

# CIREC

## MONTHLY NEWS

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

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Issue 200, 31 July 2007

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- ✚ Chemopetrol and Unipetrol Rafinerie are being regrouped into the new entity Unipetrol RPA, as from 1 August 2007.
- ✚ Spolana closed its caprolactam plant at Neratovice on 13 July in order to undertake repairs to technical problems. The plant is expected to be back up and running in August.
- ✚ PCC Rokita agreed the legal foundations in June for the creation of the new company ChemiPark Technologiczny, which will oversee a chemical industrial zone at Brzeg Dolny.
- ✚ The first half of 2007 has seen some marginal increases in chemical production volumes in Russia, but relatively low in comparison to the rise in demand.
- ✚ MOL has rejected a bid from OMV, evaluating it as a hostile and unwelcome takeover attempt. A partnership with OMV would not create added value or make business sense for MOL.
- ✚ The Arpechim refinery was given the full go-ahead in July to continue activity by the local Arges Appeal Court.
- ✚ In the first half of 2007 Nizhnekamskneftekhim increased turnover by 27% to reach 27.6 billion roubles, with profits before tax amounting to 3.064 billion roubles.
- ✚ SIBUR-Khimprom has signed a contract with Badger Licensing LLC for the purchase of a license and basic engineering of a new ethylbenzene plant.
- ✚ Kuibyshevazot has put forward a proposal to the interdepartmental commission for the cancellation of the import customs duty on benzene.
- ✚ Kazanorgsintez completed the first stage in the start-up and installation of the bisphenol-A plant.
- ✚ Topsoe has recently concluded a contract with Shchekinoazot for the supply of its technology for a new 450,000 tpa methanol plant.
- ✚ A new range of investments are planned for the port region at Visotsk in the Gulf of Finland, which include a plant for 440,000 tpa of methanol.
- ✚ Karbodin, the jv between Metafrax and Dynea, has concluded a contract with Perstorp Formox for a new formaldehyde unit.
- ✚ Rohm and Haas has announced plans for the construction of a new plant in the Moscow area for the production of polymer emulsions
- ✚ Karpatneftekhim has received approval from the local Kalush region to go ahead with the construction of the PVC plant.
- ✚ New projects are under review for construction in chlorine, caustic soda and PVC at Pavlodar in north Kazakhstan.

## CENTRAL & SOUTH EAST EUROPE

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### Petrochemicals

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#### **PKN Orlen-Russian oil contract**

PKN Orlen has concluded a contractual agreement with KD Petrotrade FZE for oil supplies from Russia, valued at \$3.9 billion. This contract will exclusively be for consumption at Plock and will be transported via the Druzhba. For the next three years the refinery will receive 2.4 million tpa of crude from Russia. Despite efforts to seek alternative sources of crude, PKN Orlen still believes that shipments supplied through the Druzhba remains the most cost-competitive.

#### **Arpechim's production**

The Arpechim refinery was given the full go-ahead in July by the local Arges Appeal Court to continue processing activity. The Regional Environment Protection Agency in the Pitesti county decided at the end of May to withdraw its environment authorisation for Arpechim, considering that Petrom did not fulfill its obligations. The decision was attacked in court by Petrom, and after considering the economic and social aspects of the case the Pitesti Court decided that Arpechim may function again. This is good news for Oltechim, which is currently trying to buy the petrochemical division of Arpechim from Petrom and its owners OMV.

#### **MOL-OMV-Orlen**

MOL has rejected a bid from OMV, evaluating it as a hostile and unwelcome takeover attempt. A partnership with OMV would not create added value or make business sense for MOL, the board declared. If anything, MOL may be prepared to reconsider merging with PKN Orlen which could be far more advantageous than a merger with OMV. Any alliance with PKN Orlen would be targeted on the oil sector, with the petrochemical sector of each group probably remaining separate entities. Possibly the only way co-operation could be envisaged in the petrochemical sector between MOL and PKN Orlen would be in the costly construction of a Central European ethylene pipeline system. This idea was first considered in the 1970s, and never reached the construction stage. However, if it ever reached fruition it would open many doors for Central European petrochemicals.

MOL recently looked into the development opportunities that have arisen or have been identified since 2005. The board of directors believes that significant organic growth opportunities exist for MOL. On a consolidated level, EBIDTA is expected to grow an average 6.5% per year between 2006 and 2011 (without new acquisitions), and may reach \$2.9 billion in 2011. In its own petrochemical sector, MOL is aiming to increase EBIDTA by over 8% annually over the next few years, reaching \$300 million by 2011. The merger of TVK's and Slovnaft's petrochemical activities is further expected to bring new synergies and improve cost efficiency.

Prior to MOL taking over ownership of TVK, TVK and MOL were aligned closely in terms of the feedstocks-olefin chain, but the creation of Slovnaft Petrochemicals s.r.o in 2006 represented a completely new strategy. The objective is to capitalise on further synergies in sales by offering a wider product range and higher sales volumes to customers. Due to an increased utilisation of TVK's olefin capacities, higher quantities of propylene are available which have been sold to Slovnaft Petrochemicals.

#### **Chemopetrol and Unipetrol Rafinerie to be merged**

Chemopetrol and Unipetrol Rafinerie are being regrouped into the new entity Unipetrol RPA, as from 1 August 2007. As a result of the merger, Unipetrol RPA becomes the full legal successor to both companies. The aim is to create a strong and powerful business unit and reduce the administrative burden. These changes will have no effects on past or existing obligations, whilst the main aims are to improve the profitability of the petrochemical and refining divisions. For 2006, unplanned oil refinery and petrochemical unit shutdowns combined with asset sell-offs helped push net profit down at Unipetrol down 52% to Kc 1.6 billion (€56.8 million). While Unipetrol is again set to come under pressure this year due to more shutdowns, it remains on course to add an annual €138 million to its EBITDA by 2008.

In Q1 2007, the Unipetrol group netted Kc 1.564 billion on Kc 20.64 billion sales. Unipetrol expects its performance to deteriorate slightly in the second half of the year due to the planned shutdowns at Ceska rafinerska, Chemopetrol, and Paramo. The shutdowns will last three to eight weeks.

**Unipetrol butadiene plant**

In the first half of July, Unipetrol, Kaucuk and Dwory signed the joint venture agreement for the construction and operation of a new butadiene unit at Kralupy nad Vltavou. In the joint venture, which will be realised through the company Butadien Kralupy, Unipetrol will own 51% and Kaucuk 49% of shares. This follows an earlier agreement from January 2007, where at the same time foundations were laid from the sale of Kaucuk by Unipetrol to Dwory.

Butadien Kralupy, the operator of the butadiene unit, will be a business partner for Chemopetrol and Unipetrol Rafinerie, until the replacement by Unipetrol RPA. These plants will supply the C4 fraction for the production, and off-take the products (raffinate 1) produced in the butadiene unit. Butadien Kralupy will supply 1.3-butadiene to Kaucuk. The creation of the joint venture and the pre-emptive right represent one of the conditions of the sale of 100% of Kaucuk shares to Dwory.

**Technip wins paraxylene contract for Orlen**

Technip has been awarded a contract worth approximately €160 million by PKN Orlen for the construction of the new paraxylene complex at Plock. Technip's operations and engineering centre in Rome will execute the project which includes engineering, procurement and supply of equipment and materials, and technical assistance for activities at site (construction, precommissioning and commissioning). Services, materials and equipment supply will be delivered on a lump sum basis; with activities at site being charged on a cost plus fee basis.

The production unit will be based on UOP technology, as concluded in June 2006, and will have a capacity of 400,000 tpa. Project completion is scheduled for December 2009 rather than January 2009 as planned previously.

The construction of the paraxylene plant is designed to work in conjunction with the PTA plant at Wloclawek, which will have a capacity of 600,000 tpa. The objective of the investment is to extend the production chain towards petrochemical products with a high market value. PKN Orlen has already reached agreement with SK Eurochem (at Wloclawek) and Mitsubishi for PTA supplies, with both contracts running from 1 July 2010 to 31 December 2014.

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**Polymers & Intermediates**

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**Dwory secures full control of Kaucuk**

Unipetrol disposed 6,236,000 ordinary shares in Kaucuk to Dwory on 19 July, which finalises the spin-off of the synthetic rubber and styrene assets of the group. The purchase price for the shares amounted to €195,000,000, and was paid in cash via a wire transfer to a Unipetrol bank account.

**Polish Chemical Production (unit-kilo tons)**

Product	Jan-Jun 2007	Jan-Jun 2006
Ethylene	300.9	277.2
Propylene	172.5	186.7
Butadiene	29.0	28.6
Toluene	58.1	63.5
Phenol	24.9	22.9
Caprolactam	82.2	82.9
Polyethylene	193.0	169.6
Polystyrene	52.8	50.5
PVC	152.7	128.8
Polypropylene	147.0	146.1
Synthetic Rubber	64.8	60.6
Pesticides	20.5	18.7

Dwory's sales' revenues for the first quarter of 2007 were zł 324,600.000, which represented an increase by 28% compared to the first quarter of 2006. The value of synthetic rubber sales went up by 22%, on the back of favourable market conditions and; in particular, as a result of growth in the volume of orders from the tyre industry. In the first quarter, there was an increase of more than 51% in the value of sales from Dwory's styrene plastics range and this was accompanied by a significant rise of 14% in the tonnage of plastics sold. The first quarter of 2007, in contrast with the same periods in previous years, saw high sales of expandable polystyrene (EPS).

There was a slight drop in the value of sales of about 3% in other product areas, coming as a result of the closure of the company's electrolysis installation and stopping production of chlorine-derivative products in the first half of 2006.

**Anwil-flotation**

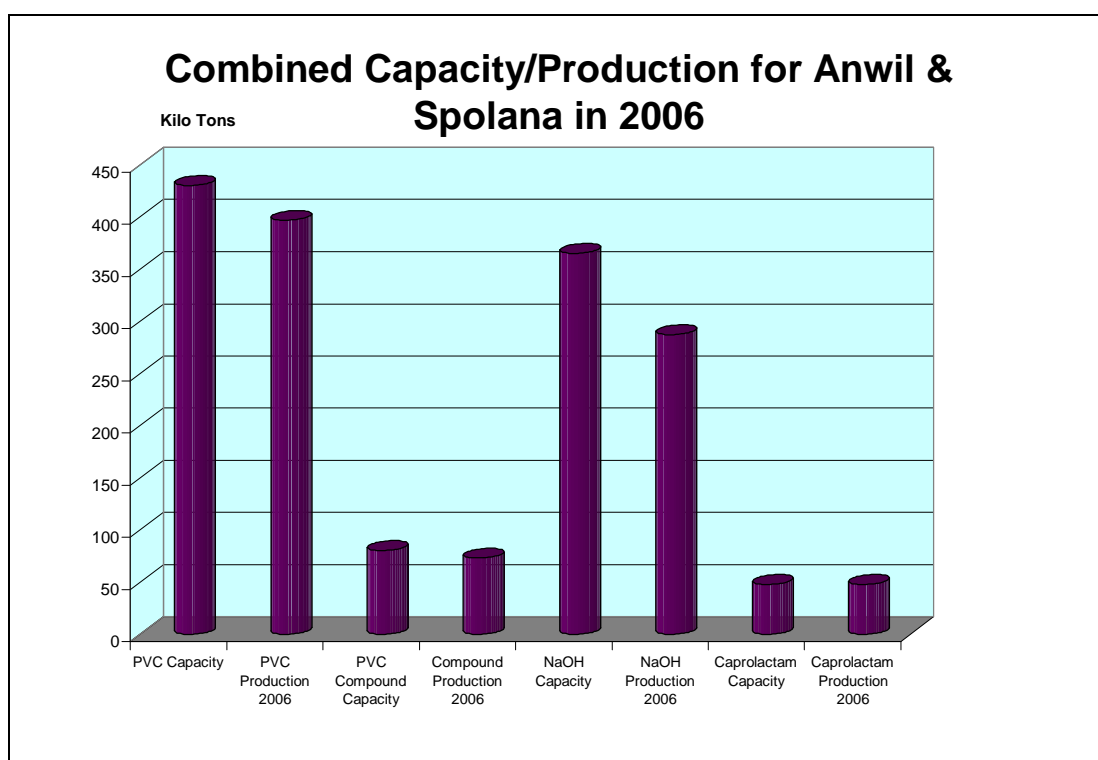
PKN Orlen is expected to decide in August on whether or not to set a flotation process for Anwil. Should the

decision be affirmative, Anwil's initial public offering could be worth up to zł 1.5 billion, which would make it the biggest IPO of a Polish company since the debut of natural gas monopoly PGNiG in September 2005.

The offer could take place at the turn of this year and may include new shares as well as a 5.6% stake held by the Polish state treasury. Anwil, in which PKN has an 84% stake, is Poland's major PVC producer and one of the country's leading producers of nitrogen fertilisers. Anwil is already on the hunt for an advisor and brokerage house.

Anwil's potential has considerably widened since the purchase of 81.78% of shares in Spolana from Unipetrol. The Anwil group offers 430,000 tpa of PVC capacity at its two sites at Wloclawek and Neratovice. Nitrogen fertilisers represent an important activity for Anwil, whilst the combined capacity with Spolana for caustic soda is equal to 365,000 tpa.

Caustic soda is sold by Anwil as a 30% and 50% aqueous solution and in its solid form. In April 2006, a modernised chlorine and caustic soda plant was commissioned after construction by Uhde. The modernisation consisted in a change from diaphragm to membrane in the process of electrolysis. The increase in production capacity also helps to meet Anwil's demand for chlorine, in addition to any export requirements. This subsequently allows for more flexibility in production planning and adopting a sales strategy for both domestic and foreign markets.



### **Poland capacity expansions**

Poland remains the most likely country in Central & South East to experience a wave a large chemical sector investments in the next few years. Poland is one of the most important end-use destinations for organic chemical exports out of West Europe, and with a population of around 36 million markets are expected to grow at faster rates than most of the EU.

Comparatively low consumption per capita in petrochemicals and rising import bills indicate the rationale behind investment ideas. On average, Polish consumption per capita of ethylene, propylene, butadiene and benzene ranks at around 20% on average of the West European rates. The chemical industry has seen some investment in recent years, but this has not been enough to meet the demand growth in the country. The largest investment has taken place at Plock in the shape of the Basell Orlen Polyolefins' venture which has least slowed the import of polyolefins into the country. Expanding polyolefin capacity is only possible through new cracker investments, which are being considered by PKN Orlen but are yet to be detailed in terms of time schedule, capacity, etc. PKN Orlen's immediate focus rests on completing the chain between paraxylene,

PTA and PET, which should be finished by 2009-2010. At the same time, PKN Orlen is busy attempting to integrate Unipetrol into its operations.

The Polish government has been particularly slow to see the opportunities of foreign investment into the chemical industry, which has hindered progress. PCC Cargo of Germany was on the verge of securing control at two of Poland's major chemical plants at the end of last year, only to be thwarted at the last hurdle. PCC is already active in Poland at the Rokita plant at Brzeg Dolny, and undertaking an investment strategy in both products and infrastructure.

**Serbian Chemical Production (unit-tons)**

Product	2006	2005	2004
Ethylene	152,490	137,140	146,789
Propylene	101,009	113,738	95,927
Butadiene	22,358	23,132	na.
Benzene	7,438	2,206	1,421
Toluene	3,282	2,950	1,556
Methanol	136,976	134,921	156,832
Acetic acid	66,169	71,427	80,372
MTBE	16,499	13,000	14,000
Formaldehyde	-	69	3
Ammonia	97,329	135,251	166,648
HDPE	78,139	76,147	75,732
LDPE	56,858	57,241	52,435
EPS	282	1,052	1,075
PVC compound	721	320	426
PP	32,199	30,649	32,125
PP copolymers	449	332	427
Alkyd resins	83	760	116
Polyurethanes	2,795	2,634	2,640
Nitrocellulose	1,261	1,122	1,431
SBR	30,423	32,053	31,403

The listing of ZA Pulawy on the Polish stock market seems to have stimulated an ambitious expansionist strategy, for both product development at Pulawy and intended acquisitions. Dwory's purchase of Kaucuk, as with Anwil's purchase of Spolana, provides a strong platform for organic growth. Anwil itself could be on the verge of an IPO, which would be the largest of its kind in Poland in the chemical industry.

**Spolana-caprolactam shutdown**

Spolana closed its caprolactam plant at Neratovice on 13 July in order to undertake repairs to technical problems. The plant is expected to be back up and running in August. Spolana exports nearly all of its caprolactam within Europe, having previously sold all output to Chemlon in Slovakia for fibre production.

Currently, Spolana struggles to meet the demand of its customers. In 2006, the company produced 47,440 tons of caprolactam, and the outage is probably equivalent to losing around 2-3,000 tons of production. The complex at Neratovice is prone to flooding, although it has remained unscathed this year as other regions such as central England and Bavaria have taken the full force.

**Chemipark-Brzeg Dolny**

PCC Rokita agreed the legal foundations in June for the creation of the new company ChemiPark Technologiczny, which will oversee a chemical industrial zone at Brzeg Dolny. This will be the first industrial park in the region to focus specifically on the chemical industry, and will contribute to the economic programme of the Regional Innovative Strategy of Lower Silesia. The new entity provides a response to the demands of Polish scientific and industrial circles, which lack opportunities to jointly generate innovation and put it into practice. ChemiPark aims primarily at: stimulating the development of advanced technologies and creating organisational and technical conditions for the transfer of scientific achievements.

PCC Rokita is undertaking a number of major investments in production capacity at present, which could benefit from the proximity of the ChemiPark. Projects are varied and include expansions in ethoxylate capacity to an upgrade of the propylene oxide plant. The latter project will involve the plant using chemical grade propylene, which is not an option at present. Other projects include the construction of an isopropyl phenol and derivatives production plant by the end of 2008, and the construction of a new electrolysis plant in the 2010-2011 timeframe.

**RUSSIA****Russian chemical production Jan-Jun 2007**

The first half of 2007 has seen some marginal increases in chemical production volumes, but relatively low in comparison to the rise in demand according to the data available. The Russian economy is set to grow by 7% this year, according to the IMF, with overall industry rising at even higher levels. In the first half of the year chemical output in Russia increased by 4.3% over 2006, with polypropylene and polystyrene witnessing the strongest growth.



In the first half of 2007, ammonia production totalled 6.513 million tons, 650,000 tons of caustic soda and 1.396 million tons of soda ash. Russian car tyre production increased by 7.3% in the first half of 2007, reaching 20.9 million pieces. The production of synthetic resins and plastics increased 16.6% to 2.2 million tons, with synthetic rubber rising 5% to 631,000 tons. Carbon black production rose 3.7% to 322,000 tons. PVC plasticizers increased by 9.9% and pipes by 27%.

One of the main challenges facing the industry, according to the Russian Energy Ministry, is that Russia will be forced to apply EU safety standards in the chemical industry, in order to sell products abroad. This could cost Russian companies up to 10% of their export earnings.

#### **Russian chemical trade Jan-Jun 2007**

Russia increased chemical exports by 16.3% in the first half of 2007 to \$7.4 billion, whilst imports rose 20.3% to \$5.7 billion. Chemical exports out of Russia remain a strong area of activity, despite the increase in imports in recent years. Exports of chemicals in 2006 were valued at \$14.2 billion, 3% up on 2005, representing around a third of total production. Exports largely consist of low value commodities, such as mineral fertilisers which accounted for 32% of export revenues in 2006, whilst the main focus of imports are added value products, including plastics, paint materials, polyester fibres and plant protection agents.

Estonia's railroad company Eesti Raudtee has said cargo traffic to Russia went down 25.6% in June to 2.59 million tons, compared to last June's indicator. The May figure was 22.3% lower than last May. Russian Railways cite repairs on railroad lines as the reason for a halt in trade, although the more likely cause is the political fallout after the removal of a Soviet war memorial in Tallinn. Russia's state railways have allegedly ordered exporters to halve shipments of refined oil products, chemicals, metals and coal via Estonia. Major fuel oil exporters such as TNK-BP, Gazprom Neft and Kinef at Kirishi have been told to re-route half their volumes to other destinations. Trade sources warned that if supply disruptions last longer this time, exporters would be hurt by traffic backlogs and supply gluts inside Russia.

#### **Russian Polymer Imports from China (unit-kilo tons)**

Product	Jan-Jun 07	Jan-Jun 06	Jan-Jun 05
Polyethylene	2.629	1.783	0.603
Polypropylene	0.734	0.49	0.102
PVC	25.817	20.889	0.1
Polystyrene	22.148	2.98	3.677

Source: [www.cirec.net/report](http://www.cirec.net/report)

China has previously exported a small percentage of chemicals to Russia, in relation to volumes it imports from Russia, but exports are rising for a number of products. In the first half of 2007, Chinese exports of organic chemicals to Russia were almost double to the volumes seen in 2005, although they remain quite small in comparison to imports. Products such as maleic anhydride and pentaerythritol have seen rises in 2007. Rising demand for polymers in Russia is

providing the best opportunities for Chinese producers for plastics and plastics commodities, as illustrated by the table opposite. This trend may be temporary, however, in view of the new projects in all product areas which are scheduled to come on-stream in Russia over the next few years.

#### **Russian Polymer Exports to China (unit-kilo tons)**

Product	Jan-Jun 07	Jan-Jun 06	Jan-Jun 05
Polyethylene	23.453	29.504	35.825
Polypropylene	1.575	2.97	8.109
PVC	7.074	6.438	36.471
Polystyrene	-	0.04	0.289
Polyamide	15.829	7.685	9.603

Source: [www.cirec.net/report](http://www.cirec.net/report)

Imports into China from Russia are showing a reverse trend for the most part, with only polyamide increasing, due to the start of the Kuibyshevazot JV in Shanghai. Exports of organic chemicals from Russia to China remain stable and dominated by products such as butanols, caprolactam and bisphenol A. Butanols were restricted last year by anti-dumping duties, but Russian producers managed to persuade the Chinese authorities to reverse that policy. Bisphenol A is exported from Ufakhimprom in

Bashkortostan, with over 27,000 tons being shipped in the first half of 2007.

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### **Petrochemicals**

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#### **LUKoil-Neftekhim, Budyennovsk**

Adding to last month's report about LUKoil's plans for developing Caspian feedstock sources, LUKoil-Neftekhim is thought almost 90% certain that it will go ahead with the construction of a large-scale gas based petrochemical complex at the Stavrolen site at Budyennovsk. As more details slowly emerge from LUKoil-Neftekhim's plans, the construction project at Budyennovsk could involve polyolefin investments of 400,000 tpa of polyethylene and 200,000 tpa of polypropylene. The estimated cost of the project could reach between

\$2-2.5 billion, with feedstock sources being derived and delivered from the Caspian region. Prior to the end of 2007, the company will formulate a timed schedule for the investments.

Budyennovsk seems to be favoured over other possible locations for the new complex due to the existing infrastructure. Project construction is, however, not expected to start before 2009 and thus completion of the new complex is not expected much before 2013. These developments will dovetail the construction of a gas processing plant at Kalmikya in the Caspian region at a cost of \$3 billion.

The new complex could increase the polyolefin capacity of Stavrolen to a total of 320,000 tpa of polypropylene and 900,000 tpa of polyethylene. Thus, measured against current production levels Budyennovsk would become the largest site in Russia for the production of polyolefins. However, other projects scheduled to come onstream at Tobolsk, Kazan and Nizhnekamsk will surpass capacity levels at Budyennovsk prior to the completion of gas-chemical complex. Rather depending on exports of polyolefins from the new complex, LUKoil-Neftekhim might be best advised on developing an industrial zone in the Stavropol region to be capable of converting polymers into finished products.

### **Nizhnekamskneftekhim-first half of 2007**

In the first half of 2007 Nizhnekamskneftekhim increased turnover by 27% to reach 27.6 billion roubles, with profits before tax amounting to 3.064 billion roubles. The main growth was seen in strong export demand for isoprene and halogenated butyl rubber. In addition, propylene production increased 19% in order to meet the demands of the polypropylene plant. In the first half of 2007, the polypropylene plant produced 81,000 tons, which was valued at 2.7 billion roubles.

Captive consumption of styrene increased in the first half of 2007 for polystyrene production, which rose 17% over the same period in 2006. Two thirds of polystyrene sales are directed towards the Russian market, whilst at the same time high prices made exports viable. Ethylene production increased by 5% in the first half of the year whilst alpha olefin production was restarted with the subsequent sale to Nizhnekamsk plant of motor oils.

In 2006, the volume of export deliveries from Nizhnekamskneftekhim grew by 21% over 2005. Exports were helped by sales of isoprene monomer, and polypropylene, where production was started in October 2006. Nizhnekamskneftekhim has invested heavily in the introduction of a single stage process for the production of isoprene, which substantially reduced raw material and energy costs. In 2004, the company started the production of halogenated butyl rubber. The main advantage of the company in comparison with other Russian producers is the possibility of export in large volumes through Finnish terminals of Finland into West Europe, Asia and USA.

### **Nizhnekamsk NPZ renamed TANEKO**

The Nizhnekamsk NPZ refinery has been reorganized into an open joint-stock company and has changed its name into TANEKO. This change is part of attracting finance for the construction of the oil-processing and petrochemical plants complex at Nizhnekamsk.

TANEKO is currently undertaking construction of the refining and petrochemical facilities at Nizhnekamsk, including a polypropylene plant and an aromatics stream leading to PTA and PET production.

### **Nizhnekamsk NPZ-3, third refinery for Tatarstan**

The decision to construct a third refinery in Tatarstan (NPZ-3) has been taken to meet the demands of small oil companies, and will also be located in the vicinity of Nizhnekamsk. There are 32 small companies in Tatarstan working in the oil production sector, accounting for 5.9 million tons out of the total of 31.3 million tons for Tatarstan in 2006. In 2007, small oil companies are expected to account for around 6.2 million tons. The organisation Nefteconsortium was set up in 1997 to represent the interests of these small oil companies in Tatarstan.

At present, an evaluation of costs is taking place for the third refinery, with the aim of ensuring that the total expenditure on the project does not exceed \$5 billion. Technip has prepared the technical and economic substantiation of the investment effectiveness of the project of the building of the third refinery. Also under consideration is the prospect of a 1 million tpa cracker at Nizhnekamskneftekhim and some feedstocks for the new cracker could be made available from the NPZ-3.

### Nizhnekamskneftekhim strategy to 2012

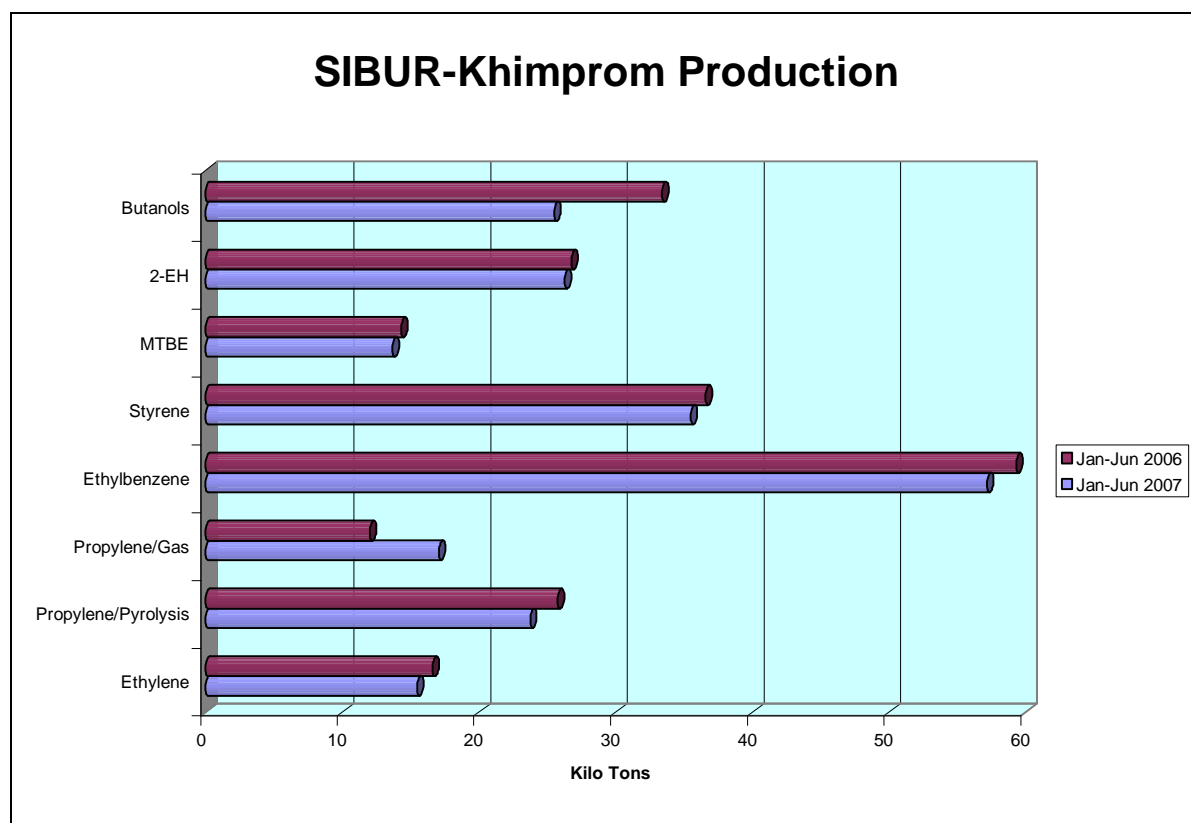
Recent statements by Nizhnekamskneftekhim provide further insight into the company's strategic thinking in the next few years, or up to 2012. Synthetic rubber capacity is expected to rise to 850-900,000 tpa, whilst polypropylene capacity is planned to increase up to 450,000 tpa. Moreover, in conjunction with Basell Nizhnekamskneftekhim plans to produce new grades of polyethylene. In other areas, evaluations are taking place of derivative products based on benzene and phenol.

The main financial and strategic goal of Nizhnekamskneftekhim is the expansion of ethylene capacity from 485,000 tpa in 2006 to an envisaged 1.6 million tpa in 2012. In the next couple of months, the company will complete its expansion of ethylene capacity from 485,000 tpa to 600,000 tpa at the existing cracker, and this could be followed by the construction of a 1 million tpa cracker as stated by Nizhnekamskneftekhim. The feedstock source remains the paramount question, hence the significance of the agreement with KazRosGaz over gas feedstocks.

Funds for investment projects will be financed from bank credit and the company's own resources. Credit of 115 billion roubles will be granted by Sberbank, Raiffeisenbank and City Bank. Turnover is constantly on the rise at Nizhnekamskneftekhim, with the first half of 2007 witnessing an increase of 4.4 billion roubles to 27.9 billion roubles.

### SIBUR-Holding, plant round-up

In the first half of 2007, SIBUR-Khimprom increased propylene production from propane-propylene fractions by 42% over 2007, and total propylene production exceeded 40,000 tons. This allowed the company to sell more propylene on the open market, besides meeting its own feedstock requirements for oxo alcohols production.



SIBUR's investment committee has confirmed plans for the construction of a railroad shop at Tomskneftekhim. This will make it possible to increase the capacity of the railroad complex of enterprise by more than one and a half fold to 9300 railroad cars per month. It will also help to reduce the probability of emergencies occurring and to increase the reliability of the rolling stock. The project is expected to be completed at the end of 2009.

In the first half of 2007 Tomskneftekhim produced 120,027 tons of ethylene and 63,602 tons of propylene. The complex produced 278,942 tons of packaging materials, an increase of 155,277 tons over 2006. Stage



by stage expansion of the polyethylene plant is still in progress, with capacity rising to 200,000 tpa by the end of 2007.

In the first half of 2007, Tobolsk-Neftekhim processed 1.205 million tons of dry gases and wide fractions of light hydrocarbons, which was 46,110 tons higher than in 2006. Butadiene production increased by 2,400 tons in the first half of the year, whilst isobutylene increased by 17,878 tons and MTBE 11,000 tons. Gas fractionation capacity should reach 2.65 million tpa by the end of the year.

Tobolsk-Neftekhim undertook a maintenance shutdown in June, during which an overhaul was made of the conduit equipment and the catalyst in the first reactor for butadiene production was reloaded. Around 50 million roubles was invested in the planned outage.

SIBUR-Neftekhim's Kstovo complex and the ethylene oxide/glycol facilities restarted production in mid-July after a planned shutdown. The start of production after the shutdown was shorter than previous outages, which is part of company policy to maintain high utilisation rates. In 2003, the Kstovo and ethylene oxide/glycol plants at Dzerzhinsk were transferred to a two-year cycle of maintenance shutdowns.

#### **Uralorgsintez-expansion plans**

The Federal Service for the financial markets (FFMS) has registered the additional issue of Uralorgsintez at Chaikovskiy in the Perm region. The company approved the decision to launch the additional issue worth 315 million roubles compared to the current stock capital of 224 million roubles. At present, the share of SIBUR Holding in the company is 88.21%. Uralorgsintez plans to increase MTBE capacity to 110,000 tpa, benzene to 40,000, isobutylene to 95,000 and methanol to 4,500 tpa. Processing of wide fractions of light hydrocarbons totalled 750,000 tpa.

Uralorgsintez was created in 1998 on the basis of the Chaikovsky Synthetic Rubber plant. In 1999, Uralorgsintez joined the AK SIBUR group, now referred to as SIBUR-Holding. As a result of joining SIBUR, Uralorgsintez increased output by roughly two fold in 2000 against 1999, whilst at the same time preparations were started for isobutylene production. MTBE production restarted at the end of 1999 after reconstruction, and also introduction of new catalysts. The capacity of the MTBE plant was increased in 2001 from 100,000 tpa to 120,000 tpa. Isobutylene production started in 2000 using technology supplied by the Japanese company Yagokawa. This created the full chain of processing isobutane-isobutylene into MTBE.

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### **Polymers**

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#### **Polyethylene demand 2007, Russia**

In the first five months of 2007 polyethylene consumption in Russia rose by an estimated 23% over 2006, based on the formula of production plus imports minus exports. By volume, consumption amounted to 593,650 tons which cannot be met solely from domestic production. The highest rate of growth is seen in the film sector, and thus HDPE consumption reached 309,780 tons (up 27%) against 254,650 tons (up 17%) for LDPE. Production of polyethylene totalled 1.074 million tons in 2006. Exports for the year increased by 19% to 188,500 tons, whilst imports grew by 31% to 283,700 tons. Total polyethylene consumption is expected to exceed 1.7 million tons by 2010, or about 500,000 tons higher than in 2006.

Logistics' costs for the producers inside the country are expected to more than double when Russia eventually enters the WTO. This may make some of the remote polyethylene projects less efficient and less attractive. More than 65% of overall consumption of polyethylene takes place in the Central and North West regions in Russia, of which about 40% is concentrated in the Moscow region. The closest production sites to these regions, which are Kstovo, Kazan, Nizhnekamsk and Budyennovsk, share advantages over their competitors.

#### **Kazanorgsintez, bimodal polyethylene**

Kazanorgsintez has become the first Russian company to produce bimodal polyethylene. The possibility to produce bimodal polyethylene appeared with the completion of the reconstruction and expansion of the HDPE plant.

#### **SIBUR-Holding, SolVin**

Solvay and SolVin concluded the joint venture agreement last month with SIBUR-Holding, which sets in motion plans to build the new PVC complex at Kstovo. The new venture RusVinyl will help to strengthen

Solvay's presence on the Russian market, whilst allowing SIBUR-Holding to utilise state of the art technology and to gain Western know-how.

The complex will require a total investment of \$650 million to establish a total capacity of 330,000 tpa of PVC and 225,000 tpa of caustic soda. A possible later expansion could bring the plant's total capacity to 510,000 tpa of PVC and 335,000 tpa of caustic soda. SolVin has entered into talks with the EBRD to seek involvement in the project.

In the first phase of operations, it is possible that RusVinyl will export a small share of the production from the new PVC plant, although Russia is expected to account for up to 90% of sales.

The main feedstock question is over ethylene, but plans are in place to expand capacity of the Kstovo cracker over the next few years to 430,000 tpa by 2010. This will allow SIBUR-Holding to meet the demands from the PVC plant, and also to maintain production at the existing ethylene oxide and glycol facilities.

#### **Korund-PVC extrusion lines**

Korund at Dzerzhinsk started two extrusion lines for the production of PVC pipes, based on equipment provided by Krauss Maffei. The two lines will produce large diameter pipes, one of which will produce pipes by triple foam extrusion that reduces PVC resin feedstock consumption. The equipment costs over €3 million, with total project costs of €6 million. The capacity is expected to be 15,000 tpa of pipes. Korund plans to dispatch to users to 1,000 tons of pipes per month before the end of the year.

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### **Aromatics**

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#### **Samaraorgsintez-restart phenol production**

Samaraorgsintez started the process of restarting production of phenol and acetone after 15 July, which had previously been halted at the end of March. Samaraorgsintez is located on the same area as Neftekhimya at Novokuibyshevsk, where the entire infrastructure (railway lines, railroad cars, water supply, and electro-generation) belongs to Neftekhimya. In March this year, Neftekhimya refused to allow Samaraorgsintez to use railway lines, the supply of water and electric power, which meant that Samaraorgsintez was forced to stop production. Due to the downtime since March, Samaraorgsintez estimates to have lost more than 100 million roubles whilst the main customer for phenol Kuibyshevazot has tried searching for other sources of material.

Samaraorgsintez has already signed an agreement with Neftekhimya for the lease of 500 railroad cars for a price of 117,000 roubles per month. However, Neftekhimya doubts it will be able to provide the necessary amount of railcars, as it needs them itself. Thus, Samaraorgsintez may be prevented from producing more than 38,000 tpa of phenol due to transport limitations. At maximum, the plant is capable of producing up to 5,200 tons per month.

#### **Ethylbenzene Producers in Russia 2007**

<b>Producer</b>	<b>Capacity (ktpa)</b>
Nizhnekamskneftekhim, Nizhnekamsk	344
Angarsk Polymer Plant, Angarsk	48
SIBUR-Khimprom, Perm	100
Salavatnefteorgsintez, Salavat	200
<b>Total</b>	<b>692</b>

Source: [www.cirec.net/report](http://www.cirec.net/report)

#### **SIBUR-Khimprom, new ethylbenzene plant**

SIBUR-Khimprom has signed a contract with Badger Licensing LLC for the purchase of a license and basic engineering of a new ethylbenzene plant. The capacity of the new plant will be 220,000 tpa, with a total investment cost of around 2 billion roubles. The basic engineering project is planned to be finished in IQ

2008. The investment into a new plant is due to the expansion of styrene production and increased ethylbenzene requirements. In addition, the existing technology used by SIBUR-Khimprom is now almost obsolete and needs replacing.

Badger was selected as licensor due to the environmental attributes of the technology, and production safety. The catalysts used in the production process are immune to corrosion, and do not require the special precautionary measures with operations.

#### **Kuibyshevazot-benzene import duties**

Kuibyshevazot has put forward a proposal to the interdepartmental commission for the cancellation of the import customs duty on benzene. At present, the duty stands at 5%, but benzene imports have been rising

due to domestic shortages. Imports are running at around 30-35,000 tpa, and for consumers such as Kuibyshevazot having to pay an additional 5% erodes profitability. The matter is being examined at government level.

The IFC has purchased a stake in KuibyshevAzot for \$15 million, although this is not considered sufficient to meet the investment demands of the proposed new benzene plant.

### **Kazanorgsintez-bisphenol-A**

Kazanorgsintez has completed the first stage in the start-up and installation of the bisphenol-A plant in the latter end of July. Permission for transporting fuel gas to the plant has been obtained. The second stage of the start-up, including the first production, is scheduled to take place in September this year.

### **Polief-PTA**

SIBUR-Holding met with the government of Bashkortostan in July to discuss the increase in PTA capacity at Polief, from 230,000 tpa to 600,000 tpa. PTA exports from Polief to China totalled 22,724 tons in the first half of 2007, down from 30,743 tons in the first half of 2006. Production was higher this year than in 2006, although increased demand in the Russian market is helping to reduce export availability.

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## **Methanol**

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### **Metafrax increases methanol production**

Metafrax increased turnover by 30% in the first half of 2007, totalling 3.862 billion roubles of which exports accounted for 46%. In the first six months of 2007, Metafrax produced 506,000 tons of methanol following an increase in capacity in 2006 undertaken by Methanol Casale. The company also produced 130,000 tons of 37% formaldehyde and 98,500 tons of urea-formaldehyde. Other products included pentaerythritol and polyamide, where Metafrax produced 10,000 tons and 560 tons respectively.

### **New methanol project Leningrad region**

A new range of investments are planned for the port region at Visotsk in the Gulf of Finland, which include a plant for 440,000 tpa of methanol. Visotsk is the most north westerly part of the Leningrad Oblast, very close to the Finnish border.

Project details to date include costs of around \$210 million in a four year timeframe, in which besides the methanol plant a small refinery will be constructed with a capacity of 1 million tpa. Leasingstroygaz has been granted permission by the local authorities to proceed with the investment plans. The methanol plant will be based on gas condensate, to be delivered by railroad. Leasingstroygaz is part of Severneftegazdobycha, which was created in 2002 for prospecting the petroleum deposits in the Stavropol territory and Tyumen.

### **Shchekinoazot-Topsoe methanol contract**

Topsoe has recently concluded a contract with Shchekinoazot for the supply of its methanol technology for a new 450,000 tpa methanol plant. The methanol plant will be based on Topsoe's two-step reforming process, methanol synthesis and methanol distillation. The scope of Topsoe's supply comprises license, basic engineering, proprietary equipment and catalysts. The contract will enable Shchekinoazot to build a modern, competitive plant and to become the technology leader on the Russian methanol market.

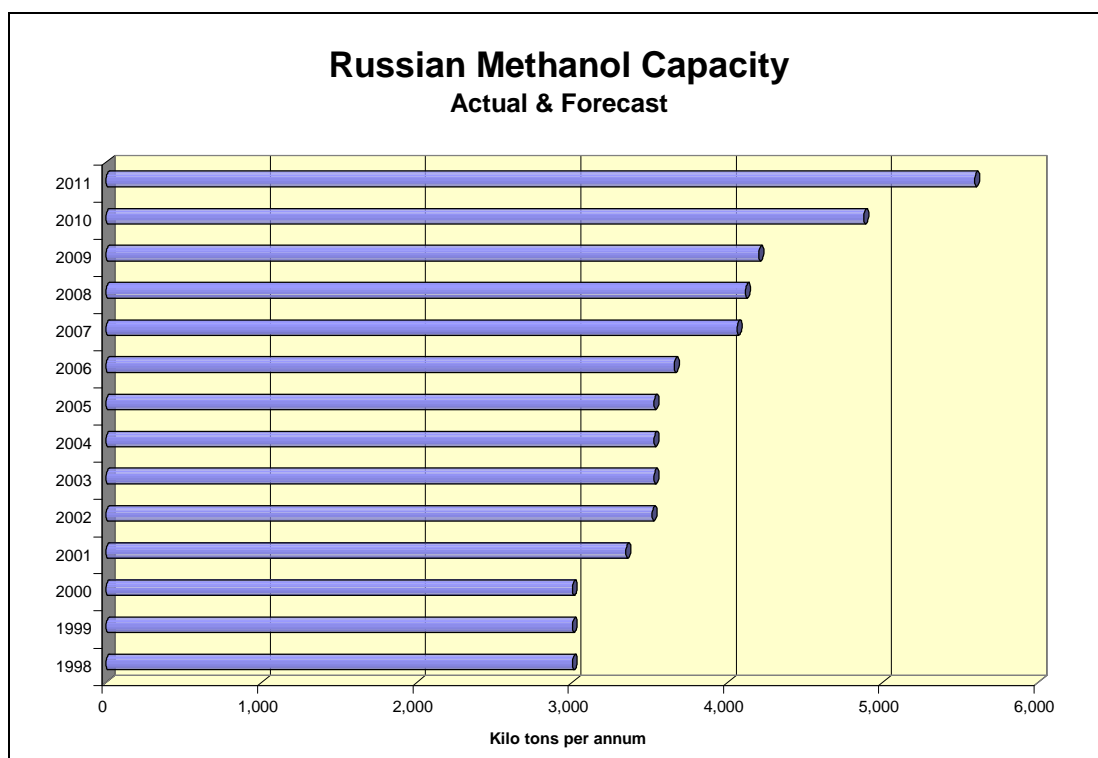
The new methanol plant is scheduled for start-up by the end of 2009. After the start-up and closure of part of the existing unit, Shchekinoazot's capacity will total 600,000 tpa.

Energy consumption in the new methanol unit will be reduced by around 40% over current levels, whilst production of methanol will see gas consumption reduced by 200 cubic metres per ton.

### **Shchekinoazot, Jan-Jun 2007**

Methanol production for Shchekinoazot dropped slightly by around 2,000 tons in the first half of 2007 (see [www.cirec.net/report](http://www.cirec.net/report)), although exports increased 5.3% against 2006. Caprolactam production increased 2.2% in the first half of 2007, whilst the 100% fibre subsidiary of Shchekinoazot, Khimvolokhno at Shchekino, increased polyamide-6 production by 15%. The maximum load of polyamide production is currently 77 tons per day, but this will be increased to 16 tons per day before the end of the year.

Sales of polyamide on the Russian market in June 2007 comprised 56.5% of production, which is the highest amount recorded by Khimvolokhno since starting polyamide in May 2004. Exports to tyre producers have to date represented the main area of sales activity, but since 2006 the Russian market has started to provide market opportunities. Khimvolokhno is also preparing to start the production of high-strength threads, ranging from 15 to 210 Tex and having a capacity of 10,000 tpa.



#### **Mendelevsk methanol & ammonia project**

The Russian state bank for development (Vneshekonombank) plans to participate with financial support in the methanol and ammonia complex under construction in Tatarstan. The project is estimated to require around \$800 million with Vneshekonombank acting as a financial backer. Equipment is to be supplied by Mitsubishi Heavy Industries for the production of ammonia, methanol and urea. The complex will be located at the town of Mendelevsk, and total capacity of all three products will be 1.43 million tpa

#### **Evrokhim-H1 2007**

Azot at Nevinnomyssk achieved an increased of 27.7% for the first half of the year, achieving 7.2 billion roubles in turnover. Fertiliser production increased 9% to 447,600 tons. Ammonia rose 7.9% to 558,800 tons, whilst urea totalled 292,900 tons or 10.5% up on 2006. In the organic division, methanol rose 1%, whilst acetaldehyde rose 1.5% to 20,000 tons. Acetic acid production fell by 4% over the first half of 2006 due to a planned maintenance shutdown.

Azot at Novomoskovsk increased fertiliser production by 6% in the first half of 2007, totalling 407,160 tons. Ammonia increased 1.4% to 784,560 tons, with urea increasing 2.6% to 412,860 tons. Methanol production dropped by around 30,000 tons in the first half of the year, thought possibly to be due to the closure of the old M-100 and M-150 plants, but this is yet to be confirmed. Other indicators included a 4% in the production of argon to 5,300 tons and a 27.4% increase for calcium chloride to 2,840 tons.

#### **Karbodin-formaldehyde unit**

Karbodin, the jv between Metafrax and Dynea, has concluded a contract with Perstorp Formox for a new formaldehyde unit. The contract is worth €14 million and includes a production unit with a capacity of 100,000 tpa. The project is to be sited at the Karbolit complex at Orekhovo-Zuyevo in the Moscow region, a company which was bought by Metafrax in June 2007. Construction should start in October 2007 and the project is expected to be completed by the end of 2008, with a payback period of around 6-7 years. Product will be used for the production of urea-formaldehyde resins under Karbodin. At the same site a 35,000 tpa industrial resin plant under the Karbodin jv will be completed in September this year.

Karbodin was registered on 5 December 2005, with the aim of producing thermal insulation materials, urea-formaldehyde, including modified, resins for the production of wood plate materials, and resin varnishes. Synthetic resins are produced using Dynea technology. Metafrax has already started a 270,000 unit for the production of formaldehyde at Gubakha.

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### Intermediates

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#### **Rohm & Haas-Moscow**

Rohm and Haas has announced plans for the construction of a new plant in the Moscow area for the production of polymer emulsions. The new production unit has outstanding access to the local and imported raw material, and the necessary utility networks, and it will be located in immediate proximity to customers. The building of the plant will begin in first half of 2008 with the planned commissioning at the beginning of 2009. New production has the initial power of 50,000 tpa with further potential increase to 70,000 tpa for the purpose of the satisfaction of the rapidly growing market demand for the polymeric emulsions.

The plant is the company's largest investment in Russia to date and will be wholly-owned by Rohm and Haas. It will create employment in the area for chemical engineers, operators and administrative personnel. Establishing a dedicated manufacturing unit in Russia will enable Rohm and Haas to supply technically advanced products to the local domestic Russian market, and to the neighbouring CIS markets.

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### Belarus

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#### **Belarussian production Jan-Jun 2007**

In the first half of 2007, Belarus produced 3.165 million tons of fertilisers which was 32.8% higher than 2006. Potassium fertiliser output increased 39.3% to 2.679 million tons. In the petrochemical sector, Belarus produced 256,300 tons of synthetic resins and plastics, which was 2.9% up on the same period last year. Chemical fibres and threads saw output increase 9.8% to 111,800 tons, with paint materials increasing 35.7% to 29,800 tons.

#### **Mogilevkhimvolokhno-Belpak**

Mogilevkhimvolokno has approved the acquisition of Belpak, which will mean that the PET plant will be integrated into the working structure of Mogilevkhimvolokno. The joint venture Belpak legally ceased on 1 June 2007, after Itera decided to exit the company on discovering that the Belarussian government was seeking a majority stake. Belpak was formed in 1991 as a 50/50 jv between Itera and Mogilevkhimvolokno, and is based on the Mogilevkhimvolokno site. According to the company, the acquisition of Belpak will help internal integration and sales policy. Belpak has been the longest producing PET plant in the CIS, although it is now starting to face competition from new producers in Russia.

#### **Grodno Azot-biofuels**

Grodno Azot plans to introduce a new unit in 2007 for the production of biofuels, based on oils and methanol. Construction is currently in the first phases for a plant with a capacity of 2,000 tpa. MTBE will be the resultant product. The cost of the project is about \$1.5 million.

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### Ukraine

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#### **Karpatneftekhim-PVC**

Karpatneftekhim has received approval from the local Kalush region to go ahead with the construction of the PVC plant. The proposed 300,000 tpa plant required permission from the regional authorities before moving into the construction stages. In the next six months, Karpatneftekhim needs to develop the basis for the plant which would then receive further inspection. The project is an important part of integration at Kalush, and the need to sale

#### **Chernigov Khimvolokhno**

Chernigov Khimvolokhno expects to complete the construction of new capacities for the production of polyamide-6 by the end of 2008. The capacity of the new plant will be 56,000 tpa, of which 28,000 tpa will be processed into technical threads, 17,500 tons into engineering plastics, and 10,500 tons into films. At present, the company is close to completing the installation of a solid-phase polycondensation PA-66 unit which should be operational by the end of 2007. The capacity of the new unit will be 14,000 tpa, which will be directed to



the production of technical threads and partially into the films. The company plans to invest around €50 million by 2010, of which €30 million will be invested in the next two years.

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**Transcaucasus**

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**Azerkhimya**

Azerkhimya is considering plans for a new petrochemical complex at Sumgait, which would help to convert Azerbaijan into the most important producer of petrochemical production in the region. A feasibility study will be undertaken to determine the cost-effectiveness of the new complex and which products should receive attention.

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**Central Asia**

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**Turkmenistan-polypropylene films**

Turkmenistan has agreed with the French company DMT to construct a polypropylene film plant at Turkmenbashi. The contract is worth €39.682 million, with construction starting in September 2007 and completion scheduled for September 2009. Polypropylene will be supplied from the Turkmenbashi refinery, which is currently exported.

**Uzbek-Korean project plans**

Uzbekneftegaz and the Korean gas corporation Kogas are currently working on the concept of a petrochemical complex, based on the Surgil deposit near Fergana, for the production of polyethylene and polypropylene. Around \$50 million has been allocated for the geological survey. The general aim is for Uzbekneftegaz and Korean gas corporation KOGAS to build a gas-chemical complex in Uzbekistan, at a cost of approximately \$1.5 billion in addition to beginning the joint development of gas field. This will add to the existing Shurtan petrochemical complex, which increased polyethylene production by to over 100,000 tons in the first five months of 2007.

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**Kazakhstan**

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**Petkim-TransCentralAsia Petrochemical Holding**

Financial consortium TransCentralAsia Petrochemical Holding, based in Kazakhstan, has won the auction for 51% of Petkim with a bid of \$2.05 billion. TransCentralAsia Petrochemical Holding is a consortium of Troika Capital Partners in Moscow and the Kazakh groups Eurasia and JSK Caspi Neft. It is not certain that the deal will be concluded, as it is subject to approval by the Turkish Supreme Council on Privatisation, headed by the country's prime minister. Russian investors are rarely allowed to buy Turkish assets, but the Russian-Kazakh consortium is proposing a broad modernisation programme for the complex.

**Pavlodar new chlorine plant**

New projects are under review for construction in chlorine, caustic soda and PVC at Pavlodar in north east Kazakhstan. The investment period is 2007-2009, with project costs estimated at \$108 million. With the launch of the new plant, 420 new work places will be opened. The new plant will help to revive the chemical industry of region, and at the same time produce products which are currently imported into Kazakhstan. The aim is to increase the chlorine plant capacity gradually to 100,000 tpa based on local salt deposits, and to develop PVC.

The Pavlodar Chemical Plant is located on the banks of the Irtysh River, and produces a wide range of PVC resins and compounds. It currently imports base raw materials, but previously produced chlorine and caustic soda. Production was stopped in the 1990s due to environmental concerns.

Relevant Currencies

(Czech crown, Kc, \$1= 20.461, €1 = 27.974)  
(Hungarian Forint, Ft, \$1 = 185.20, €1 = 250.77)  
(Polish zloty, zl, \$1 =2.7876, €1 =3.8112)  
(Ukrainian hryvnia, \$1 = 5.0065, €1 = 6.726)  
(Rus rouble, \$1 = 25.578, €1= 34.807)

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