

CIREC

MONTHLY NEWS

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

Edited by **Andrew Sparshott** | Tel **+44 (0)20 8669 5126** | Email enquiries@cirec.net | Web www.cirec.net

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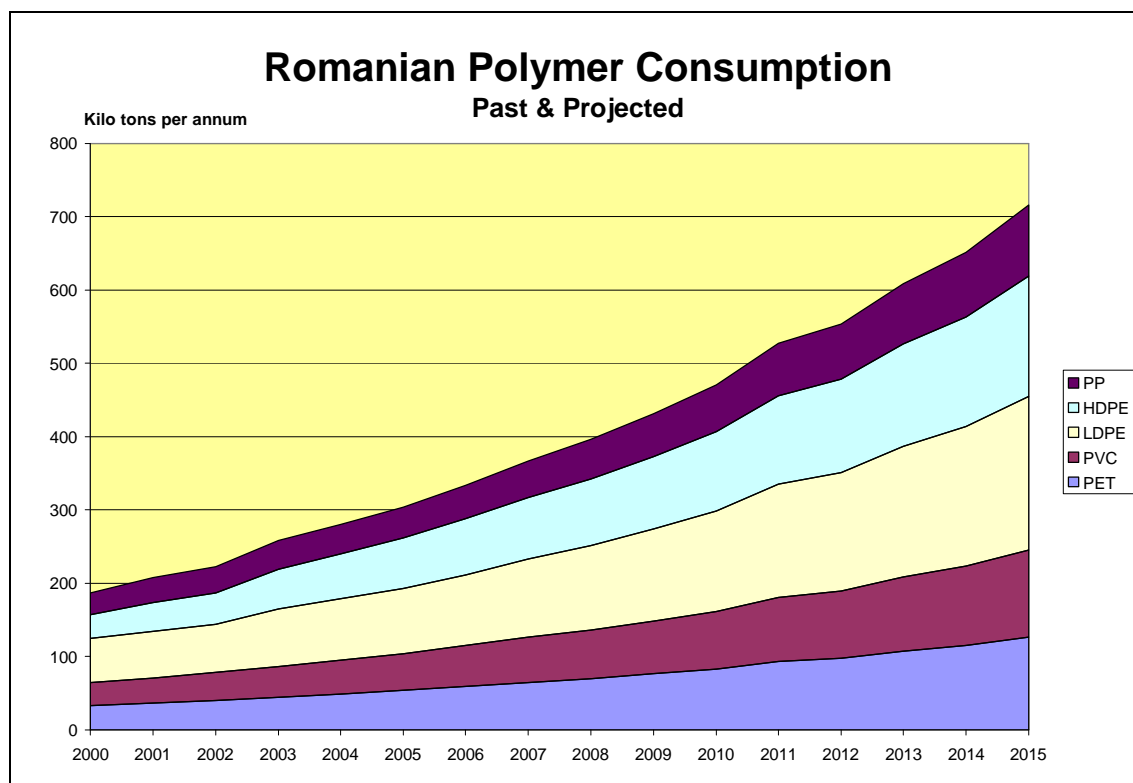
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- ✚ Rompetrol Petrochemicals expects to finish revamping its ethylene cracker at Navodari in 2009. The company is soon to start the revamp for the 200,000 tpa cracker, which was closed in the mid 1990s due to a lack of feedstock from Rompetrol's refinery at the site.
- ✚ Chemical production rose in Russia 10.6% in the first quarter of 2007 against 2006, with resins and plastics rising 24.1%..
- ✚ Detailed production data for 2006 for Russian petrochemicals, by plant and by quarter, is available through the CIREC Report Tool at www.cirec.net/report, whilst non-subscribers can see the full product/company list at www.cirec.net/chemical-report.shtml
- ✚ The Angarsk Petrochemical Company, owned by YUKOS, will be auctioned off on 3 May along with other East Siberian assets. The initial lot price has been set at 166.34 billion roubles (currently about \$6.45 billion).
- ✚ Although there has been no official confirmation talks seem to have reached a deadlock, after Gazprom offered a lower price than expected.
- ✚ Kazanorgsintez has completed the modernisation of its ethanolamine plant, which has involved an improvement in quality in accordance with global standards.
- ✚ SIBUR-Holding and Orenburggazprom have been in further talks regarding the possible construction of a polyolefin complex in the Orenburg region by 2015-2016.
- ✚ Further examinations and discussions are taking place for sales of shares in Salavatnefteorgsintez to Gazprom. The shares will be sold to ZAO Lider, a subsidiary of the Gazprom pension company Gazfond.
- ✚ As part of SIBUR-Holding's development plans, the joint venture with TNK-BP has been confirmed in order to process associated gas at the gas processing plants at Nizhnevartovsk and Belozern.
- ✚ SIBUR-Holding has decided to put on hold its plans for major investments in the Tomsk region, particularly the creation of a gas chemical complex. The chief reason is due largely to the lack of agreement on the long-term deliveries of raw material.
- ✚ Renova-Orgsintez has received an option to buy 75% of Khimprom at Novocheboksarsk for a sum of between \$200-225 million.
- ✚ Shchekinoazot in the Tula region is planning to start construction of a new methanol plant with a capacity of 450,000 tpa.
- ✚ Greenoak Group and KazMunaiGaz have agreed to set up a joint venture to build a new oil refinery in Batumi in Georgia, with investment cost expected to exceed \$1 billion. Plans exist to build methanol and ammonia units at the complex. The capacity of the new Batumi oil refinery will be 5-7 million tpa.

CENTRAL & SOUTH EAST EUROPE

Petrochemicals



Rompetrol Petrochemicals-ethylene

Rompetrol Petrochemicals expects to finish revamping its ethylene cracker at Navodari in 2009. The company is soon to start the revamp for the 200,000 tpa cracker, which was closed in the mid 1990s due to a lack of feedstock from Rompetrol's refinery at the site. Due to rising demand for polyethylene, the refinery will resume ethylene supplies to the integrated steam cracker. Consumption for polyethylene in Romania, past and projected, together with other polymers is shown in the graphic above.

Romanian Polyolefin Sector 2006 (unit-kilo tons)

Product	Consumption	Production
PP	45.2	88.5
LDPE	97.2	59.5
HDPE	76.5	21.8

Rompetrol Petrochemicals was established in December 2002 by separating the pyrolysis, polyolefin and other auxiliary plants from Petromidia Refinery. The reactivation of the cracker and downstream polyethylene plants as part of a supply agreement with Dow Chemical. The Romanian producer restarted a 60,000 tpa LDPE plant at the Navodari site last October, and plans to

restart a 60,000 tpa HDPE plant. Rompetrol will produce up to 100,000 tpa of HDPE and LDPE resins for Dow Chemical's east European market, under a 14-year supply deal. Rompetrol Petrochemicals is the only polypropylene producer in Romania. Rompetrol Petrochemicals' products are offered both on domestic and regional markets (the Black Sea and Mediterranean Sea areas, Central and East Europe).

PKN Orlen-Dwory

PKN Orlen signed agreements with Dwory on 23 April whereby Orlen will purchase shares from Dwory in the new managing company Ethylobenzen Plock. The company has been created to manage the jv for ethylbenzene production, which will be consumed by Dwory at Oswiecim. PKN Orlen will buy 49% of Ethylobenzen Plock giving it ownership of 100% of the initial capital. PKN Orlen's investment in Ethylobenzen Plock shares is considered as a short-term investment, as the intention is to incorporate Ethylobenzen Plock into the structure of PKN Orlen.

The long term contracts for the production and supply of ethylbenzene and also butadiene were signed between PKN Orlen and Dwory earlier this year.

ZA Pulawy-gas supplies

ZA Pulawy has adopted a ten year strategy for the plant up till 2017. Apart from increase in production and acquisitions, a key part of the strategy is to diversify the supplies of raw materials and particularly gas. The company aims to persuade Polish Oil and Gas (PGNiG) to help it to get access to gas in Kuwait, Qatar, Libya and Egypt. Apart from investments abroad, ZA Pulawy also wants to introduce new products to the market. Methanol has been mentioned as one product with potential, as it is currently not produced in Poland.

In the first half of the 2006/2007 financial year, ZA Pulawy generated sales' revenues of nearly zł 1 billion (zł 998.6 million). This was over zł 17 million more than in the corresponding period in the previous year. The main contributors to the results were stronger revenues on all chemical products offered by ZA Pulawy and its ammonium nitrate.

Ciech-Air Products

A recent court case decided that Ciech and Air Products should not be prevented from trading together, and that Air Products could continue to supply TDA to Ciech's Zchem subsidiary. Zchem was taken over by Ciech in 2006 and buys TDA for the production of TDI at Bydgoszcz. Zchem already has established

contracts with Air Products for TDA from Europe until 2008 and as sole deliverer from North America until 2013. TDI sales generate around 50% of Zchem's sales, and in March the company decided to increase TDI capacity to 75,000 tpa. The project will cost an estimated zł 78.3 million.

Polish Chemical Production (unit-kilo tons)

Product	Q1 2007	Q1 2006
Ethylene	149.5	154.1
Propylene	104.3	99.1
Butadiene	13.9	16.0
Toluene	32.0	37.8
Phenol	12.3	13.3
Caprolactam	41.5	41.3
Polyethylene	101.8	92.1
Polystyrene	21.9	22.9
PVC	76.3	67.2
Polypropylene	86.7	72.3
Syn Rubber	31.8	29.3
Pesticides	11.1	9.5

Zchem is Poland's sole TDI producer with around 13% of the domestic market. The main supplier of TDI to the Polish market is BorsodChem with around a 43% share. BorsodChem considered placing an offer for Zchem last year, but eventually opted out due to concerns over the financial position of the plant.

Zchem has long-standing experience in the production of flexible polyurethane foams and TDI. It is perceived as a forerunner of polyurethane production in Central Europe and the leader in polyurethane production in Poland. Moreover, it is the only Polish producer of epichlorohydrin (ECH), allyl chloride (AC), optical brightener agents (HELIOFOR) and metal-complex dyes for leather.

ZA Pulawy-Ciech

Ciech has been linked with a possible bid for ZA Pulawy, although it is still early days. Ciech would have to spend at least zł.800-900 million for the transaction. However, it would fit into its strategy to build a national chemical company.

Unipetrol-Agrobohemie

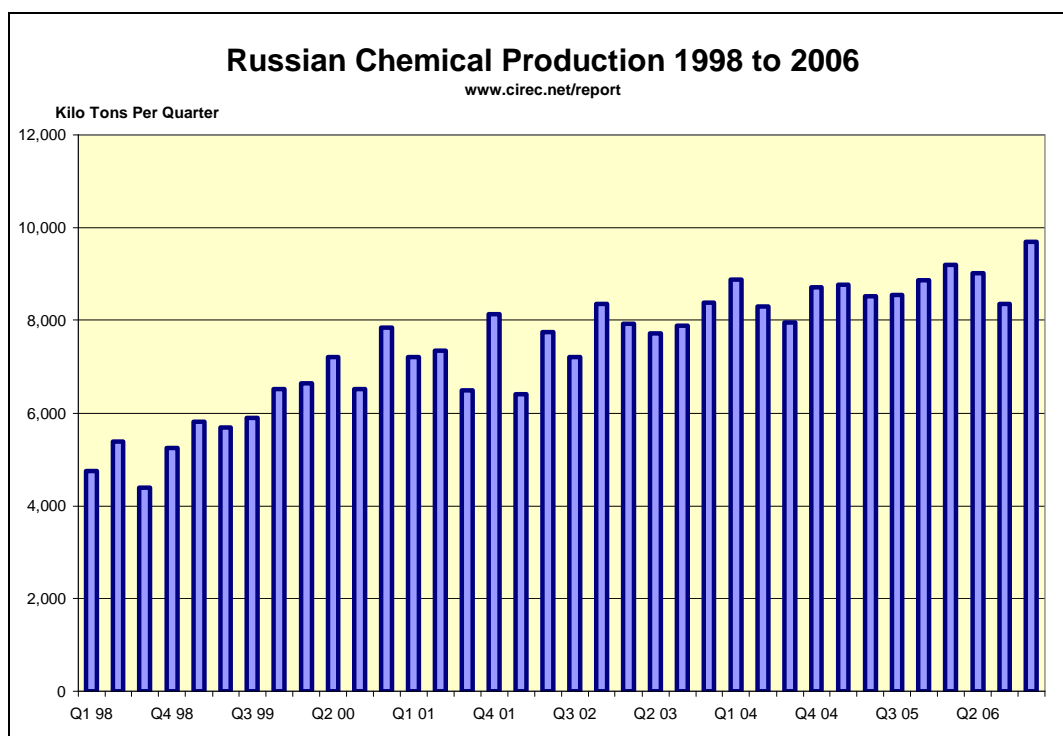
Unipetrol is in talks on conditions of sale of its stake in Agrobohemie with Deza of Agrofert Holding. Before Unipetrol's privatisation, Agrofert signed contracts with PKN Orlen which state that Agrofert is to gain Unipetrol's stakes in Agrobohemie, Kaucuk and Chemopetrol. PKN Orlen later said it was withdrawing from the contracts. Agrofert disagreed and filed several arbitration suits. The situation needs also to be resolved in view of Agrofert continuing to be Unipetrol's major client.

ZCh Police

Rather than ending 2006 with an anticipated net profit of zł.54.5 million, Z Ch Police ran a loss of almost zł.290 million. The company has since taken steps to create and introduce a recovery programme, covering three fields of operation. These include improving efficiency of sales and purchasing, cost cutting and the realization of short-term investments.

The company aims to expand its product portfolio, introducing new products such as multi-component fertilisers. The company board estimates that the preliminary results of the recovery programme will be seen this year. By 2009, the programme is expected to save the company close to zł.30 million a year.

RUSSIA



Russian Chemical Trade 2006 (unit-kilo tons)

Exports	2006	2005
Ammonia	3,603.7	3,154.7
Methanol	1,568.7	1,444.2
Benzene	4.6	19.2
Fibres & threads	31.7	49.7
PVC plasticizers	13.1	14.6
PVC	16	85.5
Polypropylene	24.9	24.1
Polystyrene	54.8	29.3
Polyethylene	123.1	140.8
Soda Ash	553.2	513.3
Caustic Soda	149.4	161.8
Styrene	341.3	334.8
Acetic Acid	20.7	32.4
Phenol	37.6	62
Phth Anhydride	33.5	42.4
*Tyres	8812	9245.9
Synthetic Rubber	587.4	654.3
*Thousand pieces		

Imports	2006	2005
Fibres & threads	62.6	109.9
PVC	47.1	75.2
Polypropylene	192	134
Polystyrene	143	106.5
Polyethylene	90.1	172.3
Synthetic Rubber	61.5	58.7
Paints	37	33.8

Market trends in Russia

Petrochemical production in Russia is starting to see the benefits of investments that have taken place in the past two years. Chemical production rose 10.6% in the first quarter of 2007 against 2006, with resins and plastics rising 24.1%. Most products saw increases, with polypropylene rising 2.1 fold, polyethylene by 12.8%, polystyrene by 16.5% and PVC by 3.5%. Synthetic rubber production rose 7.4% to 325,000 tons. Polymer film output grew 12.4% to 84,756 tons in the period, and plastic pipe and parts for pipelines rose 0.5% to 23,300 tons. Production of PVC plasticizers increased 21.3% to 69,400 tons.

At the same time chemical production is rising, imports continue to grow. In 2006, imports of chemical products totalled \$10.89 billion which was 33.3% up on 2005. Trade data for 2006 for the Russian chemical industry is listed opposite.

Russian production/capacity volumes

Detailed production data for 2006 for Russian petrochemicals, by plant and by quarter, is available through the CIREC Report Tool at www.cirec.net/report, whilst non-subscribers can see the full product/company list at www.cirec.net/chemical-report.shtml.

The database illustrates capacity, type of technology used by each plant, main feedstocks and the start-up date. The new projects listed indicate that capacity developments are set to escalate across the board in the next three to four years, transforming Russia's chemical sector into a more thriving part of the economy and helping to diversify away from oil and gas.

Petrochemicals

SIBUR-Holding, structural changes

The Board of Directors of Gazprom has made a decision to transfer a controlling stake of 25% in SIBUR Holding to Gazfond, in exchange for the latter company's 10% stake in Mosenergo. The reasons behind Gazprom's parting with SIBUR are thought to be the result of concerns on returns from significant long-range investments into projects. SIBUR-Holding could undertake an IPO in 2008, which would allow strategic investors to take a stake in the company.

**SIBUR-Neftekhim's Production
(unit-kilo tons)**

Product	Q1 2007	Q1 2006
Ethylene	63.0	59.9
Ethylene Oxide	54.3	51.4
Propylene	28.7	27.5
Benzene	24.4	19.4
BBF	16.7	15.1
C9	6.3	3.8
EDC	23.5	23.5
PVC	8.8	8.7
Caustic Soda	23.9	22.4
Chlorine	4.9	3.2
Plasticizers	11.1	10.3

The restructuring of SIBUR-Holding signifies that whilst Tobolsk will continue to provide the focus of polyolefin investment in the medium term, other locations such as Orenburg may prove to become more important due to feedstock reliability. As Tomsk project plans require feedstock guarantees, SIBUR-Holding has decided to put back its time schedule for the new gas chemical complex and Orenburg seems to be the favoured new site. Other projects which are awaiting a decision include the PVC plant in the Nizhniy Novgorod region.

Gazprom-Kazanorgsintez

An important development is taking place in business relations with Kazanorgsintez over ethane supplies from Orenburg. The main aim is to restore ethane deliveries

and polyethylene supplies after the recent conflict. At the same time, it has been indicated that Gazprom is now in talks with TAIIF over a possible purchase of shares in Kazanorgsintez.

Although there has been no official confirmation, talks seem to have reached a deadlock over Gazprom's offer of \$500 million that TAIIF considered too low. Gazprom is expected to come back to the table with an improved offer, but is unlikely to go as high as the \$1.5 billion estimation given in some circles and supported by TAIIF. The acquisition of Kazanorgsintez would represent a major coup for Gazprom, and at the same time it could signify the break-up of control by Tatarstan over its petrochemical industry.

SIBUR-Holding, TNK-BP

As part of SIBUR-Holding's development plans, the joint venture with TNK-BP has been confirmed in order to process associated gas at the gas processing plants at Nizhnevartovsk and Belozern. The processing agreement takes place within the framework of a JV entitled Yuga-Processing. SIBUR-Holding controls 51% in the JV, with TNK-BP holding the other 49%.

TNK-BP will supply associated gas on a long-term basis to SIBUR-Holding, which will be processed for providing feedstocks for the petrochemical industry. The venture will also purchase associated gas from other regional producers. As a result of associated gas processing, TNK-BP will receive 100% of dry lean gas, and SIBUR will receive 100% of the liquid products.

The venture provides an ideal opportunity for TNK-BP to build a foundation for associated gas processing business in the Nizhnevartovsk region. This foundation creates several ways to monetize the associated gas, and also facilitates a reduction in current gas flaring. Improving the gas utilisation rate will also lead to a reduction of greenhouse gas emissions, which supports Russia's obligations under the Kyoto Protocol.

Kazanorgsintez-ethylene

Kazanorgsintez has completed the construction of a dual chamber pyrolysis furnace through Technip. This is the second new furnace for ethylene production based on gas fractionation, after the first was built by Linde. The latest investments will make it possible not only to increase the volumes of ethylene production, but also to reduce energy and raw material consumption.

The Technip dual furnace operates on ethane usage at 35.86 tons per hour, producing 18.25 tons of ethylene per hour for each furnace. In addition to the reconstruction of the E-100 and E-200 plants, Kazanorgsintez is also examining the possible construction of a completely new E-500 plant through Technip. This is part of the strategic plan and would be expected to be completed by 2012, and would

increase total capacity to over 1.1 million tpa.

Kazanorgsintez increased turnover 42.9% in the first two months of 2007 to reach 3.821 billion roubles. The company is starting to see the effects of increases in polyethylene capacity on its financial performance. The fourth quarter in 2006 saw net profit increase by 10.5% over the same period 2005. Historical financial performance of Kazanorgsintez, including turnover, gross and net profits can be viewed in the CIREC Report Tool at www.coirec.net/report.

Salavatnefteorgsintez-Gazprom

Further examinations and discussions are taking place for sales of shares in Salavatnefteorgsintez to Gazprom. The shares will be sold to ZAO Lider, a subsidiary of the Gazprom pension company Gazfond. Bashkortostan President stated that Gazprom could buy the stake from the regional authorities using its own shares as payment. The current value of this Salavatnefteorgsintez stake (53.92%) is the equivalent of 0.2886% of Gazprom shares. Of all the companies affiliated with Gazprom, only Gazfond has a stake of this size.

Angarsk Petrochemical Company

The Angarsk Petrochemical Company, owned by YUKOS, will be auctioned off on 3 May along with other East Siberian assets. The initial lot price has been set at 166.34 billion roubles (currently about \$6.45 billion). During the last two years there have been attempts for a raider seizure of Angarsk Petrochemical Company by a foreign company New Century Securities Management (NCMS), from Liechtenstein.

Angarsk Petrochemical Company employs 13,950 people and provides feedstock to major industrial enterprises in the region, such as Angarsk Polymer Plant, Usolyekhimprom, and Sayanskkhimplast.

Rosneft is planning to place bids for the Angarsk complex and other East Siberian assets. Gazprom has previously stated that Angarsk is a promising location for the development of gas-chemicals and it could be interested in participating in the auction. Thus, it may mean that eventually large-scale petrochemical plans are developed at Angarsk, which may ultimately provide the increased volumes of ethylene for the VCM-PVC complex at Sayanskkhimplast. However, this would not amount to the independent raw material base that Sayanskkhimplast has been seeking to develop.

In the first quarter of 2007, Angarsk Petrochemical Company processed 2.2 million tons of oil. In the chemical division, the company produced 1,720 tons of amines, 14,715 tons of butanols, and 9,106 tons of methanol.

LUKoil-propylene

LUKoil-Nizhnegorod is constructing a new propylene unit with a capacity of 150,000 tpa at its Kstovo refinery in the Nizhniy Novgorod region, as part of the catalytic cracking complex. The complex, which will have a gasoline capacity of 2 million tpa, has already started the production of Euro-4 gasoline. Other projects include the construction of a hydrogen plant with a capacity of 50,000 tpa. As mentioned in issue 194 of *CIREC Monthly News* LUKoil and Koch Glitsch have been examining possibilities for producing propylene from propane fractions at the refinery at Kstovo. The major consumer of propylene in the Nizhniy Novgorod region is Akrilat at Dzerzhinsk for the production of acrylic acid and esters.

Polyolefins

SIBUR-Holding-Orenburggazprom

SIBUR-Holding and Orenburggazprom have been in further talks regarding the possible construction of a polyolefin complex in the Orenburg region by 2015-2016. As stated previously, this would include a polypropylene plant with a capacity of 450,000 tpa and a polyethylene plant with a capacity of 650,000 tpa. The polyolefin complex would be managed by Orenburgpolymer, comprising a jv between the two companies and overall managed by Gazprom. The timing of the talks seems to be aimed at influencing policy at Kazanorgsintez, following the conflict with SIBUR-Holding since the start of the year.

There may be little doubt that Orenburg could become a major location for polyolefin production in the next decade, but it seems a little odd that the project plans should come under scrutiny right now. The preliminary cost estimate of the project is placed at \$1.9 billion. Initial project ideas focused on the use of feedstocks supplied from the Karachaganak gas condensate field, although this will need to be confirmed.

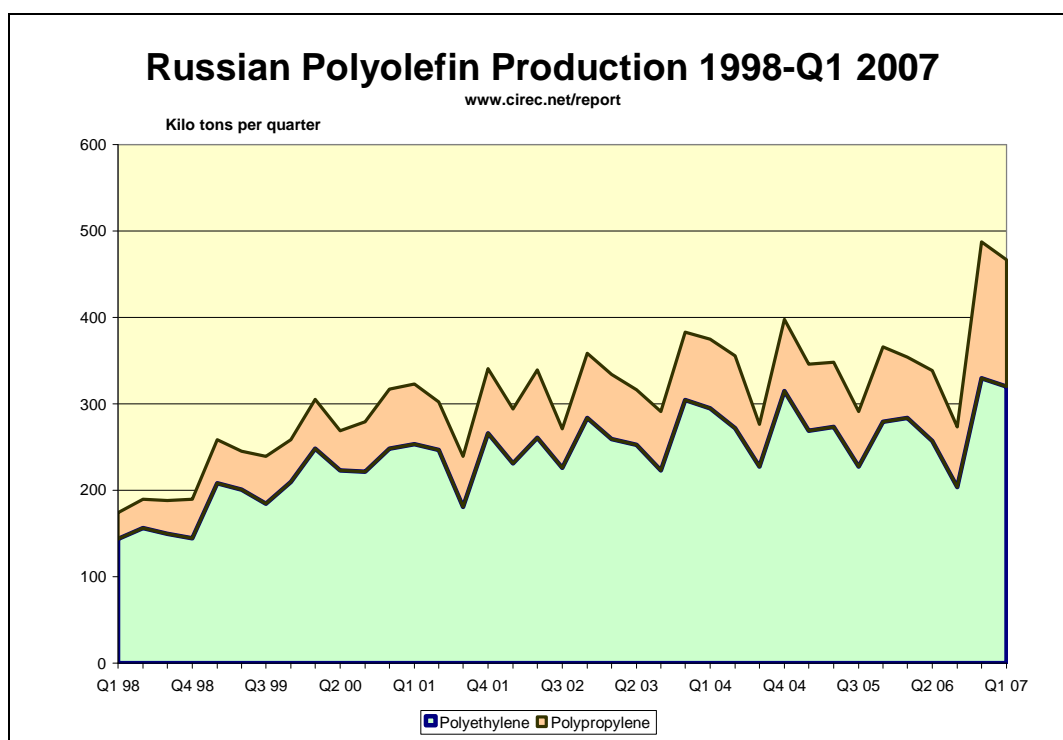
Kazanorgsintez is likely to be the most affected by a new Orenburg complex, particularly as it currently depends on Orenburggazprom for ethane supplies and that position could be threatened. Orenburggazprom would likely redirect its raw material supplies from Kazanorgsintez to the new plant, which would threaten Kazanorgsintez's performance. Until recently, Kazanorgsintez was the sole customer of Orenburggazprom ethane (the main component for polyethylene production) and had a tolling arrangement with the company. Orenburggazprom accounted for around 70% of Kazanorgsintez's raw material supplies.

During 2007, SIBUR-Holding and Orenburggazprom will prepare tenders for the design and construction of the complex and work could start in 2008. The foundations for the complex would be laid by 2011, but full polyolefin production would not be completed by 2016.

Potential markets for Orenburgpolymer

The main market for the sale of production from Orenburgpolymer has been identified as China. Domestically, Orenburgpolymer is not well placed to serve the markets of north west Russia. Although China is Russia's major export destination for chemicals and petrochemicals, none of the current plants in Russia were constructed with this market in mind. It could represent a gamble that China will continue to provide opportunities for polyolefin sales and that Russian production can compete successfully against producers from the Middle East and Kazakhstan. The domestic market may provide good opportunities, but competition may be very strong in view of the other polyolefin projects that are planned for construction.

One of the factors stimulating this project is that Russian petrochemical plants are relatively small by world standards and the perception that larger plants are required in order to be competitive. Not every chemical company in Russia thinks in this way, but Gazprom is keen to be seen as a major player in petrochemicals. Raw material for the production of polyolefins at Orenburg will be propane and ethane fractions supplied from Karachaganak.



Tomskneftekhim-project delays

SIBUR-Holding has decided to put on hold its plans for major investments in the Tomsk region, particularly the creation of a gas chemical complex. The chief reason is due largely to the lack of agreement between SIBUR-Holding and local companies for guarantees on the long-term deliveries of raw material.

The Tomsk gas chemical plant is designed to provide Tomskneftekhim with cheaper feedstock sources. Investments involve a sum in the range of \$1 billion. Although the project has been put on hold rather than cancelled, it is unlikely to be revived until the end of this year at least. Another project in the Tomsk region involved an alternative to existing naphtha feedstock supply by creating a new refinery. This project has also

been affected by the difficulty in concluding long term contracts. Despite the delays in these projects, Tomskneftekhim is proceeding with its mid-term plan to expand polyethylene capacity to 200,000 tpa by the end of 2007.

In the first quarter of 2007 Tomskneftekhim increased ethylene production by 13.39%, (see www.cirec.net/report) against the same period last year. Polyethylene was up 15.62%, propylene 6.14% and polypropylene by 13.6%. The growth in production is in line with SIBUR-Holding's strategy for expanding production at Tomskneftekhim.

Russian polypropylene trends

Nizhnekamskneftekhim accounted for more than 20% of polypropylene production in Russia for 2006, after start-up of the plant in October. The Nizhnekamsk plant should run at levels of 100% of the 180,000 tpa capacity in 2007. In January 2007, imports of polypropylene fell to 7,000 tons, as the effects of new capacity at Nizhnekamsk took impact. There are still opportunities for exports into Russia, as the domestic production range is still considered too narrow, but opportunities are expected to decline following the start-up of the Nizhnekamsk and Budyennovsk plants. The largest volume of polypropylene imports is for the production of BOPP. Companies dominating this sector in Russia are the Turkmenbashi refinery, Linos at Lisichansk, Borealis, and Basell.

A rough consumption figure for Russia in 2006 is 452,000, with imports of 192,000 tons. Strongest growth was seen for polypropylene consumption in the area of films and injection moulding of pipes. Average annual consumption of polypropylene in these sectors is growing by more than 15%.

BOPP Plants in Russia		
<i>Producer</i>	<i>Location</i>	<i>Capacity (ktpa)</i>
Biakspen	Nizhniy Novgorod	17
Evroment	Moscow	35
Grinn Plastik	Kursk	35
Novatek-Polymer	Samara	25.5

The main goal of Nizhnekamskneftekhim and LUKoil-Neftekhim at Budyennovsk in the next couple of years is to adapt its product range to the more advanced applications for polypropylene. These new capacities should transform Russia into a net exporter, even prior to the start-up of the Omsk plant in 2008, and other large-scale projects in 2010-2011 at Tobolsk (SIBUR-Holding) and Nizhnekamsk (Tatneft).

Regarding consumption, 2005 proved to be an important year with the start-up of a number of BOPP plants. Producers are listed above.

Nikokhim-new petrochemical complex

Nikokhim is considering plans to invest \$2 billion in the construction of a petrochemical complex in the Volgograd region. The complex would be capable of producing 500,000 tpa of PVC and 850,000 tpa of polyolefins. The sums of finance require that Nikokhim seeks out partners to predicate in the project. Kazakh banks have been suggested as financiers.

Nikokhim manages Kaustik and Plastkard at Volgograd, and also has a stake in the Soligran JV. The Nikokhim group is valued at around \$250 million. For several years Nikokhim has entertained notions of expansion in the petrochemical sector, including plans in 2004 to construct a new PVC plant in partnership in the Volgograd region. These plans failed to materialise, but resurfaced in 2006 with the proposal to create an industrial park around Kaustik (CIREC Monthly News, issue no 194). The concept of the industrial park is central to the new PVC plant, thus providing a direct customer base for production.

Whilst a new PVC plant has been considered before, the idea of building polyolefin plants is relatively new. As part of the broad plan, Nikokhim wishes to construct plants for 450,000 tpa of polyethylene and 400,000 tpa of polypropylene. Together with PVC, the polyolefin plants could yield around \$2.3 billion per annum. The key to the project and whether it will be profitable is feedstocks. Although still in the planning phase, the complex would require around 2 million tpa of straight run gasoline which could be supplied from Kazakhstan.

Ethylene derivatives

Kazanorgsintez-ethanolamines

Kazanorgsintez has completed the modernisation of its ethanolamine plant, which has involved an improvement in quality in accordance with global standards. After conducting capital reconstruction of the

rectification unit, it is now possible to produce clear triethanolamine with a content of no less than 90%. The company has used new technology for triethanolamine production and diethanolamine. Other improvements have included the replacement of the synthesis block for ethanolamines, which will facilitate a reduction of costs in production. Kazanorgsintez currently exports around 25% of its monoethanolamine and 80% of diethanolamine.

Aromatics

Paraxylene expansion at Omsk

The management of the Omsk refinery is considering investment plans into the aromatics division, the main aim of which is to build a new paraxylene plant with a capacity of 240,000 tpa. UOP has been in discussion with the Omsk refinery, providing estimations of cost and project timing. The current plant of 165,000 tpa at Omsk, which was upgraded by UOP in the past year to produce high purity paraxylene, is considered too small to meet the expected demands from the PET sector. Polief has highlighted plans for an expansion in PTA capacity from 230,000 tpa to 600,000 tpa, which will provide increased opportunities for paraxylene producers. Other PTA projects could come into consideration if paraxylene supply increases.

The Omsk refinery is owned by Gazprom and with Polief owned partly by SIBUR-Holding there appears to be a natural commercial link between paraxylene and PTA production.

Polief co-operation with Bashkortostan government

An agreement was signed in April for co-operation between Polief's main shareholders and the regional government of Bashkortostan. Polief was represented by the main shareholders LUKoil-Neftekhim, SIBUR-Holding and Selena. The discussions focused on the development of the Polief complex at Blagoveshchensk and the proposed expansion of PTA capacity to 600,000 tpa and PET to 400,000 tpa. SIBUR-PETF at Tver can benefit from SIBUR-Holding's involvement in Polief; it produced around 60,000 tons of PET in 2006. Around \$840 million is planned for investment into Polief over the next few years, which is to be partly financed by shareholders and partly by credit.

Kaliningrad PET project

The Kaliningrad PET project, which is scheduled for start-up in 2009-2010, has been questioned for its location not only from a market perspective but also its impact on the local environment.

In 2009-2010, a new 240,000 tpa plant for PET is planned for start-up by Alko-Naphtha at Kaliningrad. The region where the project is being constructed is a special economic zone, which provides financial advantages for investing on the site. The plant will be built according to the Russian standards of safety, which require the location to be at least 4 km from a residential area. Design documentation and details for the project will be completed in May. Uhde Inventa-Fischer will supply the technology and equipment, and also manage installation.

The environmental concerns of the project are thought to be minimised through a fully automated process and an automated system of emergency protection. A main challenge seems to be one of finding enough chemical engineers to undertake construction. Locally, there are no trained personnel which mean that the search needs to take place in other parts of Russia.

Alko-Naphtha's justification for the project is the current consumption of PET in Russia of 500,000 tpa, which is growing at rates of around 10% per annum and at the moment is still reliant on imports. The two existing plants at Tver and Solnechnogorsk share a total production capacity of 150,000 tpa, and Alko-Naphtha argues that there is room for new capacity. However, a series of other PET projects is planned in the next few years in Russia, which if completed should easily outstrip domestic market requirements. South Korean PET exporters are likely to lose out most of all from the expansion of PET capacity after accounting for 78% of imports into Russia in 2006. Thus, it may also mean that the Kaliningrad plant will be oriented towards exports to Europe and other markets rather than the Russian market.

The economic conditions of special zone at Kaliningrad allow certain tax privileges for the import of PTA, plus proximity to a port. The PTA is expected to be supplied from South East Asia. The special economic zone also exempts taxes on profits and property in the first six years. Thereafter, a 50% reduction is granted for another six years for the investor that has invested at least 150 million roubles in the region.

Kuibyshevazot-production increase

Kuibyshevazot increased the production of polyamide-6 by 2.6 fold in the first two months of 2007, whilst overall production growth of the company increased 15.4%. Ammonia increased 3% and caprolactam 6.7%, the latter being helped by a resumption of benzene supplies. In the first two months of 2007, Kuibyshevazot undertook a number of technical measures for the improvement caprolactam transport.

Despite the increases in production, Kuibyshevazot's main problem remains feedstock unreliability for both benzene and phenol. The company is planning to construct its own benzene plant, but this is not expected to happen soon. Samaraorgsintez is the main supplier of phenol to Kuibyshevazot, and thus its stoppage at the end 2006 led to reduced production of cyclohexanone and caprolactam at Kuibyshevazot. The delivery of phenol from other sources increased expenditures for transport, thus lowering the profitability of caprolactam production.

Kuibyshevazot-IPO

Kuibyshevazot is laying the foundations for an IPO to be issued later in 2007. The aim is to sell less than 25% of the company in an effort to raise at least \$130 million. The IPO is partly linked to the deterioration in financial performance due to an increase in the prices of benzene. Profits fell 27% in the first half of 2006 due to the benzene situation, and the inability to pass on higher benzene costs to caprolactam prices. The capital value of Kuibyshevazot, including its operations in China and the Samara region, is estimated in the range of \$415 million.

Kuibyshevazot-Shanghai

Kuibyshevazot has opened its Chinese jv, entitled Kuibyshevazot Engineering Plastics in Shanghai. Equipment for the project was supplied by Berstorf, with total investment costs of \$9 million. Kuibyshevazot holds the main share of the jv, which is starting production with two lines each of 9,900 tpa. Production is based on Kuibyshevazot's own polyamide-6 which it produces in the Samara region. By starting up the jv in China, it will ensure market outlets for Kuibyshevazot, or at least up to 7,000 tpa. Demand for engineering plastics in China is estimated to be rising at rates of between 16 to 30%. After the first few years of operation, Kuibyshevazot Engineering Plastics could double its capacity to meet new demand.

Plastics

Nizhnekamsk-polypropylene consumption

The Nizhnekamsk industrial region, known as the Promokrug, was created in May 2005 with Italian assistance in an effort to create a platform for small and medium sized companies for plastics conversion. The Promokrug was created by Nizhnekamskneftekhim. Tatneftekhiminvest- holding, the investment agency of Nizhnekamsk and the Tatarstan Association of Polymer Processors. The concept of the Promokrug is primarily to provide markets for petrochemical producers, in order to create a self-developing production chain from raw materials to finished products.

Such an industrial zone benefits the local region in terms of employment opportunities and simultaneously creates a market for products from Nizhnekamskneftekhim. In the last two years, several projects have been completed, not only in the area close to Nizhnekamsk but also other towns in Tatarstan. This includes the Elabuga Plant of Composite Articles, which is already selling large volumes and in order to satisfy demand, the plant has decided to double the volume of production to 4,000 tpa. The plant is now introducing lines for the processing of polypropylene and polystyrene drains for customers in the agricultural sector. Until now, these products are imported from West Europe.

Recently, the Tatarstan Association of Polymer Processors association concluded agreement with the lorry company KAMAZ, under which it will provide a wide range of polymers. Kamplast will provide car bumpers, whilst the Elabuga Plant of Composite Articles will produce sealers. Other success stories include the Karpov Chemical Plant at Mendeleyevsk, which opened a new extrusion foam polystyrene line in 2006. Supplies of polystyrene are provided by Nizhnekamskneftekhim. The new production line has been created under the framework of the Nizhnekamsk industrial region, and has a capacity of 55,000 cubic meters per annum. Nizhnekamskneftekhim holds a 32.5% stake in the Karpov plant, with TAIF holding 48.1%.

Three more plants in the industrial zone started construction in 2006 and should be ready for operation by 2008. By the end of 2007, around 800 workplaces will have been created through investments into Promokrug, whilst by 2010 it could be providing around 600 million roubles annually to the Tatarstan budget.

The main challenges for the development of the industrial region are financing small and mid-sized businesses. Nizhnekamskneftekhim has tried to provide credit lines for some converters such as Kamplast so that they can purchase products like polypropylene.

The Nizhnekamsk industrial region is likely to provide products and raw materials for the car industry, which is based in the Volga region. Thus, the development of the chemical industry and processing plants can provide competitive advantages to the local car producers which have until now been reliant on imported products. Significantly, at the end of last year, agreements were signed for long-term agreements between the Tatarstan Association of Polymer Processors and the Severstal auto group of companies, one of the largest producers of cars in Russia.

Tatneft-Basell

Tatneft plans to create a jv with Basell in the Alabuga economic zone for the production of import-substitute compounds, intended for car the automotive and electrical industry. The capacity of the new line will be 20,000 tpa at a cost of €15 million, with a second line of 45,000 tpa also planned. Start-up dates are planned for 2011. Polypropylene will account for around 60% of the compounds and will be supplied from the Nizhnekamsk NPZ complex, where construction is currently underway. The remaining raw materials such as rubber, accelerators, pigments etc, will be supplied by Basell.

Methanol/Gas based products

Shchekinoazot-methanol investment

Shchekinoazot in the Tula region is planning to start construction of a new methanol plant with a capacity of 450,000 tpa. The main benefits of the new plant include a reduction in energy consumption by around 40% against the current technology. It would also result in a lower gas usage in the conversion to methanol, thus saving the company large sums of money. One of the important features of the M-450 plant is its compactness, thus allowing its construction on a site of 140 by 70 metres.

The construction of the new plant could take 24 months, with an extra 9 months required for infrastructure, etc. Part of the project includes the construction of a water-reverse cycle, which will also provide water for the caprolactam division included in the complex. Shchekinoazot undertook a revamp of the current methanol plant in March, repairing the synthesis columns. The air separation unit has also been modernised. Shchekinoazot has produced high-grade methanol since September 2006 after having undertaken extensive maintenance. The increase of methanol shipment volumes for the USA through the Black Sea ports has become a feature of commercial policy in the past two years. Methanol is produced with a high ethanol content to meet the requirements of American consumers.

Evrokhim

Production of organic products at Evrokhim were stable in 2006, with methanol showing a 7.8% increase rising to 551,000 tons. Production of methyl acetate increased 5.4% to 10,000 tons and butyl acetate 110% to 20,000 tons.

In the first quarter of 2007 Azot at Nevinnomyssk increased turnover by 26% against the first quarter of 2006. Ammonia production increased 5% to 287,000 tons, and urea by 3% to 220,000 tons. Methanol production rose 9.5% at Nevinnomyssk in the first quarter, whilst acetic acid production fell 6% due to maintenance on the reactor in January. The other methanol subsidiary of Evrokhim, Azot at Novomoskovsk, increased production by 9% in the first quarter. At the end of the first quarter, Azot started maintenance on the acetylene and acetaldehyde units at Nevinnomyssk.

Synthetic Rubber

Togliattikauchuk-rubber expansions

SIBUR-Holding and Togliattikauchuk have examined prospects for development of the synthetic rubber complex and are considering an increase in isoprene capacity to 140,000 tpa. The intermediate-term investment programme includes an improvement in safety and the transfer butadiene-styrene natural rubber production into salt-free coagulation, which will make it possible to reduce the prime cost of the admitted production and to reduce the volume of harmful discharges. Other projects include a revamp on the 50,000 tpa butyl rubber plant. Togliattikauchuk also plans to produce chlorobutyl rubber.

PVC Chlorine

PVC market in Russia

PVC consumption in Russia rose 15-16% in 2006 over 2005, thus providing strong impetus in investment. Capacity in Russia is insufficient to meet demand, explaining the rising imports, but also producers do not produce a wide enough range of PVC grades. A net deficit in PVC production was signalled in 2003-2004, but possibly the scale of the deficit has outweighed expectations and hardly any extra capacity has been added in the meantime.

Shortages have impacted on prices in the domestic market, particularly as domestic producers have been helped by a 15% duty on imports. The main driving force behind Russian demand is window profiles, after the opening of a number of processing plants since 2003. Apart from window profiles, the demand for PVC pipes is also growing rapidly, having risen 17% in 2006.

In 2005, PVC imports into Russia amounted to 20,400 tons and rose to 85,000 tons in 2006. High prices for PVC affects the competitive ability of domestic finished products, as the customs duty for many goods is lower than duty on PVC. As a result, the import of finished PVC articles totalled 317,000 tons in 2005. New capacity is planned for PVC, but is ultimately dependent on ethylene availability. Sayanskkhimpplast and Kaustik would have to find a solution to feedstock supplies before undertaking expansion plans, whilst SIBUR-Holding has still to decide over its project at Nizhniy Novgorod. LUKoil-Neftekhim at Kalush is building a new PVC plant, but being located in western Ukraine might make exports to Russia unprofitable. Renova-Orgsintez in the Samara region seems to have constructive plans, but no completion dates are yet mentioned.

Nikokhim-production

Plastkard at Volgograd, which is part of the Nikokhim group, increased PVC production by 14% in the first quarter of 2007 against the same period last year. The plant hopes to achieve 90,000 tons of production in 2007, followed by 100,000 tons in 2008.

Nikokhim's other subsidiary at Volgograd is Kaustik which increased production by 7.5% in the first quarter of 2007. Nikokhim is investing in the modernisation of the caustic soda plant at Volgograd, using De Nora of Italy as equipment suppliers. At present, the production of caustic soda is based on mercury and the capacity of the plant is 140,000 tpa. By undertaking modernisation, it will allow Nikokhim to reduce the consumption of electricity by 20%, which corresponds to economic savings of around \$3.5 million per annum. It also reduces the expenditure on mercury from 19 g per ton of caustic to 10 g. Additional positive effects include the elimination of a maintenance shutdown for the electrolyzers for several years.

Renova Orgsintez-Khimprom Novocheboksarsk

Renova-Orgsintez has received an option to buy 75% of Khimprom at Novocheboksarsk for a sum of between \$200-225 million. Khimprom would represent another step in Renova's expansion strategy. Should Renova Orgsintez succeed in the purchase, it plans to complete a project at for the production of polysilicone at Novocheboksarsk, with a capacity of between 2-4,000 tpa.

A good reason for the interest in Khimprom is that it uses propylene oxide, which Renova-Orgsintez plans to produce at its Neftekhimya site at Novokuibyshevsk. Apart from project investments, the Khimprom plant at Novocheboksarsk produces caustic soda, which is a key product in the Renova structure and would be compatible with the development strategy of the holding.

Renova Orgsintez-Khimprom Volgograd

Renova-Orgsintez has finally secured a controlling stake in Khimprom at Volgograd, after many months of holding an indirect position in the company. The takeover will help to finance the investment strategy at Khimprom which involves the modernisation of existing facilities and the construction of new product units. Khimprom has been in a struggle with Kaustik in the Volgograd region over brine supplies. It is expected to be one of the main suppliers of chlorine for VCM-PVC plans by Renova-Orgsintez in the Samara region.

Renova-Sulzer

The Renova group has bought a 32% stake in Swiss engineering firm Sulzer together with Austria's investment company Victory. Renova already has a 14% stake in Swiss technology group OC Oerlikon which recently bought the Swiss textile machinery and car part maker Saurer.

The new acquisition is worth about \$1.7 billion. Renova said its total holding in Sulzer comprised an 18% stake in shares with an additional 14% taken via options. By investing in Sulzer, Renova has been able to further and strategically deepen its existing investment in the industrial technology sector.

Other products

Saratovorgsintez-sodium cyanide

Saratovorgsintez plans to start up its new sodium cyanide plant in April. The capacity of the new plant is 15,000 tpa, for which construction started in 2005. The completion of the project will make it possible to use hydrocyanic acid, the by-product of acrylonitrile, for the production of sodium cyanide. Saratovorgsintez has a capacity of 150,000 tpa of acrylonitrile.

Nefis Cosmetics-bioethanol

Nefis Cosmetics has announced plans to construct a bioethanol plant with a capacity of 350,000 tpa at a cost of around 10 billion roubles. The aim is that the plant will process about 1 million tpa of wheat, from which it will obtain 350,000 tpa of bioethanol and 120,000 tpa of protein. Nefis plans to collaborate with foreign companies in this project.

Ukraine

Azot Cherkassy-Renova

Renova is in talks over a possible purchase of Azot at Cherkassy, which is currently owned by UkrSibbank. If sides cannot come to agreement, then Renova will probably opt out rather than pursuing it as some of the other companies it has bought recently. The main issue is gas prices, and Renova is in a position through its TNK-BP links to provide more competitively priced gas for Azot. From the start of 2007, the price of the gas supplied to Ukrainian chemical plants has risen from \$140 to \$178-182 per thousand cubic metres, affecting profitability.

Stirol increased production

Stirol increased ammonia production 7.3% in March against March 2006 to 137,000 tons and urea by 23.8% to 95,706 tons. The largest growth was seen for polystyrene which increased 80.4% to 702 tons.

Ukrainian government aims to sell stakes

The Ukrainian government aims to sell its 40% stake in Azot at Severodonetsk before the end of 2007. Possible buyers could be interested in the idle polyethylene plant, or at least that is the hope of the government. Other companies planned for some degree of privatisation this year include Khimprom at Pervomaik and Sumykhimprom at Sumy. One of the main reasons behind the sale of government stakes is the falling profitability amongst Ukrainian chemical companies.

Oil refining company Ukranafta is considering the purchase of Dniproazot, together with the Odessa Priportniy Plant and Rivneazot. The objective is to move downstream into chemical products where Ukranafta could provide feedstocks at a cheaper price than the present owners. Dniproazot seems a strong target for Russian companies, as it is a major gas consumer and also a major exporter of ammonia. Companies such as Togliattiazot and Akron are likely to be interested.

Rivneazot investment

Rivneazot plans to invest \$50 million into expanding its production capacities for fertiliser production. Currently, Rivneazot occupies 20% of the market in Ukraine. The government plans to create a system for collaboration between the agricultural sector and the chemical producers, which would facilitate a reserve supply of fertilisers during the sowing and harvesting campaigns. This system will contribute to reduction in the price of the mineral fertilisers on the domestic market.

Khimprom Pervomaik

Khimprom at Pervomaik in eastern Ukraine has restarted production of chlorine and caustic soda, and is now in the process of restating the PVC plant. The production of calcium hypochlorite is seen as another area of potential for Khimprom with demand rising in the agriculture and medicine sectors. In October 2006, the Ukrainian government began negotiations with potential investors about the privatisation of Khimprom.

Azerkhimya

The Azeri Cabinet of Ministers reduced excise duties on petroleum products in January, including naphtha, with a view towards helping Azerkhimya. Chemical plants in Azerbaijan obtain naphtha from the Azerneftiyag refinery. Azerkhimya uses around 300,000 tpa of naphtha, supplied at a current price of 210 manat per ton. There have been suggestions that Azerkhimya could be forced into liquidation following a drop in profitability from chemical product sales over the past year. This has forced some units to stop production completely. The main causes of declining profitability have been the increase in prices for energy. Until 2005, Azerkhimya was subsidized from the state budget but the government has since then abandoned the subsidization policy, leaving Azerkhimya exposed to market forces.

Azerbaijan-PE pipes

Azeri-Turkish jv Dizayn-Selau has started up a polyethylene pipe plant at Sumgait. The plant includes two lines with a capacity of 800 tons of pipes per month. Production will focus on PE-100 and PE-80 pipes. The jv is using raw materials supplied from South Korea, China and Belgium.

Shurtan-Singapore

Singapore government holding Temasek plans to invest around \$1.5 billion into the processing of oil and gas in Uzbekistan. The Uzbek government has offered Temasek the opportunity to participate in a number of projects, including the expansion of polyethylene production at the Shurtan gas chemical complex, and also the construction of a synthetic diesel plant.

The Shurtan polyethylene plant is currently working at the full 125,000 tpa capacity. In 2006, the plant started a unit for the production of pipes, with a capacity of 15,000 tpa. Around \$300 million will be invested in the Shurtan gas chemical complex, increasing polyethylene capacity to 225,000 tpa. Around \$1 billion will be invested in the production of synthetic diesel.

Methanol-Batumi

Greenoak Group and KazMunaiGaz have agreed to set up a joint venture to build a new oil refinery in Batumi in Georgia, with investment cost expected to exceed \$1 billion. Plans exist to build methanol and ammonia units at the complex. The capacity of the new Batumi oil refinery will be 5-7 million tpa. The refinery will be built on an 80 hectare plot of land which Greenoak agreed to acquire from the Georgian government in 2006 for construction of an industrial complex. The area is directly adjacent to Batumi Oil Terminal. The initiative for the development of the oil refinery follows the formation of our strategic partnership last year with KazTransOil (subsidiary company of KazMunaiGaz).

Currencies

(Czech crown, Kc, \$1 = 21.531, €1 = 28.351)
 (Hungarian Forint, Ft, \$1 = 191.00, €1 = 252.69)
 (Polish zloty, zl, \$1 = 2.9486, €1 = 3.8826)
 (Ukrainian hryvnia, \$1 = 5.0348, €1 = 6.6296)
 (Rus rouble, \$1 = 26.170, €1 = 34.459)

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