer and the conditions of delivery). According to Chem-Courier, Tomet provides the cheapest material and Metafrax the highest due to the sales contract base. The price of methanol, implemented in the Volga Federal District trading companies, today varies in the range of 14,500-1,500 roubles per ton including VAT.

Russian methanol exports amounted to 135,000 tons in June, 17% down on May. Major exporters in June consisted of Sibmetakhim (37% of total exports or 49,000 tons, Metafrax (25%, or 34,000 tons), Shchekinoazot (20%, or 27,000 tons), Azot (10% or 13,300 tons) and Tomet (8% or 11,000 tons).

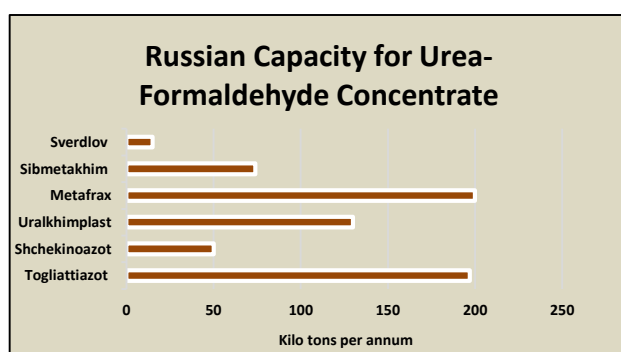
Sibmetakhim increased exports by 5% in June over May, whilst Azot reduced exports by almost 40% and Tomet by 60%.



Finland accounted for 86,000 tons of methanol shipments in June, whilst smaller volumes went to Poland (12% or 16,600 tons), Romania (6% or 8,300 tons) and Slovakia (8% or 11,200 tons). Consumers in Romania in June increased purchases of Russian methanol over May by 25%, whilst customers in Slovakia and Poland reduced shipments by 35% and 40% respectively. Other consuming countries included Germany which took 1,500 tons in June, 88% down on May. Average export prices in June, amounted to about \$140 per ton DAF border of Russia.

Sibmetakhim-urea-formaldehyde concentrate plant

Sibmetakhim has completed the reconstruction and technical re-equipment of formaldehyde and urea-formaldehyde resin plants at Tomsk, which has allowed the company to start production of urea-formaldehyde concentrate (CFC-85).



Commissioning of the new plant includes capacities for 40,000 tpa of standard formaldehyde and up to 74,000 tpa of urea-formaldehyde concentrate (CFC-85), production of which began in 2016. Urea-formaldehyde concentrate is used in the woodworking and furniture industry for the production of plywood and particleboard. Sibmetakhim produced 874,150 tons of methanol in 2015 and sold 872,000 tons. Due to the advantageous margins between selling prices and gas costs, revenues for Sibmetakhim rose by 44% in 2015 and net

profit by 70%.

Metafrax-Production (unit-kilo tons)		
	Jan-Jun 16	Jan-Jun 15
Methanol	560.0	538.0
Formaldehyde	182.4	181.3
Urea-formaldehyde concentrate	90.1	89.8
Pentaerythritol	11.6	11.7
Hexamine	14.9	14.0

Metafrax, Jan-Jun 2016

Metafrax increased the production of methanol by 4% in the first half of 2016, rising to 560,000 tons. In other products, formaldehyde production rose 0.6% to 182,400 tons, urea-formaldehyde concentrate by 0.1% to 90,100 tons, and hexamine by 0.6% to 14,900 tons. Pentaerythritol production decreased by 3% to 11,600 tons.

Ammoni-2, Mendeleevsk

The Italian company Saipem is interested in building a second fertiliser plant at Mendeleevsk in Tatarstan which would be called Ammoni-2. During the construction of the first Ammoni complex Saipem served as

the licensor of urea synthesis technology. The installation was designed, built, and in the third quarter of 2015 was commissioned by a consortium led by Mitsubishi Heavy Industries (MHI).

Russian Chemical Commodity Exports				
	Jan-May 16	Jan-May 16	Jan-May 15	Jan-May 15
Product	Kilo tons	USD Mil	Kilo tons	USD Mil
Ammonia	1,466	386	1,199	520
Methanol	607	109	531	146
Nitrogen Fertilisers	4,973	945	4,156	1,059
Potash	3,863	863	5,929	1,587
Mixed Fertilisers	3,382	1,146	3,715	1,377
Synthetic Rubber	436	529	406	603

methanol production) or 455,000 tpa of ammonia and 238,000 tpa of methanol, and a granulated urea plant

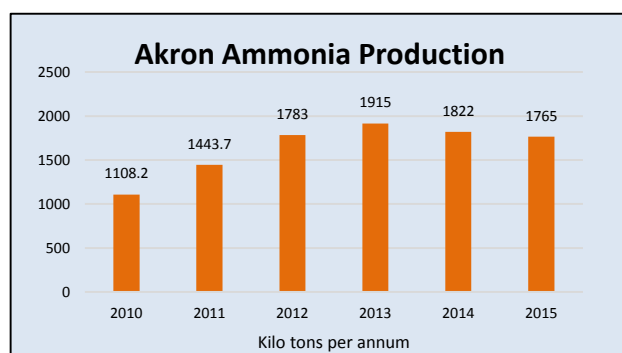
The current Ammoni plant began production in 2015. The complex includes a combined aggregate ammonia/methanol capacity of 717,500 tpa of ammonia (without

with a capacity of 717,500 tpa. The project cost totalled \$1.4 billion, of which a large part was financed by a foreign consortium, including the purchase of equipment. A memorandum on the construction of Ammoni-2 of the plant was signed in February 2016 in Tokyo, between Mitsubishi Heavy Industries, Sojitz Corporation and Tatneft.

Shchekinoazot-methanol project update August 2016

Shchekinoazot is preparing to receive equipment from China, Japan and Korea for the complex of methanol and ammonia. To date, more than 240 pieces of equipment have already been delivered to the construction site, whilst Shchekinoazot has identified suppliers 99% of equipment for the construction of new plant. Manufactured compressor equipment company Mitsubishi, is preparing for its shipment from the ports of Japan and Korea, whilst the primary reformer furnace is expected to be delivered from Europe.

The development of the basic design of the complex was completed in January 2015, from the contractor and licensor of the technology Haldor Topsoe. Earlier in 2016, the general designer Orgkhim at Severodonetsk in east Ukraine completed the preparation of project documentation. The total investment in the project of the new complex was previously estimated at €270 million. Production capacity will comprise 1,350 tons per day of methanol and 415 tons per day of ammonia.



Akron, ammonia-4 plan launched

Akron launched its fourth ammonia unit at Novgorod in July raising total capacity to 2.6 million tpa. The new unit Ammonia-4 is able to produce up to 700,000 tpa which makes it the largest unit for ammonia currently operating in Russia. The volume of natural gas consumption is estimated at 938 m3 per ton which is around 15% lower than the average for existing Akron units. In early August, Akron announced the sale of its 50.5% stake in the Chinese subsidiary Hongri Akron to allow greater focus on the

development of its Russian production sites.

Organic Chemicals

Russian Butanol Domestic Sales (unit-kilo tons)

Producer	Jan-Jun 16	Jan-Jun 15
Gazprom n Salavat	11.0	9.3
SIBUR-Khimprom	19.1	14.5
Angarsk Polymer Plant	1.2	0.4
Azot Nevinnomyssk	2.8	2.1
Others	0.0	4.1
Total	34.1	30.4

Source: Chem-Courier

Russian butanol exports, Jan-Jun 2016

Domestic butanol sales amounted to 6,120 tons in June, 11% up on May. According to Chem-Courier, the proportion of n-butanol in sales was 97% in June and isobutanol 3%. SIBUR-Khimprom provided 3,370 tons, followed by Gazprom neftekhim Salavat with 2,260 tons, and Azot at Nevinnomyssk 490 tons.

Regarding consumers, Aktilat increased purchases by 9% in June to 2,410 tons whilst Dmitrievsky Chemical Plant increased its purchases of butanol by 29% to 2,130 tons. In addition, Volzhskiy Orgsintez purchased 960

tons in June. In the first half of 2016 sales of butanols on the domestic market rose by 19% over the same period last year, totalling 37,000 tons.

Russian butanol production rose 7% in June over May to 20,500 tons. Gazprom neftekhim Salavat produced 11,830 tons, SIBUR-Khimprom 7,220 tons and Azot at Nevinnomyssk 1,460 tons. In the first half of 2016 Russian butanol production totalled 118,250 tons, 1% down on the same period in 2015.

Some of the derivative industries are recording growth helping the domestic butanol market in Russia, but production is affected by continued fall in exports to China. In the first half of 2016 China accounted for 71% of Russian butanol exports, but the actual volumes were down by around 30%. One of the main factors affecting production this year has been the situation at Angarsk Petrochemical Company where due to the

Russian N-butanol Exports (unit-kilo tons)

Producer	Jan-Jun 16	Jan-Jun 15
Gazprom neftekhim Salavat	24.4	25.4
SIBUR-Khimprom	2.9	8.2
Angarsk Petrochemical	0.5	9.8
Azot Nevinnomyssk	0.2	7.4
Dmitrievsky Chemical Plant	0.8	0.1
Total	53.1	50.9

Russian Isobutanol Exports (unit-kilo tons)

Producer	Jan-Jun 16	Jan-Jun 15
Gazprom neftekhim Salavat	4.3	0.0
SIBUR-Khimprom	8.9	0.2
Angarsk Petrochemical	0.0	5.8
~~~~~Dmitrievsky Chemical Plant	0.1	0.6
Total	13.2	6.6

Source: Chem-Courier

Gazprom neftekhim Salavat continues to produce Kamteks-Khimprom was forced to stop DOP production in July due to difficulties with the purchase of 2-ethylhexanol. Gazprom neftekhim Salavat produces its own 2-EH thus providing raw material security.

lack of propylene has meant the plant could produce only 1,400 tons in the first six months against 18,800 tons in the same period in 2015.

Angarsk Petrochemical due to its location is heavily dependent on exports to China, but in view of the changing Chinese market conditions is now seeking alternative domestically based consumers. The most important development for the butanols market is that by the end of 2016, Gazprom neftekhim Salavat is targeting the launch of its new plant for the production of acrylic acid and acrylates. This plant should significantly reduce exports from Russia and facilitate greater focus on processing.

#### Russian phthalic & alcohol market, Jan-Jun 2016

Phthalic anhydride production in Russia totalled 42,290 tons in the first half of 2016, 8% down on 2015. In June Kamteks-Khimprom produced 3,870 tons, 36% down on June. Regarding DOP whilst

#### Russian paints, Jan-Jun 2016

During the first half of 2016, Russian manufacturers produced 448,000 tons of paints and varnishes based on polymers which was 7.5% more than in the same period last year (414,000 tons). Printing and art paints rose by almost a third to 228,000 tons. Production of synthetic dyes also rose in the first half of 2016, rising from 13,400 tons to 15,900 tons. The increase in production is associated with a reduction in imports and increase in exports. Finished products from abroad are becoming less available due to the growth of the exchange rate, and the Russian paint is becoming more competitive in foreign markets based on price.

In the future, the situation on the Russian market of plasticizers will largely depend on how quickly representatives Kamteks-Khimprom will be able to solve the problems with the acquisition of 2-EH. According to Chem-Courier, DOP imports into Russia totalled 1,480 tons in the first half of 2016, 5% down on the same period in 2015. Imports in June amounted to 265 tons, all of which was sourced from Boryszew in Poland.

#### Other Products & Developments

##### Rusnano withdraws from magnesium oxide JV

Rosnano has announced its withdrawal from the JV NikoMag with Nikokhim for the production of magnesium compounds at Volgograd. The JV NikoMag produces magnesium hydroxide and magnesium oxide in which Rosnano provided 1.3 billion roubles of the total 3.8 billion roubles invested in the plant. The capacity for the production of nanostructured magnesium hydroxide is 25,000 tpa, and for magnesium oxide 30,000 tpa.

Magnesium hydroxide is widely used as a filler and flame retardant in the production of cable compounds and non-flammable polymer composites. Magnesium oxide may be used in the manufacture of transformer steel, rubber products, and in the leather industry in drilling fluids.

Prior to the launch of the NikoMag plant both products were imported into Russia. The volumes are not significant which means that besides the

domestic market NikoMag hopes to develop export opportunities for market for magnesium compounds from the Volgograd plant. Delivery of small volumes has already been made to China. The main shareholder of NikoMag Nikokhim is considering the possibility of launching the production of calcined magnesite. This can be used in the production of refractory products, construction, agriculture, production of fertilizers, and water purification.

#### KZSK-methylchlorosilane project

Russian bank Vnesheconombank (VEB) is undertaking an examination into the completion of the methylchlorosilane plant being constructed at the Kazan rubber plant under the division KZSK-Silicon. Most of the plant was completed in late 2015, but financing for the completion of the project was

suspended in February this year as investment costs have almost doubled and appear out of control. Given the unexpected double rise in capital expenditure the bank will assess the adequacy of the organisation of the project management, and provide comprehensive recommendations to streamline and improve the efficiency of the project.

Russian Imports of Silicon Materials (kilo tons)		
Country	2015	2014
Belgium	1.045	7.106
Germany	1.996	2.057
China	17.148	23.905
Netherlands	0.999	1.752
UK	2.034	1.132
Others	1.475	3.003
Total	24.697	38.955
Average Price Per Ton	\$3165	\$3123

Methylchlorosilane is used as a chemical component in a large number of industries, from household chemicals and cosmetics to lubricants for rubber products, water-repellent components of drilling fluids, and various sealants.

The design capacity of the new plant at Kazan has been set at 40,000 tpa, the cost of which was originally estimated at 9.8 billion roubles and has now risen to over 18 billion roubles. Up to 20% of the production of the new plant is intended to be used for the production of KZSK silicon materials. The Russian market demand for silicone monomer (methylchlorosilanes) was previously estimated at 50,000 tpa from a global

total of around 4 million tpa. Currently, these chemical components are fully imported from abroad and since the decline of the Russian economy from 2013-2014 have dropped significantly. China represents the largest source of imports. The project for the production of methylchlorosilane has entered the list of priority projects of the republic, which allows it to claim a number of preferences from the Republic of Tatarstan.

#### Shchekinoazot-transport and logistics

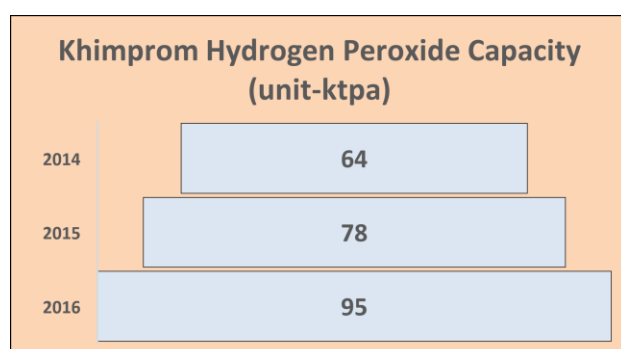
Shchekinoazot is undertaking reconstruction of its logistics network and construction of new railway sidings. The reconstruction process includes the repair of access roads with reinforced concrete track panels, and the replacement of wooden sleepers with concrete sleepers. To date, agreements have been signed with prospecting organisations which have carried out development works, received part of the documentation.

Shchekinoazot purchased tanks in 2016 for the transport of benzene and methanol. In 2017, in connection with the construction of the new complex of methanol and ammonia, the company plans the purchase of a large batch of cars.

at reducing energy costs by around 30%.

#### Khimprom-Novочебоксарск

Khimprom at Novocheboksarsk has received new wagons from the Russian company NPK United Wagon for transporting caustic soda and other large-capacity cargo chemicals. The new rolling stock will provide additional security and preserve the integrity of the cargo during transportation. The cars are designed for 32 years of service, made of low-alloy steel and allow to carry a large inventory of chemicals. In other non-production investment Khimprom at Novocheboksarsk has selected Rotek as a general contractor for the construction of power plants, aimed



The major project for Khimprom this year has consisted of the recent completion of the expansion and modernisation of the hydrogen peroxide plant. In the first phase, the company increased its capacity for the production of hydrogen peroxide from 64,000 tpa to 78,000 tpa (based on a 30% concentration), and the second to 95,000 tpa.

The modernisation of the hydrogen peroxide plant has involved the use of anthraquinone technology and the purchase of a hydrogenation catalyst in isopropanol and the installation of a new compressor. As a result of the modernisation and new technology Khimprom estimates that the costs of production have been reduced two or three times. Moreover, due to the investment the company's profit is forecast to grow by approximately 3.5 million roubles per month.

#### Kuibyshevazot-KurskKhimvolokhno

Kuibyshevazot subsidiary KurskKhimvolokhno is to start a project to increase the production of technical yarns this year to 8,500 tpa. In order to finance this project at Kursk, the Russian Industrial Development Fund



Russian Imports of Technical Fibres from Belarus			
Jan-May 16		Jan-May 15	
Kilo tons	\$ per ton	Kilo tons	\$ per ton
11.332	1711	10.801	2053

for subsequent processing. Further products include the manufacture tyre cord, ropes and industrial fishing gear, and technical fabrics for the production of conveyor belts.

Another 800 million roubles will be sourced from credit resources whilst Kuibyshevazot has stated it will provide another 400 million roubles. The project is being aimed at replacing up to 80% of imports of technical yarns, which are mainly imported from Belarus at present. Kurskhhimvolokno was founded in 1960 and is the largest producer of polyamide textile and industrial yarns in Russia and the CIS.

Kurskhhimvolokno Production (unit-kilo tons)		
	2015	2014
fibres, yarns and fabrics	18.6	16.01

In addition to technical yarns, the company produces and textured filament yarns, as well as fibre. In 2015 Kurskhhimvolokno produced 18,600 tons of fibres, yarns and fabrics, 16.2% more than in 2014. In 2007, Kuibyshevazot acquired Kurskhhimvolokno and has since undertaken full replacement of equipment for the production of technical yarns and textiles.

#### Bor-Russian Far East

The Dalnegorsk Chemical Complex Bor, located in the Primorsky Kray, recorded an improvement in net profit in the second quarter despite the fall in revenue from termination of boric acid production in April. The business has undergone a shift into new products focusing on a new unit for synthetic silica which is used in the tyre industry.

Kuibyshevazot for several years has been implementing a long-term strategic program to increase recycling of caprolactam, which is carried out in the framework of modernisation Kurskhhimvolokno and BALTEX (Balashov,

Saratov region).

## Belarus

Azot Grodno Production (unit-kilo tons)		
Product	Jan-Jun 16	Jan-Jun 15
Methanol	26.3	39.5
Caprolactam	56.4	63.2
Polyamide primary	49.6	49.0
Polyamide filled	5.2	4.4
Ammonia	585.8	587.8
Urea	563.7	563.4
Fertilisers	418.2	418.1
Fibres	16.6	13.6

#### Azot Grodno Jan-Jun 2016

Azot at Grodno increased production of commodity output in value terms by 6% over the first half of 2016. The largest increase in tonnage was obtained by chemical fibres and yarns, and cord fabric. In January-June 2016, Azot (which includes Khimvolokno at Grodno) produced commodity output valued at 6.7 billion Belarussian roubles (\$343 million).

Azot increased production of technical textiles and fibres in the first half of the year by 19.8% to 16,590 tons whilst cord fabric production rose by 30.4% to 17,210 metres. Primary polyamide production increased by 1.4% to 49,650 tons, and filled polyamide by 18.5% to 5,240 tons. Both caprolactam and methanol production fell in the first half of 2016 affecting export volumes.

Belarussian Organic Chemical Exports (unit-kilo tons)		
Product	Jan-May 16	Jan-May 15
Acrylonitrile	20.6	12.7
Caprolactam	6.5	13.3
Phthalic anhydride	10.7	13.1
Methanol	17.2	28.7

#### Belarussian organic chemical exports, Jan-May 2016

Methanol exports from Belarus in the first five months in 2016 totalled 17,189 tons against 28,700 tons in the same period in 2015. Ukraine accounted for 6,463 tons of Belarussian exports in January to May 2016 and in the same period Poland 8,895 tons. Ukraine started to import methanol from Belarus in the second half of 2014, to some extent replacing Russian imports.

Caprolactam exports from Belarus dropped from 13,328 tons in the first five months in 2015 to 6,451 tons in the same period in 2016, the reduction due to the fall in production. Acrylonitrile exports from Belarus increased from 12,700 tons in January to May 2015 to 20,574 tons this year. Exports comprised 10,055 tons to Turkey, 4,021 tons to Belgium, 3,972 tons to the Netherlands and 1,853 tons to Russia.

<b>Belarussian Polymer Imports (unit-kilo tons)</b>		
<b>Product</b>	<b>Jan-May 16</b>	<b>Jan-May 15</b>
PVC	18.2	17.1
Polypropylene	25.2	22.3
LDPE	29.2	25.9
HDPE	16.2	14.2
Polystyrene	25.2	24.0

#### Belarussian polymer imports, Jan-May 2016

LDPE imports into Belarus totalled 29,249 tons in the first five months in 2016 against 25,927 tons in the same period last year. HDPE imports rose from 14,181 tons to 16,352 tons. From the 13.2% rise in total polyethylene imports of 48,020 tons in the first five months in 2016, Russia accounted for shipments of 15,121 tons to Belarus and Saudi Arabia 20,474 tons.

Polypropylene imports into Belarus totalled 25,193 tons in the period January to May 2016 against 22,723 tons last year. Russian imports dominate the Belarussian market, accounting for around 93% of the total imports (23,319 tons) in the first five months in 2016.

Polystyrene imports into Belarus are sourced partly from Russia, accounting for around two thirds of the market in January to May 2016. Imports totalled 25,171 tons in the first five months from 24,013 tons in the same period last year. PVC imports into Belarus not mixed with other materials decreased to 8,000 tons in the first five months this year, down 16.5% against the same period in 2015. The main reason for such a significant decline in processing volumes was the fall in export sales of finished products, in particular, profile-moulded products. Overall imports of PVC totalled 18,205 tons against 17,101 tons in the same period in 2015.

<b>Mogilevkhimvolokno PTA Imports (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-May 16</b>	<b>Jan-May 15</b>
Poland	11.3	21.3
South Korea	6	0
Others	2.0	0.1
Total	19.3	21.4

#### Belarussian fibre producers

Deutsche Bank is preparing to help Mogilevkhimvolokno with its modernisation of some units although the sums are not huge. The modernisation will allow Mogilevkhimvolokno to produce new types of fibres which are in demand on the European market. Current facilities are operating at close to full capacity, and more than half of the production is exported to Russia and EU countries.

For 2016 Mogilevkhimvolokno has developed an updated sales and marketing strategy, which focuses on the efficiency of sales, export diversification, expansion of product portfolio, the industry with the direct participation of the distribution network of Belneftekhim. During 2016-2017 Mogilevkhimvolokno expects to expand the production of polyester fibres by 50,000 tons, and further ahead to expand capacity by another 30,000 tpa. In total Mogilevkhimvolokno is expanding its capacity for polyester fibre 80,000 tpa and in addition yarns by 30,000 tpa.

<b>Belarussian PET Exports (unit-kilo tons)</b>		
<b>Country</b>	<b>Jan-May 16</b>	<b>Jan-May 15</b>
Russia	16.3	9.3
Ukraine	1.9	4.0
Uzbekistan	1.6	0.7
Others	3.5	4.3
Total	23.3	18.3

Svetlogorsk Khimvolokno has expanded the product range with the launch of the production line of polypropylene duplicated material.

Svetlogorsk Khimvolokno plans to start the production of quick-drying polyester yarns with cooling effect that will produce material absorbs moisture.

## Ukraine

<b>Ukrainian Polypropylene Imports (unit-kilo tons)</b>		
<b>Category</b>	<b>Jan-Jun 16</b>	<b>Jan-Jun 15</b>
Homo	44.7	33.0
Block	5.5	4.1
Random	6.3	4.0
Propylene copolymers	0.0	1.3
Other	1.1	0.0
Total	57.6	42.4

#### Ukrainian polymer imports, Jan-Jun 2016

Polypropylene imports into Ukraine rose by 36% in the first half of 2016, totalling 57,600 tons against 42,400 tons in the same period last year. Homopolymer imports rose from 33,000 tons in January to June 2015 to 44,700 tons in the same period this year.

Ukrainian imports of polyethylene rose by 33% in the first half of 2016, totalling 128,000 tons against 96,100 tons in January to June 2015. June imports of polyethylene into Ukraine amounted to 21,300 tons

against 19,200 tons in May. HDPE imports rose to 62,500 tons in the first half of 2016 against 41,600 tons

in the same period last year, whilst LDPE imports rose 3% to 31,500 tons. LLDPE imports saw a rise from 19,800 tons to 28,100 tons whilst other polyethylene grades rose from 4,100 tons to 5,800 tons.

One of the main reasons for the rise in polymer imports into Ukraine this year has been the relative bounce-back following a disastrous 2015. Taking into account that the entire volume of consumption of polyethylene in Ukraine is imported, the rapid devaluation of the hryvnia was the main factor behind the huge falls in volumes last year. The market for LDPE declined by around a quarter in 2015 against 2014, dropping to 86,300 tons.

In 2016 the Ukrainian economy has stabilized to a degree with the currency experiencing less volatility and this has led to a resumption of imports. Almost all the major polymer distributors increased their delivery to Ukraine in the first half this year. The share of Russian products on the Ukrainian HDPE market was 24% in the first half of 2016, whilst imports from Saudi Arabia rose 5.3 times to 9,270 tons and South Korea 5.3 times to 5,720. Imports from Hungary, by contrast, fell 36% to 5,930 tons.

**Other Ukrainian chemical industry news**

In July Ukrtransgaz was forced to shut down the gas supply from the Odessa Portside Plant (IPF) due to lack of advance payment for fuel and excess gas consumption limits. The daily volume of natural gas consumption of the counterparty is more than 1.5 million cubic metres per month.

Ukrainian DOP imports amounted to 479 tons in June against 354 tons in May. Imports in May were sourced from Boryszew (260 tons), DEZA (138 tons) and Aekyung Petrochemical (80 times more than the same period last year).

Imports of phthalic anhydride into Ukraine amounted to 456 tons in June against 445 tons in May, mostly sourced from Lakokraska at Lida in Belarus. In the first half of 2016 imports of phthalic anhydride into Ukraine amounted to 2,290 tons which is 19% less than the same period in 2015.

Ukrainian consumers have sought this year to replace European polymer with cheaper sources from the Middle East and Asia. The forecast for the remainder of the year for HDPE imports into Ukraine remains fairly positive.

Regarding Ukrainian production facilities at Kalush in the west of the country, Lukoil has no plans to resume HDPE operations at Karpatneftekhim at this stage despite suggesting this several months ago.

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**Kazakhstan & Central Asia**

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**Kazakh polymer imports, Jan-Jun 2016**

Imports of PVC into Kazakhstan totalled 16,100 tons the first six months in 2016, 24% up on 2015. Imports of polyethylene into Kazakhstan dropped in the first six months of 2016 by 12% to 48,800 tons. HDPE

imports declined 13% to 37,000 tons whilst LDPE imports dropped 12% to 9,300 tons. LLDPE imports rose from 2,200 tons in the first half of 2015 to 2,400 tons in the same period this year.

**Pavlodar refinery-delivery of equipment via Sabetta port**

In July the Pavlodar refinery received delivery of reactors from South Korea via the Sabetta port in the Yamal-Nenets region which is then transferred on the Irtys River. The petrochemical reactors were manufactured in South Korea by Hyundai Heavy Industries and commissioned by Global Engineering Technology. The reactors are part of the modernisation of the Pavlodar refinery. In the future, the South Korean transport and

**SOCAR Petrochemical Exports  
Jan-Jul 2016 (unit-kilo tons)**

Product	Volume
Polyethylene	55.8
Propylene	28.2
C4s	13.3
Isopropanol	8.7

logistics companies will be able to continually use the Northern Sea Route.

**Azerkhimya & SOCAR-Polymer**

In the first seven months in 2016 Azerkhimya through its SOCAR trading structure exported 55,800 tons of polyethylene, 28,171 tons of propylene, 13,271 tons of C4s and 8,655 tons of isopropanol.

SOCAR-Polymer has received a positive credit rating from Russian banks, signifying that it can access finance for its olefin and polyolefin projects at Sumgait. Technip Italy is the contractor for Azerkhimya to undertake detailed engineering and procurement support for the project of reconstruction of the ethylene-propylene plant at Sumgait. Azerkhimya has set a target of 2021 in order to complete the construction of new facilities and reconstruction of the existing infrastructure at the ethylene-polyethylene plant at Sumgait. Work on the plant design, tendering for purchase of equipment, the selection of contractors and full completion of construction will be carried out Azerkhimya in three stages over 5 years, 2016-2020.

### **Turkmenistan polyolefin project**

Turkmenistan's polyolefin project at Kiyarly on the Caspian coastline has thus far entailed installation of more than 200 items of technological and auxiliary equipment including reactors, compressors, pumps and tanks. The general contractors consist of a consortium of Hyundai Engineering, LG International Corp and TOYO Engineering Corp. Construction of a plant involves a large number of foreign and domestic subcontractors, involved in more than 1,000 units of construction equipment. Around 8,000 workers and engineers are employed in the project and up to 1,300 foreign experts.

#### **Turkmenistan sulphuric acid project**

Turkmenistan opened a new plant for the production of sulphuric acid at Turkmenabat in July 2016, comprising a capacity of 500,000 tpa. The project was implemented by a consortium of Mitsui and Rönesans. The new plant is able to not only to fully meet the domestic demand for high-quality sulphuric acid, but also to supply a significant portion of production for export. Also this year Turkmenistan plans to open a new plant for potassium chloride at Garlyk with a capacity of 1.4 million tpa. The plant was constructed with the participation of the Belarusian company Belgorkhimprom. The volume of exports of potash from this plant is forecast at 1 million tpa.

Turkmenistan hopes to launch its polyolefin complex at Kiyarly on the Caspian coast by late 2018. The cost of the project totals \$3.43 billion and will be capable of processing up to 5 billion cubic metres of natural gas per annum and produce about 467,000 tpa of finished products.

The project envisages the construction of gas turbine power plants, and installations for the production of nitrogen, air, steam, sewage treatment, etc. To achieve high-quality products advanced technology is being used, supplied by Toyo (Japan), Ineos (UK), Lummus (US), and Grace (US). The complex is being designed to produce 81,000 tpa of polypropylene and 386,000 tpa of polyethylene, in addition to a by-product of 49,000 tpa of pyrolysis gasoline to be sent to the Turkmenbashi oil refineries.



**Relevant Currencies**

Czech crown. Kc. \$1= 20.852. €1 = 27.444: Hungarian Forint. Ft. \$1 = 229.253. €1 = 310.141: Polish zloty. zł. \$1=3.016. €1 =4.14 Ukrainian hryvnia. \$1 = 24.8. €1 = 27.7: Rus rouble. \$1 = 65. €1= 72

**Contents Issue No 309**

<b>CENTRAL &amp; SOUTH EAST EUROPE .....</b>	<b>2</b>
Central European refining & petrochemical margins, July 2016 .....	2
Central European olefin & polyolefin production, Jan-Jun 2016 .....	2
PKN Orlen, Jan-Jun 2016.....	2
PKN Orlen-propylene capacity increase.....	3
Orlen Group investments.....	3
Unipetrol Jan-Jun 2016 .....	3
Unipetrol cracker repairs .....	3
Czech petrochemical trade, Jan-Jun 2016.....	4
Czech petrochemical trade, Jan-Jun 2016.....	4
Polish chemical production, Jan-Jun 2016.....	5
MOL, Jan-Jun 2016.....	5
<b>RUSSIA .....</b>	<b>6</b>
Russian chemical production Jan-Jun 2016 .....	6
<b>ZAPSIBNEFTEKHIM PROJECT AUGUST 2016.....</b>	<b>6</b>
Schneider Electric-ZapSib-2 .....	6
Equipment deliveries through Sabetta Port.....	6
Atomenergomash (AEM) signs contract for ZapSibNeftekhim.....	6
Promstroy Group to install polypropylene plant for ZapSib-2 .....	7
Tobolsk Gas Fractionating Plant expansion .....	7
<b>RUSSIAN PETROCHEMICAL PRODUCERS &amp; MARKETS.....</b>	<b>7</b>
Kazanorgsintez & Nizhnekamskneftekhim, Jan-Jun 2016.....	7
Ethylene price dispute between Sayanskkhimplast and Angarsk Polymer Plant.....	8
Russian ethylene market, Jan-Jun 2016 .....	8
Alpha olefins-Nizhnekamskneftekhim.....	8
Russian propylene, Jan-Jun 2016.....	9
Russian styrene, Jan-Jul 2016.....	9
Conference Petrochemicals Russia 2017, 8 November 2016 Moscow.....	9
<b>BULK POLYMERS .....</b>	<b>9</b>
Russian polyethylene imports, Jan-Jun 2016.....	9
Russian HDPE imports, Jan-Jun 2016.....	10
Russian polypropylene, Jan-Jun 2016 .....	10
Bashkir Soda to increase PVC by 2% in 2016 .....	11
Sayanskkhimplast resumption.....	11
Russian PVC imports, Jan-Jun 2016.....	11
<b>PET CHAIN.....</b>	<b>12</b>
Russian paraxylene market 2015.....	12
Etana PET project & Russian-Chinese partners.....	12
Ivanovo PET project.....	12
Russian MEG, Jan-Jun 2016.....	12
<b>AROMATICS &amp; DERIVATIVES .....</b>	<b>13</b>
Russian benzene, Jan-June 2016.....	13
Aromatic duties drop in August .....	13
Russian orthoxylene sales, Jan-Jun 2016.....	13
Russian phenol, Jan-Jun 2016.....	13
Kuibyshevazot, Jan-Jun 2016 .....	14
<b>SYNTHETIC RUBBER .....</b>	<b>14</b>

Russian synthetic rubber exports .....	15
Russian tyre market, Jan-Jun 2016 .....	14
Voronezhsintezkavuch planned outage July .....	15
Nizhnekamskneftekim-butyl rubber expansion .....	15
Russian C4s, Jan-Jun 2016 .....	15
Russian consumption of PBBs .....	16
<b>METHANOL &amp; AMMONIA.....</b>	<b>16</b>
Russia methanol, Jan-Jun 2016 .....	16
Sibmetakhim-urea-formaldehyde concentrate plant .....	17
Metafrax, Jan-Jun 2016 .....	17
Ammoni-2, Mendeleevsk .....	17
Shchekinoazot-methanol project update August 2016 .....	18
Akron, ammonia-4 plan launched .....	18
<b>ORGANIC CHEMICALS .....</b>	<b>18</b>
Russian butanol exports, Jan-Jun 2016 .....	18
Russian paints, Jan-Jun 2016 .....	19
Russian phthalic market, Jan-Jun 2016 .....	19
<b>OTHER PRODUCTS &amp; DEVELOPMENTS .....</b>	<b>19</b>
Rusnano withdraws from NikoMag JV for magnesium oxide .....	19
KZSK-methylchlorosilane project .....	19
Shchekinoazot-transport and logistics .....	20
Khimprom-Novochereboksarsk .....	20
Kuibyshevazot-KurskKhimvolokno .....	20
Bor-Russian Far East .....	21
<b>BELARUS .....</b>	<b>21</b>
Azot Grodno Jan-Jun 2016 .....	21
Belarusian organic chemical exports, Jan-May 2016 .....	21
Belarusian polymer imports, Jan-May 2016 .....	22
<b>UKRAINE .....</b>	<b>22</b>
Ukrainian polymer imports, Jan-Jun 2016 .....	22
Other Ukrainian chemical industry news .....	23
<b>KAZAKHSTAN &amp; CENTRAL ASIA .....</b>	<b>23</b>
Kazakh polymer imports, Jan-Jun 2016 .....	23
Pavlodar refinery-delivery of equipment via Sabetta port .....	23
Azerkhiyma & SOCAR-Polymer .....	23
Turkmenistan sulphuric acid project .....	24
Turkmenistan polyolefin project .....	24