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

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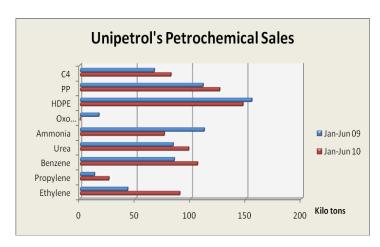
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# **CENTRAL & SOUTH EAST EUROPE**

#### **Petrochemicals**



## Unipetrol, increases olefin sales in Q2

Unipetrol recorded an increase in petrochemical sales in the second quarter, with ethylene sales rising 31% against the first quarter. Unipetrol expects to report a second-quarter operating profit that was better than in the first quarter, due mostly to increased demand and currency factors. The company has said that margins in refining slightly dropped quarter-on-quarter, but conversely petrochemical margins strengthened further.

In the first quarter, Unipetrol ended a string of five straight quarterly net losses with a Kc 517 million (\$27.08 million) operating profit.

Unipetrol confirmed in May that demand for refining and petrochemical products was rising slowly after sinking in 2009 during the economic downturn in central Europe. Crude oil processing rose 14% quarter-on-quarter in the April-June period. Sales volumes of refinery products rose 31% on the quarter, while petrochemical sales volumes increased 4% in the second quarter from the first quarter.

The main factors that influenced the quarter-on-quarter performance of the petrochemical division in the second quarter 2010 were higher olefin and polyolefin margins, which rose by 14% and 9% respectively. This was due mainly due to better propylene and polypropylene spreads, and very good sales volumes in olefins and benzene, which were helped by regular maintenance shutdowns and outages of several plants in Europe.

### **Unipetrol-energy savings**

Unipetrol is now capable of achieving energy savings of around €2 million per annum, following the installation of an advanced process control (APC) system on the steam cracker at Litvinov. The technology has also delivered a return on its investment in the system within six months, accordingly. In addition to achieving better control of the process, Unipetrol is now using the APC to compare actual data from its plant to targets created using a model. This operates on a daily basis and allows the company to pinpoint how the plant is performing, and to adjust the set points so that they can run the facility closer to constraints. The APC system also supports changes in business strategy or shifts in business focus at Unipetrol.

Unipetrol states that the APC system has enabled the company to make the whole plant more energy efficient. It ensures that operators have enhanced control over the operation of the furnaces, by freeing up their time to focus on other key strategic tasks within the plant.

## Petrohemija-NIS long term feedstock agreement

Petrohemija and NIS have signed an agreement on a long-term strategic cooperation, under which NIS will supply Petrohemija naphtha for the next ten years. Starting from 1 August 2010, this will involve around 12,000 tons per month initially until commissioning of the plant for hydrocracking and hydrotreatment at the Pancevo refinery. After this start-up in 2012, naphtha supplies are expected to rise to 25,000-40,000 tons per month. The agreement is important for Petrohemija as it will allow the company not only to become more profitable but also to start considering investment activities.

In the first six months of this year Petrohemija exported products valued at €102 million, accounting for 75-80% of the company's total revenues. Petrohemija accounted for more than 3% of Serbia's exports in 2009. At the start of July, Petrohemija owed NIS about €86 million, but it was agreed that the payment of those debts would be significantly relaxed. NIS acquired 24.99% of Petrohemija in September last year in exchange for debts.

By the end of 2010, the Serbian government plans to formulate an investment programme for Petrohemija, involving expansions of existing facilities and construction of new units. In the short term, aims are to seek co-

operation with SOCAR after recent contacts with Petrohemija. Petrohemija is seeking raw materials from SOCAR to supplement deliveries from NIS. For Petrohemija, the domestic supply of naphtha will be helped in 2012 after the anticipated completion of the hydrocracking plant at the Pancevo refinery.

## Oltchim delays start-up of Arpechim to August

Petrochemical facilities at Arpechim will now be restarted in late August, with the overhaul costing €15 million. In early August, Oltchim will start tests and expect to start production by the end of the month. Start-up has been delayed as there were many parts for the compressors and materials required outside of Germany and delivery has taken much longer than expected. Restarting the plant will provide raw materials needed for Oltchim, including ethylene, propylene, aromatic hydrocarbons, and ethylene oxide.

## Polymers & chemicals

#### Spolchemie-restructuring programme & jv with DIC

Spolchemie established a jv with Sun Chemical in July, a subsidiary of specialty chemical group DIC Japan, for the production of alkyd and varnish resins. Under the agreement, around 8,000 tpa of production of these products will move from DIC Performance Resins in Vienna to Spolchemie's Usti nad Labem site during the third quarter of 2010. The DIC plant will close with the loss of 200 jobs. The first batches of DIC product will be produced in Usti nad Labem in July 2010 and all relevant business will be taken over by Spolchemie, which will market the products directly.

Spolchemie and DPR Vienna will be contacting customers and other stakeholders in the near future to begin the process of transferring business to Spolchemie. Spolchemie is pleased with this development, as the DIC business complements the existing epoxy, alkyd and rosin resins businesses and there is no overlap with our current business. The DPR business gives Spolchemie access to new markets in printing inks and industrial coatings. This contractual jv builds on EPISPOL, which is the existing jv for the two companies on epoxy resin production.

Plans are under review to split Spolchemie into several independent operating units with the aim or attracting financial partners, or forcing closure of uneconomic divisions. If the plan is approved, the epoxy resins, epichlorohydrin and BPA units will form the core unit. Other divisions include inorganics where the focus is on chlorine production and modernisation, and potassium permanganate although this latter product could be closed.

#### Zachem-epichlorohydrin project

Zachem, part of the Ciech Chemical Group, has signed a contract with Prochem to undertake a project for the production of epichlorohydrin from glycerine at in Bydgoszcz to replace the existing plant. The total expemditure on this project is expected to amount to zl 55 million, of which zl 27.65 million will come from EU funding under the Operational Programme Innovative Economy 2007-2013. The task of the main contractor will, inter alia, involve compiling supplies for the installation of the plant, select individual contractors and monitor the entire process of building the plant.

Epichlorochydryna produced by Zachem is one of the basic raw materials for epoxy resins produced by the another Ciech subsidiary Organika-Sarzyna. Investment at Zachem represents a significant enhancement in the epoxy chain for Ciech and Sarzyna, particularly as it means that synergies are being created in the group. The project is now ready for Zachem's environmental impact report, whilst technical design and planning permission is expected in August. The expected effect of investments do not only provide tangible economic benefits, including the integration of chemical processes in Zachem, but also signifies a positive impact on the environment. The new technology will generate less pollution and waste management in the form of waste glycerol. Completion of the investment is scheduled for 31 December 2011.

## Serbia announces rubber project

The Serbian government has announced a €1.5 million investment plan for the FSK Elmira synthetic rubber plant. The investment plan will help FSK improve its energy efficiency and will help increase export revenues from around €30 million a year at present to around €50 million. The plan will be finalised in cooperation with HIP Petrohemija.

The Serbian government is under the view that the chemical industry requires support to increase export activity. FSK Elmira currently produces 22,000 tpa of synthetic rubber, which could be increased to reach 35,000 tpa.

Over 80% of production from the plant is exported, and the company is part of Petrohemija at Pancevo from where it sources its raw materials. The support granted by the government last year to Petrohemija has enabled FSK Elmira to continue operating.

#### BorsodChem's TDI production stopped

After BorsodChem was forced to declare force majeure on MDI in June, the company stopped TDI production on 12 July due to serious technical problems, which has led to an environmental investigation. Hungary's National Catastrophe Protection Directorate (OKF) undertook and completed a review of a forced shutdown at the TDI plant. The OKF established that no staff were injured and the small volume of chemicals released posed no threat to the local population or the surrounding environment. The OKF noted, however, that BorsodChem had not immediately informed it of the shutdown as required.

#### Wanhua plans 100% takeover of BorsodChem

Wanhua plans to raise its stake in BorsodChem to 100% from the present 38% soon, and to make BorsodChem responsible for the operations of the Wanhua group in Europe, the Middle East and Africa. Wanhua has recently acquired a stake of 38% in BorsodChem as well as an option to purchase the remaining shares from the current majority shareholders, Permira/Vienna Capital Partners. Wanhua plans to sell BorsodChem's isocyanate products to its European clients and will help BorsodChem's TDI sales on Asian markets.

Wanhua plans to share its technological know-how with BorsodChem, as well as its experience gained in the isocyanate sector and MDI production in particular over the past twenty years as well as its advanced gas-phase TDI technology. The Chinese company plans to cooperate closely with BorsodChem's current management and employees in a bid to further improve the Hungarian company's profitability.

Leading Polish Chemical Companies-Turnover 2009		
Company	Revenues zl million	Revenues USD million
PKN Orlen*	13,056	4,193.4
ZA Pulawy	2,091	671.7
Anwil	1,870	600.7
ZCh Police	1,486	477.3
ZAK	1,443	463.6
ZA Tarnow	1,138	365.6
Zachem	900	289.1
PCC Rokita	736	236.2
Petrochemia- Blachownia	142	45.5
PCC Synteza	123	39.4
* only petrochemicals included		
Source: Polish Chambe	er of Chemical Industry	

#### Polish chemical industry challenges

The impact of EU regulations is claimed to be affecting the competitive position of the Polish chemical industry. Excise duties on energy products and electricity are affecting the profitability of some products. At present, taxation on electricity consumed in Polish chemical industry is among the highest in the EU whilst the government does not provide relief. Moreover, companies from the heavy chemical sector are suffering the effects of this taxation without any government sup[port are losing competitiveness.

The cost of electricity generation in Poland in 2009 was 27% higher than in Germany. After taking into account the difference in the taxation of electricity, transmission costs and costs resulting from the promotion of renewable

energy, the Polish industrial customer is paying over 20% more than the average EU country. Contract prices of electricity in the period 2010-2012 are not expected to change, but the chemcal industry is lobbying the government for new polices that would help to reduce costs and help to restore profitability.

As a result of these cost concerns, it comes of no surprise that here was a further deterioration in the financial performance in the Polish chemical industry in 2009. The net financial result of the chemical industry amounted to zl 1,342.9 million, 24.4% less than in the previous year. Only producers of rubber and plastic products showed a strong increase, rising from zl 877.9 million in 2008 to zl 2,081.4 million in 2009. There was 11.9% increase in net profit in the chemical industry in 2009 but that comes after very poor second half of 2008. The government is under pressure to apply the right policies on fuel electricity, to help the chemical industry, and to develop a more innovative approach towards its privatisation.

### ZA Tarnow undertakes due diligence on ZAK

ZA Tarnow has decided to conduct a cost effectiveness analysis of ZAK's business, in connection with the planned issuance of 30 million shares of series B. If it proceeds with the purchase it would in effect give ZA Tarnow 52.6% of shares in ZAK, thus giving it control. A number of potential synergies exist in bringing the

two companies together, one of which involves ZA Tarnow utilising ammonia produced by ZAK. A decision to go ahead will be made by September.

## ZA Tarnow-caprolactam outage

ZA Tarnow suffered a failure at the caprolactam plant on 17 July, which resulted in a temporary disruption to production line. Production was disabled until 25 July, when the plant restarted at 70% of capacity. The cause of the failure was attributed to a damaged sulphur combustion chamber at the hydroxylamine sulphate plant. Full capacity utilisation is expected to take place in the first part of August. Polish caprolactam production totalled 82,000 tons in the first half of 2010, against 70,300 tons in the same period last year. ZA Tarnow's caprolactam plant has a capacity of 97,600 tpa, with the ZA Pulawy operating as the other producer in Poland.

## ZAK-support for zero emission chemical complex

ZAK and PKE's coal gasification project, aimed at developing a chemical complex based on zero emissions, has come under review by the Polish parliament. This represents **another** step to build political support for the

Polish Chemical	Production (uni	t-kilo tons)
Product	Jan-Jun 10	Jan-Jun 09
Caustic Soda Liquid	141.4	143.6
Caustic Soda Solid	32.2	35.5
Soda Ash	471.5	447.8
Ethylene	239.3	233.7
Propylene	152.6	167.8
Butadiene	27.9	22.3
Toluene	41.9	42.5
Phenol	14.4	16.4
Caprolactam	82.0	70.3
Polyethylene	164.6	155.9
Polystyrene	68.8	60.3
PVC	105.7	119.5
Polypropylene	106.5	126.4
Synthetic Rubber	79.0	64.3
Pesticides	12.8	14.7

concept. ZAK needs approximately zl 20-40 million for the preparation of design documentation, and about zl 5 billion for construction of the zero emission energy-chemical complex.

ZAK and PKE are not able to independently finance such a large investment, and thus they are hoping to secure a large share of the funds from external sources. ZAK and PKE have been in negotiations with the European Investment Bank for over a year. The priority for the EIB is to finance these projects, which are consistent with the policies of the European Commission. The investment will be possible if the EU grants €700 billion towards the project, and a decision may be expected later this year.

## ZAK to start new nitric acid facility in October

In late July ZAK received one of the key parts of the new installation for the production of nitric acid. Weighing 80 tons, the freight operation and the installation of the boiler is one of the last and most difficult stages in finalising the

entire investment. The boiler is used for combustion of ammonia in order to obtain nitreous gas, the raw material for the production of nitric acid. The new plant is expected to be completed and ready for start-up by October.

The decision to build the new plant was taken due to the need to meet stringent EU regulations, including the BAT requirements (Best Available Technology). The new facility will be much more efficient than the existing plant, it will use less resources and will be more environmentally friendly. It will also reduce emissions of CO2, NOx and particulate emissions. An additional advantage is also reduced energy consumption of the whole process. For the investment, ZAK SA received a grant zl 20 million pooling of from the Operational Programme Infrastructure and Environment 2007-2013. The main contractor for the nitric acid plant is the Czech company Chemoprojekt.

#### Petrochemia Blachownia-completed sulphuric acid plant

Petrochemia-Blachownia has completed the construction of its sulphuric acid recovery plant at Kedzierzyn-Kozle, at a cost of zl 47 million. Haldor Topsoe provided the licence for the new plant. The main objective of this project is to improve the process economics for benzene coke processing, by closing the loop of sulphuric acid. This effect will be achieved through the recovery of sulphuric acid by-products processing process benzene, containing significant amounts of sulphur compounds. The resulting new installation of concentrated sulphuric acid will be used in the acid refining process. The advantage of the sulphuric acid recovery plant will be a visible ecological effect and a significant reduction in emissions of sulphur dioxide, carbon monoxide and PM10.

## ZA Pulawy and ZCh Police up for privatisation

The Treasury Ministry started the privatisation process for ZA Pulawy and ZCh Police on 23 July and has already received a number of offers. The Ministry has invited bidders to place initial offers for between 10-

50.67% in ZA Pulawy and 10-59.41% ZCh Police. Accordingly, ZA Pulawy has received four offers to date and Police two offers.

## Central European plastics news

DSM Engineering Plastics and RESINEX have entered into a distribution agreement, to join forces in the market development and sales of DSM Engineering Plastics resins in Romania, Bulgaria, Slovenia, Croatia, Serbia and Bosnia. The move, which is effective from 1 July 2010, is designed to strengthen the position of DSM Engineering Plastics in East Europe.

Pipelife opened a new pipe facility at Botevgrad, near Sofia, in May with an initial capacity of 12,000 tpa. The plant is to produce pipes for water supply and sewerage systems, water transport, gas and electricity systems. The total investment has amounted to €32.4 million.

Ergis-Eurofilms has submitted orders to ExxonMobil Chemical for raw materials in 2010 worth zl 16.9 million. The main raw material purchased is LLDPE. The Ergis Group, which is the leader in processing in Central and East Europe, achieved revenues of zl 135.2 million in the first quarter which is similar to last year. Goals of the company this year include the further development of three main fields of activity. This comprises the production of laminates for food, industrial packaging (stretch films PE and PET films) and PVC films. Significant attention has been paid to the development of packaging materials (stretch films and greenstrap) through its Czech company established in January this year.

Promens from Iceland has signed a cooperation agreement with SC Chimica in Romania for the production injection-moulded parts. The aim of the agreement is to accelerate the development of Promens' activities in South East Europe. Based at Orastie, Chimica operates 48 injection-moulding presses with clamping force of 40-1,400 tons and an in-house tooling facility to make moulds of up to 20 tons. From its output, around 75% is sold for the automotive sector and 25% for consumer products such as white goods. Promens operates 54 plants worldwide, including plants in Estonia, Poland, Russia and the Czech Republic.

#### ZA Pulawy concludes melamine contract

ZA Puławy has concluded a melamine sales contract with its long-term partner Fritz Egger GmbH & Co in Austria. The value of the contract has been estimated at zl 320 million. Melamine is a key component of ZA Puławy's chemical products portfolio; in the three quarters of the company's financial year 2009/2010, sales of melamine reached almost zl 250 million. ZA Puławy operates three melamine plants and a melamine recovery unit (used to recover melamine from process condensates). The company's production capacity totals 96,000 tpa of melamine.

## ZCh Police-plant restarts and internal restructuring

ZCh Police plans to soon restart one of its ammonia lines which was stopped in September 2009. In July the company restarted one of its sulphuric acid lines, whilst eaelier it increased phopshoric acid to full capacity. In September last year, due to economic factors ZCh Police temporarily reduced utilisation of compound fertilisers by 31%, ammonia by about 50%, phosphoric acid 23% and sulfpuric acid by 31%.

Economic conditions have since improved and the company expects to record a profit this year, against net operating losses of zl 409.40 million in 2009. The immediate problem facing the company is that PGNiG is increasing gas prices to Polish chemical companies by 4.9% from the start of June. PGNiG is discussing options with ZCh Police over how it could pay for its gas supplies. ZCh Police recorded a zl 2.37 million consolidated net loss in the first quarter of 2010 against a net loss of zl 174.54 million loss in the first quarter of 2009. Operating loss at group level amounted to 7.78 million zł 86.73 zł million loss a year ago. Consolidated revenues amounted to zl 419.81 million to zl 518.03 million a year earlier.

The intentions of the company include to reduce production costs and increase efficiency and the flexibility of production of fertilisers. The company is hoping to optimise the urea plant together with the production of ammonia and titanium dioxide. A new product that the company has developed, based on

titanium dioxide, is AdBlue which is used for reducing exhauts emissions. Having only recently started sales, ZCh Police is optimistic about its future prospects for export from the new 50,000 tpa plant.

# **RUSSIA**

## Russian chemical production first half of 2010

Russian chemical production recovered in the first half of 2010 to record a 19.5% increase over the same period last year. The most important aspect of the recovery has been profitability levels, which although still under pressure from tight margins, have for the most part responded positively. According to the Russian Ministry of the Economy, the share of unprofitable producers operating in the chemical industry fell from 39.9% in the first half of 2009 to 26.9% this year. Some producers continue to record losses, but this not so much from production operations and more to do with corporate affairs including asset revaluations, etc. These losses tend to be manageable the Russian government is not being forced to bail out producers as was the case last year.

Russian Chemical	Exports to Chin	a (unit-kilo tons)
Product	Jan-Jun 2010	Jan-Jun 2009
HDPE	25.676	17.216
LDPE	80.152	51.558
n-butanol	61.393	17.876
iso-butanols	40.556	23.35
PVC	0.039	1.079
Phthalic Anhydride	17.78	6.219
2-EH	6.466	3.687
PP	14.806	7.664
Acrylonitrile	7.662	4.193
DOP	3.483	0
Caprolactam	75.73	24.95
Polycarbonate	18.656	0
Styrene	9.431	1.973
Orthoxylene	3.948	19.922
Paraxylene	5.248	2.1
Acetone	5.954	0
Epichlorohydrin	7.51	1.42
Bisphenol A	25.698	10.141
Polyamide	21.624	12.372
Polystyrene	0.055	1.1

In the bulk polymers, polyethylene production rose 17.9% in Russia against the first half of 2009 with nearly all plants recording increases. Total polyethylene production amounted to 819,200 tons whilst polypropylene totalled 320,000 tons. Most polymer markets in Russia have seen much greater interest this year, although some enduse areas are taking time to revive levels of demand seen prior to late 2008.

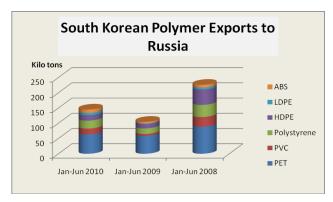
#### Russian foreign trade-first half of 2010

Foreign trade turnover in chemicals increased by 46% in the first half year, totalling \$18 billion. Exports of chemical products grew faster than imports, and totalled \$10 billion for the first six months, 53% more than in 2009. Imports of chemicals increased by 39% to \$8 billion. The leading position in the commodity structure of Russian chemical exports has traditionally been fertilisers, accounting for 38% of shipments in the first half of 2010.

In addition, large-scale deliveries abroad were also noted for the plastics and synthetic resins, ammonia, and caprolactam. The commodity structure of Russian imports of chemicals and petrochemicals covers a wider range of products, but mainly chemicals with high added

value. This includes plastics, paints, household chemical goods, etc. Plastic and synthetic resins, and synthetic fibres and yarns accounted for 17% and 31% respectively of total chemical imports.

Russia exported lower volumes overall to China in the second quarter against the first quarter, due primarily to higher demand on the domestic market. Despite improved demand conditions at home, most Russian chemicals exported to China have been shipped in larger volumes in the first of 2010 against the same period last year. Trends in the second quarter suggest a relative slowdown in exports, as products such as HDPE and LDPE have become tighter on the domestic market. Products seeing a significant upturn this year include caprolactam, bisphenol A and polyamide-6. Kuibyshevazot has recently increased capacity allowing it to ship more volume of polyamide to China.



South Korean Exports to Russia (unit-kilo tons)			
Product	Jan-Jun 10	Jan-Jun 09	Jan-Jun 08
PET	63.019	58.911	88.797
PVC	19.614	6.119	31.642
Polystyrene	26.078	18.028	39.893
HDPE	17.739	14.543	50.431
LDPE	7.706	1.877	6.389
ABS	10.942	5.336	8.959
Total	145.098	104.814	226.111

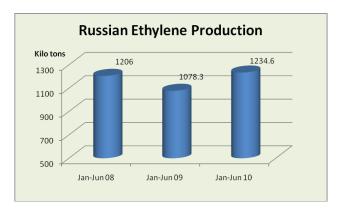
In other markets, Russia is facing a possible anti-dumping duty on methanol exports from Ukraine. The sole methanol producer Azot at Severodonetsk has filed a complaint that Russian methanol is damaging its market share, as it is based on much lower gas costs. For polymer imports into Russia, South Korea has recovered some of the lost polymer sales in 2009 in the first half of this year but volumes remain much lower than in 2008.

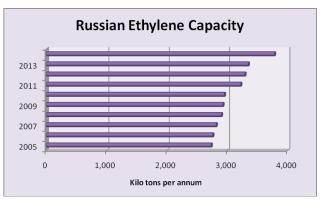
#### Feedstocks & petrochemicals

## Russian ethylene production down slightly in Q2 due to maintenance shutdowns

Russian ethylene production was affected slightly by planned downtime in the second quarter, but was still close to 600,000 tons for the three months. For the first half year, Russia managed to exceed the results both from the same period last year and in 2008. Production has been boosted by the cracker operation at Nizhnekamskneftekhim, which after modernisation and expansion has been running at full capacity. However,

ethylene supply is tightly balanced in Russia and further expansions are required in order to meet the demand from the large polymer projects that are being planned. Although the graphic below shows a steady growth in ethylene capacity in Russia up to 2014, the major increases are linked closely to derivative projects meaning that there will little added to free market availability. Full ethylene production and capacity data by plant is available on the Statistical Database at www.cirec.net.





#### SIBUR-Neftekhim delays cracker expansion to Q2 2013

SIBUR-Neftekhim has revised the completion date for the cracker revamp and expansion at Kstovo to Q2 2013. The EP-300 cracker is being modernised by Technip, and expanded principally to meet the demands of the new RusVinyl project which is expected to come onstream around the same time.

As previously reported, this project comprises two stages. Firstly the plant capacity will be increased from 260,000 tpa to 360,000 tpa and then in the second phase to 430,000 tpa. The EP-300 cracker was started originally in 1981, based on furnaces from Czechoslovakia under the Comecon trading bloc. Technip's goal is to replace the aging furnaces with more contemporary and efficient furnaces F110, F120 and F130. Reconstruction of the EP-300 cracker involves the installation and replacement of the column, installing process control, etc. It also involves the further expansion of the LPG storage base in addition to the construction of additional railway lines.

## Tatneft to complete expansion of ethane capacity

Tatneft expects to complete the expansion of ethane capacity at the Minnibayevo Gas Processing Plant by the end of 2010. This will result in an increase from 95,000 tpa at present to 140,000 tpa. This will help to provide Kazanorgsintez with additional ethane to supplement the 320,000 tpa it receives from Gazprom from the Orenburg Gas Processing Plant. The expansion raises the contribution of ethane from the Minnibayevo gas processing plant from around 20% to around 35%.

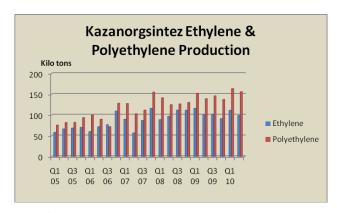
Tatneft receives between 500-700,000 tpa of associated gas, from which Tatneftegazpererabotka was previously capable of contributing around 80,000 tpa of the total 400,000 tpa of ethane consumed by Kazanorgsintez. However, after the conflict between en SIBUR and Kazanorgsintez over polyethylene tolling arrangements, ethane supply from Orenburg was affected. As a result of the conflict the government of Tatarstan set Tatneft a target of expanding ethane capacity at Minnibayevo. In 2007-2008, the gas processing plant increased ethane capacity marginally to 95,000 tpa due to technical improvements.

In December 2009, Tatneft signed an agreement with Gazprom to supply a minimum of 290,000 tpa of ethane linked to the price of polyethylene. Actual deliveries are likely to exceed 290,000 tpa, but the increase in 45,000 tpa from Minnibayevo in the next few months will help marginally. There is even some possibility that a further expansion could be undertaken, but ethane from Orenburg will continue to play a critical role in feedstock supply for Kazanorgsintez. Kazanorgsintez expects to increase ethylene capacity from 430,000 tpa to 640,000 tpa, as part of the company's investment programme, and thus will remain heavily dependent on Orenburg for ethane. There is no price advantage of buying ethane from Minnibayevo, as the formula with Gazprom based on polyethylene is the same, but buying from a local source does come with less political manoeuvring.

## Kazanorgsintez-Gazprom ethane price talks

Kazanorgsintez has entered into talks with Gazprom over ethane prices and the formula that was introduced six months ago. The formula is tied to market value of the final product, which has resulted in raw material costs being two and a half times more expensive for Kazanorgsintez than elsewhere in the Middle East or

USA. This has made it very difficult for the company to generate profits. According to TAIF, prices have risen to around 11,000 roubles per ton.



Longer term, Kazanorgsintez aims to expand its consumption of ethane and in order to achieve this goal Gazprom has been granted places on the company's board. As shown in the graphic opposite, ethylene and polyethylene production have risen consistently since 2005 and further expansions are planned. Current consumption of ethane by Kazanorgsintez amounts roughly to 320,000 tpa and a substantial increase is not likely to be achieved for at least a few years. Gazprom, moreover, has its own plans for polyethylene, but as stressed if it has a representation on the board of Kazanorgsintez it may be less inclined to build its

own plant.

Kazanorgsintez is owned through the TAIF Group through its subsidiary company Telecom-Management which owns 50.24% of shares, 26.64% owned by state holdings Svyazinvestneftekhim. The loss of Kazanorgsintez in 2009 amounted to 2.1 billion roubles against 2.8 billion roubles in 2008. Short-term liabilities amount to 35.5 billion roubles, including \$29.090 billion of loans and credits. In 2010, Kazanorgsintez intends to increase revenues by 47% to almost 35 billion roubles and to achieve a net profit.

#### Kazanorgsintez-benzene tender

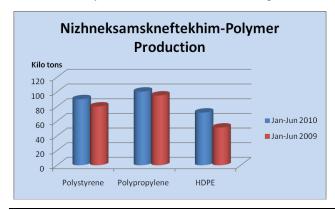
Kazanorgsintez placed a tender at the end of July for 7,000 tons of coal and oil benzene for delivery in August. The benzene is used for phenol production, for which Kazanorgsintez is the largest producer in Russia. Between 5-7,000 tons of benzene are consumed monthly, with 33,000 tons being purchased in the first half of the year. In addition, Kazanorgsintez imported 1,100 tons of coal benzene from Kazakhstan.

## Tatarstan's petrochemical complex, 1<sup>st</sup> half of 2010

In the first half of 2010 Tatarstan recorded record increases in volume production in petrochemicals, but conversely the profitability of synthetic rubber and plastics was virtually zero due to the fragile state of the recovery. The production of plastics products in Tatarstan rose over 50% in the first half of the year, although that is measured against the early part of 2009 when production dropped dramatically. The medium sized plastics producers KVART, Heaton and Elastik all recorded above 40% rises in volume.

In the tyre sector, Nizhnekamskshina increased production by 27.8%. During the first six months of 2010 Tatarstan produced 5.25 million tyres (88% of the level in the same period in 2008). Agreements were reached by Nizhnekamskshina to supply Volkswagen cats at Kaluga, whilst it also negotiating with other potential partners.

Total revenues for Kazanorgsintez increased by almost a third in the first half year, whilst polyethylene production only recorded a 10% increase. In total, Tatarstan produced 407,000 tons of polyethylene in the first six months, but this would have been higher if more ethylene was available. Whilst Nizhnekamskneftekhim is running its derivative plants at full capacity, there are limits on the available amount of ethylene it can send to Kazanorgsintez. In order to produce more polyethylene, Kazanorgsintez



stopped the production of ethylene oxide and ethylene glycol in the second quarter despite good demand for glycols. The company under current conditions requires more than 200,000 tpa of ethylene from Nizhnekamskneftekhim.

Only a few months ago Nizhnekamskneftekhim decided to defer or delay its proposed investment into a new one million tpa cracker and to concentrate on developing its synthetic rubber division. Partly that decision was taken due to the impact of the economic crisis last year and partly due to the lack of viable feedstocks in terms of

LPGs, ethane, etc. However, Nizhnekamskneftekhim has alluded that this decision may need to be revised in view of the tightening balance of ethylene.

## Nizhnekamskneftekhim, 1<sup>st</sup> half of 2010

In the first half of this year Nizhnekamskneftekhim increased turnover by 19.4% to 42.760 billion roubles. The increases in turnover resulted mainly from the production of bulk polymers, which all increased against the same period last year. Nizhnekamskneftekhim produced 316,589 tons of ethylene in the first half this year, 6.2% up and the highest volume recorded by the company over a six month period. Ethylene production is used mainly for ethylene oxide, ethylbenzene, HDPE and alpha olefins, whilst excess volumes are largely shipped along the ethylene pipeline to Kazanorgsintez.

Russian Chemica	al Production (u	nit-kilo tons)
Product	Jan-Jun 10	Jan-Jun 09
Ethylene	1,234.5	1,078.3
Benzene	526.3	479.5
Styrene	253.1	235.3
Phenol	122.7	68.2
Polyethylene	821.2	673.7
Polypropylene	323.1	276.8
PVC	297.4	259.1
Polystyrene	149.5	125.8
Butanols	141.3	134.3
Methanol	1,517.8	1,000.2
Synthetic Rubber	553.6	401.3
Caustic Soda	542.7	530.9
Soda Ash	1,305.2	1,106.8
Ammonia	6,090.8	6,589.3
Phthalic Anhydride	50.9	45.5
Acetic Acid	75.1	80.6
Carbon Black	310.1	224.4

#### New refinery could reduce costs for Tomskneftekhim

Tomskneftekhim will be able to secure its own local naphtha supply, if plans to build a new refinery at Tomsk go ahead. The cost of building an oil refinery at Tomsk, with a capacity of up to 3 million tpa, is estimated in the range of 18.5 billion roubles. The plant is intended to focus on the production of naphtha for the needs of Tomskneftekhim, which uses around 600,000 tpa, as well producing diesel fuel, Euro-4 and Euro-5. ZapSibNPZ will hold a tender among potential designers for a new refinery at Tomsk. The availability of local naphtha will help to reduce costs for Tomskneftekhim, which traditionally has depended on naphtha deliveries by pipeline from the Achinsk refinery.

#### **Gas turbines for Novy Urengoy**

The Institute of Teploelectroproekt (Heat-Electro Project) has completed a stage of the contract for the general design of the gas turbine plant for the Novy Urengoy Gas Chemical Complex. The complex includes gas turbine power plants with a total capacity of 120 MW. These plants are intended to cover electrical needs for the gas-chemical complex, in

addition to providing additional supplies to the regional network. Previously, the Institute of Teploelectroproekt has prepared a draft scheme for the external power supply. The gas turbine power plant project involves the use of gas turbine units supplied by General Electric, whilst the steam turbine is provided by Shin Nippon Machinery. Some equipment has already been manufactured and will shortly be delivered to the site. The

## Three key stages of Novy Urengoy project

- 1. Obtaining ethane from SHFLU.
- 2. Obtaining of ethylene on equipment and technology provided by Linde through the pyrolysis of ethane, with subsequent separation of gas fractions and purification of ethylene
- 3. Obtaining polyethylene from ethylene on equipment supplied by Salzgitter and technology provided by Basell

biggest challenge to the project is the plant's location and the adverse climate.

# Novy Urengoy-Omsk Cement contract for steel structures

Omsk-Cement has signed a contract for development and supply of steel structures for the ethylene and LDPE complex under construction at Novy

Urengoy. Omsk Cement will supply 1,300 tons of metal for the plant structure in addition to a creating an NGL tank farm for SHFLU storage. The delivery of steel structures is planned for August and September 2010. The Novy Urengoy polyethylene plant includes a design capacity of up to 400,000 tpa and will be based on gas feedstocks supplied from the Urengoy gas condensate field. The production cycle of the Novy Urengoy Gas Chemical Complex, being managed by Gazprom, comprises a single technological chain and includes the three stages listed above.

## SIBUR plant shutdowns at SIBUR-Neftekhim and Tomskneftekhim

Tomskneftekhim stopped production for scheduled repairs in July, which is expected to last until 8 August. During the stoppage, modernisation will be carried out on the polyethylene plant and modernisation of the ethylene cracker to partly allow ethane usage. The polypropylene plant will undergo the second-phase transfer installation of the titanium-magnesium catalyst, aimed at increasing production capacity to 130,000 tpa.

SIBUR- Neftekhim underwent repairs in June at the petrochemical complex at Kstovo and EO/MEG facilities at

Dzerzhinsk. The shutdown involved a change in the technology column for the EO/MEG plan, which was provided by Koch-Glitch. Alfa Laval has also provided a new type of heat exchanger for the EO plant. Other maintenance tasks included work on the ethylene pipeline from Kstovo to the EO/MEG plant. This did not prove easy as the pipeline, which stretches for 53 km, lies at different depths and in difficult terrain including wetlands roads, water obstacles, etc.

#### SIBUR to complete investments at Perm in November

SIBUR-Holding has scheduled the start of ethylbenzene, styrene and polystyrene projects at Perm in November this year. The three projects together have cost around 8.0 billion roubles. The first project consists of the commissioning of the 220,000 tpa ethylbenzene plant followed by the decommissioning of the old 120,000 tpa plant. The second stage involves the expansion of the current styrene plant with a capacity of 100,000 tpa to 135,000 tpa. The third and final stage involves the start-up of the new 50,000 tpa for the production of polystyrene, based on Sunpor technology.

#### Russian styrene market-first half of 2010

The production of styrene was badly affected last year by the economic downturn, but has tended to stabilise in 2010. Thus, whilst production volumes recovered gradually in the first half of 2010, volumes are



still lower than in the first half of 2008. In current trends, styrene production dropped in July due to outages at Salavatnefteorgsintez and SIBUR-Khimprom. As a consequence, styrene supply has tightened which is likely to remain the case until late August or early September.

#### Russian toluene production, Jan-Jun 2010

Toluene production in Russia totalled 111,500 tons in the first half of 2010, 16% less than in the same period last year. The main producers of toluene in Russia include the Ryazan refinery, Slavneft-Yanos and Salavatnefteorgsintez. These three plants

accounted for 62% of production in the first half of 2010. Other producers include Kirishinefteorgsintez and LUKoil-Permnefteorgsintez.

#### Bulk Polymers

#### SIBUR & VEB finalise agreement at Tobolsk

Vnesheconombank (VEB) and SIBUR have finally agreed terms on the loan of funds required for the construction of the polypropylene project at Tobolsk. Under the agreement, VEB will provide \$1.22 billion to SIBUR of the \$1.44 billion total required to finance the project. VEB will receive the funds from Western banks under the guarantees of export agencies of Italy and Germany.

According to the signed agreements, the main credit line of \$1.22 billion would be open to SIBUR for thirteen and a half years. Another \$221 million will be provided for the petrochemical company for nine years. To date, SIBUR has already financed from almost a quarter of the project from its own funds. Despite the complicated structure of the transaction through VEB, other ways of borrowing would more affect the debt load of the company. The Tobolsk polypropylene project has been recognised by the Russian authorities as fully satisfying all the results of engineering studies, as well as the established Russian requirements and standards.

## Delivery of large-scale equipment to Tobolsk

Delivery of two columns for the new polypropylene plant have been delivered to Tobolsk. The total length of each column is 38 metres, with a diameter of 4.6 metres and weighing 60 tons. The equipment was made in South Korea and was delivered to Antwerp before being shipped to St. Petersburg. In future, other columns will be delivered on a special barge that will use the Northern Sea Route before from entering the Irtysh River. A special river port has been created on the Irtysh especially to meet the needs of this project.

In total 23 units of large-sized heavy equipment are expected to arrive at Tobolsk. The largest single oversized equipment is a column installation for propane dehydrogenation, which is to be delivered from Korea through the

Panama Canal. It will then be shipped to Arkhangelsk before being transferred to a river barge for passage on the Irtysh.

## Russian polystyrene market

Salavatnefteorgsintez plans to relaunch its polystyrene line at the end of July, after repairs were started on 10 June. The plant has a capacity of 34,000 tpa, with production totalled 26,410 tons in 2009. Production in the first five months was 34% higher than the same period last year, and totalled 12,773 tons.

Due to a difficult financial situation, Omsk-Polymer ceased production of polystyrene in June. Although the plant has a capacity of 60,000 tpa, production has been minimal in recent times. In the first six months of 2010, Omsk-Polymer produced only 2,397 tons. A significant portion of the polystyrene is used by Omsk-Polymer for the production of concentrates and masterbatches, polystyrene films, packaging and disposable utensils. This year Omsk-Polymer has been faced with the constant rise in prices of raw materials, and as a result significantly reduced production of polystyrene.

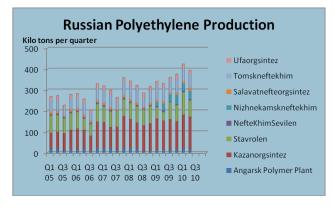
### SIBUR-Khimprom, EPS plant close to start-up

SIBUR-Khimprom is close to completion of the expandable polystyrene unit, based on Sunpor technology, with a capacity of 50,000 tpa. This will represent the first line for EPS, whilst another is in the planning for 2012. The company is also expanding its capacity for ethylbenzene and styrene. The new EPS facility will be commissioned in late 2010, with output intended to cover a wide range of products, including construction insulation, packaging, household appliances, etc. SIBUR has already started concluding contracts with buyers of expandable polystyrene (EPS) ahead of the start up of a new plant in Perm. All brands of EPS will meet strict European standards for fire safety, grain-size composition, density and physical-mechanical characteristics. Chemieanlagenbau Chemnitz is responsible for installing the plant.

#### **Russian HDPE market**

HDPE supply has been tight in Russia in the past month due to a seasonal increase in demand combined with a decline in domestic production. Technical problems at Stavrolen halted production of polyethylene in July, whilst Salavatnefteorgsintez also incurred an accident restricting HDPE and LDPE output for a few days. Markets are expected to return to some normality with producers resuming full production.

In terms of trade, HDPE imports totalled 79,200 tons in the period from January to May 2010, 28% more than the same period in 2009. However, it was still 26% lower than in the first five months in 2008, partly attributed to increases in domestic production. An increase of 34% over the period January-May 2009 was achieved in domestic production volumes, totalling 359,400 tons. Salavatnefteorgsintez has recently started HDPE production, but has had little impact on the market to date.



#### **Russian LDPE market**

LDPE imports totalled 32,800 tons in the first five months in 2010, which is 15% higher than the same period in 2009. Belarus accounted for 45% of LDPE imports. Exports of LDPE totalled 90,800 tons in the period January-May 2010, 1.6 times more than the same period of 2009.

The Russian LDPE market bore the heaviest losses in 2009, falling by 30% to 418,000 tons. By comparison, the HDPE market shrank only by 5% (to 732,500 tons, whilst the LLDPE market rose 16.8% to 118,000 tons. The crisis in the Russian construction industry affected

production volumes, whilst domestic producers increased their exports. Russia exported 266,000 tons of polyethylene to China last year and overall exports went up by 117% against 2008 to 433,000 tons. Of the producers, Tomskneftekhim increased exports three-fold against 2008 to 189,000 tons from the total production of 241,849 tons.

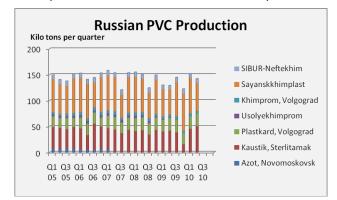
Tomskneftekhim started scheduled maintenance at the LDPE and polypropylene plants on 15 July, which will last until 16 August. In recent months, Tomskneftekhim has reduced exports of polyolefins to China in favour of sales to the domestic market.

## RusVinyl project receives EBRD credit

After the official opening of the RusVinyl project on 12 July, the EBRD has now confirmed that it will allocate €150 million towards the construction of the PVC plant at Kstovo. Besides the credit, RusVinyl continues to work in securing the rest of the debt financing necessary to complete the project. Around 40% of the total investment of €800 million in the construction of the complex has been provided from the main shareholders, whilst the remainder is being sourced through bank credits.

The PVC plant is scheduled to start in 2013 and at current forecasts could cover around 30% of Russian consumption. Russia is at present a net importer of PVC, and additional capacity is required to support the market. Whilst the first phase of the project is now underway, the second phase will be considered in 2012. This involves a further expansion of the facilities for PVC production from the initial 330,000 tpa and 235,000 tpa of caustic soda.

Although RusVinyl hopes to complete construction in the first quarter in 2013, SIBUR-Neftekhim now expects its revamped cracker at Kstovo not to be completed until the second quarter. The postponement does create a



short term feedstock issue for RusVinyl, which may be able to secure some ethylene but not enough to run the PVC plant at full capacity.

#### Russian PVC market, Jan-Jun 2010

Russian production of PVC totalled 294,800 tons in the first half of 2010, 14% more than in the same period last year. Production this year can be broken down into 284,020 tons for suspension grade and 10,690 tons for paste grade.

In June Sayanskkhimplast returned to full capacity after its planned outage in May. As the graphic

opposite indicates, PVC production in Russia has remained much the same since 2005 and the market has been heavily dependent on imports to supplement domestic production.

In the first half of this year China exported 59,789 tons of PVC to Russia against 774 tons in the same period in 2009. Around 75% of the total was exported in the second quarter. Even so, Chinese exports still remain down against 2008 levels, when shipments in the first half year totalled 119,000 tons. Other sources of PVC imports into Russia include the USA, EU countries and South Korea, all of which have increased shipments in the first half of this year.

## **Omsk Kaucuk new rubber production**

Omsk Kaucuk has started the first phase of pilot tests on the production of styrene butadiene rubber. The company is to produce synthetic latex brands which it initially looked at in 2001, but the market situation at the time did not justify further development. The conditions have now changed with interest rising and thus it was decided to revert to producing these products. Around 300 tons was expected to be produced by the end of July, and in the event of satisfactory test results the company will be able to offer partners a wider range of styrene rubbers.

## LUKoil exits Domestic Polymers & Polief restructures debts

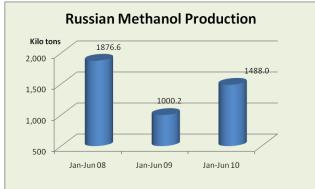
LUKoil has sold 49.99% of shares in its jv Domestic Polymers, which it created in 2007 with SIBUR. Domestic Polymers owns a controlling stake in Polief with 50% plus one share. It is believed that Sistem, the vertically integrated Baskhirian oil group, has acquired the share from LUKoil. Other shareholders in Polief include the Russian bank VTB and the Baskhirian organisation Premium. In February this year, 17.5% of shares belonging to Premium were transferred to the asset management Bashneft. Bashneft is the main supplier of paraxylene to Polief. Effectively, Polief is now controlled by SIBUR and the Bashkortostan government via its proxies.

The VTB Bank is one of the major creditors for Polief. Polief's shareholders in July approved the debt restructuring programme intended to repay the 9.2 billion roubles to the major creditors over a period of seven years. This decision will stabilise the financial situation of the company, and enable it to proceed with its investment plans for PTA and PET.

#### **Methanol**

## Russian methanol production, 1st half 2010

Russian methanol production totalled 1.488 million tons for the first half of 2010, which represented a big recovery against last year but still remains below the production volumes achieved in 2008. Russian methanol exports rose 2.3 fold in the first six months of 2010 against the same period last year. Finland accounts for around 80% of exports, with other importing countries including Slovakia and Ukraine.



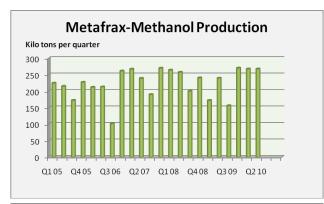
#### UralMetanolGroup project receives finance

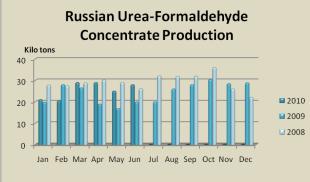
UralMetanolGroup and the Czech Export Bank CEB signed a contract on 16 July in Ekaterinburg for a loan worth €196.5 million for the construction of a methanol plant at Nizhniy Tagil. The first tranche of funds is provided for 13 years in the form of project financing, which will be granted this year. The founders of the project, Itera and Uralkhimplast, are using their own funds valued at €108,400,000 to invest in the construction of the plant.

The turnkey plant is being designed to produce 600,000 tpa of methanol, with the start of production planned for 2014. Haldor Topsoe is the licensor of the technology; whilst the general contractors include the Italian company Techint and the Czech company Alta. The new plant will be located in close proximity to the production premises at Uralkhimplast, where part of the output will be used for formaldehyde production. According to the long-term contract, Itera will ensure the production of natural gas in volumes up to 600 million cubic metres.

### Uralkhimplast allocates funds for new chemical park

The major challenges ahead for Uralkhimplast this year include the launch of new reactors in phenol-formaldehyde resin plant and to increase production capacity for formaldehyde. The company also invests heavily in environmental programmes and the implementation of measures aimed at energy conservation. Around 24 million roubles will be directed to the development of the Chemical Park Tagil, which is adjacent to Uralkhimplast and the new methanol complex. Other goals include prospective projects aimed at reducing the dependence on raw material suppliers. The Chemical Park at Tagil is designed to create a cluster of consumers based on products from Uralkhimplast.





#### Metafrax, first half of 2010

Metafrax recorded a net profit of \$414 in the first half of 2010, 1.7 times more than in same period of 2009. Revenue grew 43.3% and reached \$3.627 billion. However, results remain down on 2008 levels as some of the main derivative areas are still struggling to recover lost markets after the financial crisis. Methanol production at Gubakha for the first and second quarters was identical with 267,500 tons in each quarter. Metafrax could be affected by antidumping measures, if applied in Ukraine. The company exports only small volumes of methanol to Ukraine, but fears that such measures could be applied to other products such as urea-formaldehyde concentrate.

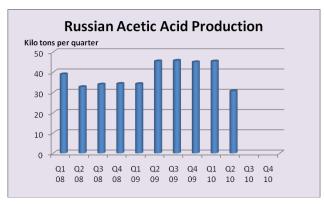
# Russian urea-formaldehyde concentrate production

The main trends in the Russian market for ureaformaldehyde concentrate in the first half of 2010 entailed increases in both production and consumption against the same period last year. Urea-formaldehyde resin demand has been boosted from the growth in production of boards and plywood. Consumption of urea-formaldehyde concentrate rose 12% in the first half of the year. Metafrax remains the dominant producer of ureaformaldehyde resin in Russia, accounting for around 65% of sales to the domestic market. Another player Shchekinoazot sells product mostly to other CIS countries such as Ukraine and Belarus. Primarily the result of company strategy, the share of Shchekinoazot in total exports in the first half of 2010 increased to 40%, against 26% last year.

## Organic chemicals & plastics

#### Russian acetic acid market

In the first half of this year the supply of acetic acid on the Russian market fell by 11% to 32,300 tons. Lower volumes this year has been due to the outage at the main Russian acetic acid plant at Nevinomyssk



in April. The main consumers of commercial acetic acid on the Russian market include the producers of acetate solvents (ethyl acetate and butyl acetate), accounting for around 50% of deliveries. PTA's importance as on outlet continues to grow due to purchases made by Polief, but may now have peaked until the expansion at Blagoveshchensk is completed in 2012-2013.

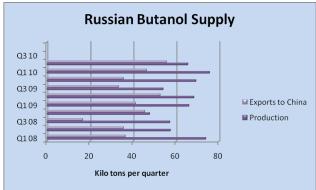
#### Russian acetone market

Russian acetone sales on the domestic market totalled 32,000 tons in the first half of 2010, a 28% increase over the same period last year.

Consumption has been boosted by activity at Dzerzhinsk Orgsteklo where acetone is bought for the production of MMA. Another consumer Sintez, also located at Dzerzhinsk, has increased its purchase of acetone by around 20% in the first half year.

#### Russian butanols market

Russia produced 141,300 tons of butanols in the first half of 2010, which is a 5% increase over the same period last year. The share of n-butanol accounted for 64% of production and isobutanol 36%. Salavatnefteorgsintez



accounted for 44% of butanols production, SIBUR-Khimprom 29%, Angarsk Petrochemical 21% and Azot at Nevinomyssk 6%.

#### Russian acetates market 2010

Russia exported 2,500 tons of ethyl acetate in the first half of 2010, which was 3.5 times higher than the same period in 2009. The leading producer in exports of ethyl acetate this year and last year is Amzinsky Wood-Chemical plant, which until October 2008 had been selling all of its production on the domestic market. Low buying activity by Russian consumers and excess supply has led to very low

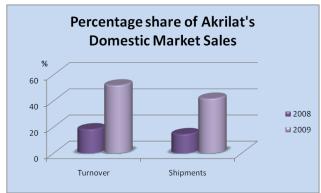
prices being seen for ethyl acetate, despite the rises in production costs. The market is not expected to improve at least until 2011, and exports in the meantime exports will continue to play a key role.

In the first half of 2010 Russia produced 14,400 tons of butyl acetate, which was 16% down than during the same time period last year. The fall in volume is attributed mainly to lack of butanols. Azot at Nevinomyssk accounted for 57% of Russian butyl acetate production in the first half of 2010.

#### Akrilat, domestic sales rising

Akrilat witnessed a strong increase in domestic sales last year, rising to 18,330 tons and accounting for 48% of product sales. Following the banking crisis in 2008, imports costs rose significantly and increased the attraction of import substitution for acrylic emulsions and derivative products. Russian domestic sales rose 89.1% and tonnage by 82.7% against 2008. However, many of the customers still remain relatively small, with a good share buying less than 10 tons per month. Overall production fell 35.1% in 2009 against 2008. Akrilat reduced the production of acrylate esters by 29.9% to 15,287 tons in 2009 and butyl acrylate by 40.9% to 18,388 tons.

Production was down largely due to problems of sales in export markets and emerging problems with the supply of raw materials at affordable prices.



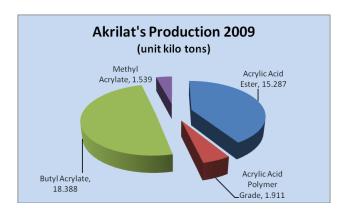
In addition to rising domestic sales, exports have been helped this year by a number of outages which has affected supply availability. Production problems and routine stops at a number of major production plants in Europe and the US have led to a shortage of acrylates. Combined with a rise in demand this has resulted in price increases this year.

Akrilat plans to increase production by around 68% this year against 2009, expecting to reach 62,300 tons. This can be broken down into 24.180 tons of acrylic acid to be used for the production of acrylate ester and

acrylic acid polymer grades. In addition, the company expects to produce 400 tons of acrylic acid for the domestic merchant market. Butyl acrylate production has been targeted at 34,580 tons which is to be sold domestically and in export markets. Other acrylate production includes a thousand tons of ethyl acrylate and 1,500 tons of methyl acrylate. The company has set a revenue target of 1.904 billion roubles for 2010 against 1.02 billion roubles in 2009. Losses amounted in 2009 to 169.563 million roubles, which is 11.22% more than in 2008.

Last year, Akrilat continued investment into the production of butyl acrylate and the acrylic acid purification stage, in order to increase capacity and to reduce the consumption of raw materials and energy. As a result, butyl acrylate production has increased this year already by 10-12% and acrylic acid 20-25%, which will help profitability substantially. Akrilat is examining product diversification and extending the range of emulsions it produces. In addition to acrylic emulsions, Akrilat also believes that from its equipment it is possible to produce water-soluble acrylic polymers and copolymers that can be applied in synthetic detergents, household products, etc.

Akrilat has a license to produce acrylic acid and its esters on the technology supplied by Nippon Shokubai. The authorised capital of Akrilat is 240 million roubles, divided into 240 million ordinary shares, belong to Group Akrilat (Moscow).



## Akrilat propylene supply

A pressing issue for Akrilat remains the uninterrupted supply of raw materials, particularly propylene where it has occasionally felt the effects of market tightness. In 2006, the company started the construction of its own warehouse for propylene which is expected to be completed in the next few months. Having its own warehouse, will not only avoid disruptions in supply for Akrilat, but also reduce allow a diversification of suppliers. The warehouse is located east of the industrial area of Akrilat and will include 10 tanks of 200 cubic metres mounted on legs of steel. The approximate cost of constructing the propylene

warehouse is 335.9 million roubles.

In addition to the warehouse project, Akrilat is also investigating the possibility of producing its own propylene through the separation of propane-propylene fractions. This is a far more significant project in that it could result in the production of 37,500 tpa of propylene, which would cover the full needs of Akrilat even should it increase its acrylic acid capacity.

#### Korund restructuring, incorporation of DOS

Korund has completed part of the process of restructuring, with assets being transferred to the disposal of companies Korund Go and Korund Plus. The new structure is expected also to include Dzerzhinsk Orgsteklo (DOS), which could involve a transfer of shares in the near future. The regrouping has been undertaken to finance Korund's project for cyanide compounds. The company aims to build a new

production site for sodium cyanide, with a capacity of 40,000 tpa and with an option to double over three years. Investment in construction is estimated at 4.2 billion roubles.

## New PMMA plant for Novokuibyshevsk

In late June, the Samaraorgsintez signed a protocol with the leaders of the Chinese state holding company Heilongjiang Group Chzhunmen to construct a polymethyl methacrylate plant with a capacity of 50,000 tpa. The only current producer of PMMA is DOS. Traditional competitors include Evonik and Arkema.

#### Azot Kemerovo suffers caprolactam outage

Azot experienced a major technical problem on its hydroxylamine sulphate plant on 18 July, when part of the roof of the plant collapsed. This caused significant damage to two of the three hydroxylamine sulphate lines, which feed the company's caprolactam plant. As a result of the roof fall, a special commission is examining the building and its equipment to determine whether the undamaged line can quickly be returned to normal operation.

The initial view is that one of the three hydroxylamine sulphate lines may be decommissioned within the next few weeks, which would allow the Kemerovo caprolactam plant to run at around 30% of its full 120,000 tpa output in August. The other two hydroxylamine sulphate lines are understood to have suffered significant damage and may require extensive repair work before they are able to operate again. Clearly this is a major blow for Kemerovo and their customers, and spot market caprolactam prices in China and East Asia have moved sharply upwards since the company's announcement.

The old cyanide plant was stopped in June 2008, after the discontinuation of hydrocyanic acid from DOS. Production was stopped by DOS due to the high costs of sulphuric acid and oleum. Plants stopped include hydrocyanic acid, MMA and methacrylic acid, whilst DOS continued to buy raw materials from other sources to support plexiglass production. Last year, DOS nearly faced the possibility of bankruptcy but received financial support from Korund and one of the main Russian aircraft companies that act as consumers. Last year, DOS increased the net loss in 2009 3.2 times compared with 2008 to 201.944 million roubles.

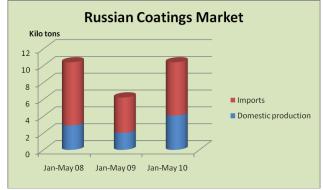
In May 2009, an agreement was signed between the government of the Nizhny Novgorod region, DOS, Korund, and Sberbank for co-financing to create a new company entitled OOO MMA. Under the agreement, the government of the region provides guarantees of the regional budget of 120 million roubles up to 5 years, and Sberbank provides the new enterprise loan of 120 million roubles up to 5 years.

As a result of this agreement MMA production restarted in November 2009. DOS is now working on a full processing chain, from the production of hydrocyanic acid to methyl methacrylate. DOS produces organic glass by two technologies, the

extrusion and casting method. The company has established three lines supplied by German companies Reifenhauser and Breyer for the production of extruded plexiglass, with a total capacity of up to 18,500 tpa.

The authorised capital of DOS is 200 million roubles and is divided into 250 million ordinary shares with a nominal value of 0.8 roubles each. 47% of the shares owned by Andrei Fedotov, and 33% and 20%, respectively, under his Dzerzhinsk companies ZAO Kemeks and C Simazin. The Federal Antimonopoly Service (FAS) has approved the application of Korund Go to acquire 100% of Korund in the Austrian company Petrochemical Holding, owned by the former president of SIBUR Yakov Goldovsky. It has also already received permission from the FAS to incorporate DOS into the new structure.

## Derivatives



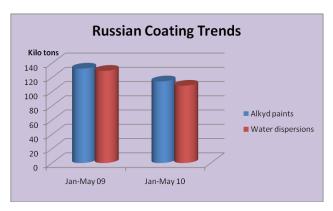
## Russian coatings 2010

The powder coatings market in Russia has witnessed a strong revival this year after the downturn experienced in 2009. Strong seasonal demand for paints and varnishes has been seen in the past three months. Consumption fell significantly against 2008 levels affecting both imports and domestic producers. At the end of 2009, suppliers of powder coatings to the Russian market started to see the end of the downturn with increases in market activity. Imports were hit last year not only by lower consumption but also by the

appreciation of the dollar and the euro against the rouble. This prevented consumers from being able to buy raw materials from abroad.

Since the start of 2010 the consumption of paints has been rising rapidly. In the first five months market activity achieved the same levels in 2008, whilst being 62% higher than the same period of 2009. Domestic producers have started to take a more prominent role in the market, with the share of Russian production almost reaching 40% so far this year. This is an unprecedented figure for an industry that has historically depended on imports. Thus, whilst the market still relies heavily in imported products, the balance is shifting. Imports from January to May 2010 amounted to 27,200 tons, exceeding the same period in 2009 by 72%.

It is difficult for Russian producers to compete with such companies as Akzo Nobel, TigerWerk or 3M, which have production sites in the country. However, Yaroslavl Plant for Powder Coatings has no foreign involvement and accounts for around 18% of the Russian market. A noticeable trend of the Russian market is that none of the active players, either domestic or foreign, have withdrawn their interest which means that percentage shares of each player has declined.



The main Russian plants for powder coatings include Tikkurila (14% of total output in 2009), Empils (10%), Lakra Synthesis (5%) and Russki Kraski (4%). In the first five months this year, Russia produced 396,800 tons of paints which was a 21% increase over the same period in 2009. Another feature is that exports totalled 8,770 tons in the first five months this year, which was 49% more than in 2009.

For the period January to May 2010, the production of alkyd resins totalled 132,440 tons against 114,450 tons for the same period in 2009. Water dispersion

production totalled 129,300 tons, against 108,450 tons for the same period in 2010 or 19% more. For the first five months of 2010, Russia imported 17,920 tons of water dispersion coatings, 25% more than in the corresponding period of 2009.

#### Empils, Jan-Jun 2010

Russian coatings manufacturer Empils increased production of paints in the first half of this year by 10% to 34,013 tons. Water dispersion paints rose by 29% due to the introduction of a new range of products. Empils is engaged in exports to other CIS markets such as Turkmenistan and Abkhazia. The company is focused on its investment programme, which involves further capacity expansion and the automation of manufacturing processes. After its completion, the capacity to produce enamels will increase by around 25% and water dispersions by around 50%.

#### Ukraine

## Karpatneftekhim-polyethylene restart

Karpatneftekhim expects to restart the production of polyethylene at Kalush in the middle of August, together with the olefin plant. Output of polyethylene will be sold mainly in the domestic market, thus displacing imports. The cracker was closed in June 2008 due to poor economics of feedstock delivery and product pricing. The situation now looks to be changing in that the Ukrainian Parliament is considering the abolition of import duties on naphtha deliveries from Russia which would make petrochemical production profitable. If the Parliament approves the initiative Karpatneftekhim will be able to import petroleum products required for the production of ethylene, with no fees and charges. For the needs of polyethylene production, Karpatneftekhim imports around 700,000 tpa of diesel fuel and naphtha and currently needs to pay excise duty amounting to €50 per ton and a 6% import duty. By removing these costs, the company could see production costs drop by an estimated 20-30%.

The launch of the ethylene cracker and the polyethylene unit will represent the prelude to the commissioning of new facilities for the production of chlorine, caustic soda and PVC. By mid-September, the company hopes to bring up the entire production chain. In addition to creating new products, LUKoil has invested in the new facilities in order to reduce environmental effects of production at Kalush.

## Impact of Kalush restart on Ukrainian polyethylene market

The capacity of the HDPE plant at Kalush is 100,000 tpa which is capable of meeting part but not all of the domestic market. Consumption of polyethylene dropped 7.2% in 2009 down to 294,000 tons, of which HDPE accounted for 44%. In 2009, HDPE was supplied to Ukraine from more than 30 countries. The largest volume was supplied by Russia (32.5%), Czech Republic (18.6%), Hungary (16.2%) and South Korea (4.7%). The greatest demand in 2009 was seen for HDPE from Kazanorgsintez and Stavrolen, as well as European companies Unipetrol, TVK and Borealis.

Ukrainian Chemical	Production (un	it-kilo tons)
Product	Jan-Jun 10	Jan-Jun 09
Acetic Acid	46.2	36.5
Ammonia	2083.5	1527.7
Benzene (-95%)	107.1	86.3
Benzene (+95%)	54.3	26.4
Caustic Soda	26.0	19.8
Ethylene	0.0	0.0
Formaldehyde	26.0	6.1
Methanol	36.1	41.5
Polyethylene	0.0	0.0
Polypropylene	36.5	47.1
Polystyrene	9.1	7.3
Polyvinyl Acetate	3.1	3.2
Soda Ash	331.1	323.0
Titanium Dioxide	60.9	39.1
Toluene	2.7	1.8
Total	2822.6	2173.7

Azot at Severodonetsk is also trying to revive LDPE production at its idle 220,000 tpa plant. However, this is a far more complicated scenario in that the cracker that originally supplied the polyethylene plant has not operated since the mid-1990s, and is not expected to restart. The Lisichansk refinery, which is linked to Severodonetsk by pipeline, is focused on oil products and has no intention of investing in the EP-300 cracker.

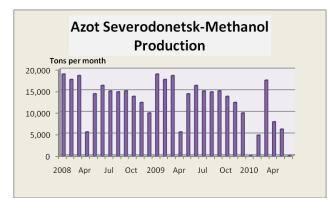
According to reports, Azot has developed a project to restore the production of LDPE based on feed grains as feedstock. It has been estimated by local sources that annual production in south-eastern region of Ukraine is able to assure the supply of feedstock for Azot for the production of polyethylene. The total capital investment required for the project, is estimated at \$265 million, but this seems extremely high. If it were to go ahead, the project could take 2.5 years to complete with a payback of five years. The project would allow Azot to produce up to 110,000 tpa of polyethylene, whilst the project would also help farmers with fodder sales.

#### Azot seeks to restart polyethylene production

The Ukrainian Parliament has adopted on first reading a bill which provides for the abolition of excise duty and import duties on petroleum products, which are used for the process of pyrolysis to produce ethylene. The Parliament also intends to introduce a zero rate of excise on light and heavy distillates, which are used exclusively as a raw material for pyrolysis of ethylene production. The abolition of import duties on naphtha affects primarily the interests of Karpatneftehim.

#### Azot-government plans sale of 40%

The State Property Fund of Ukraine intends to sell 40% of state-owned shares in Azot at Severodonetsk prior to the end of 2010. The nominal value of this stock is placed at 422,680,000 hryvnia. The remaining 60% is owned by the company Worldwide Chemical, which in turn is owned by IBE Trade. As Azot is a joint stock company, by law the 40% stake will be offered to Worldwide Chemical in the first phase. Should there be no interest, the stake will 1be put up for general sale.



# Azot asks for anti-dumping investigation into Russian imports

An anti-dumping investigation of imports of methanol from Russia has started in Ukraine on the initiative of Azot at Severodonetsk. This investigation is based on the import volume of methanol from Russia to Ukraine in the period July-December 2009, which increased by 12.52% against the previous half year. The complaint states that the price of imports of Russian methanol has been below cost and the selling price of Azot in the domestic market over the past year.

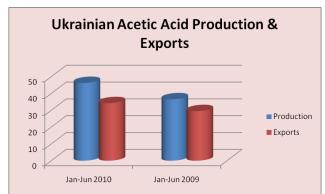
Azot's production between July and December last

year declined compared to the same period in 2008. Output fell by 41.95%, capacity utilisation reached only 42.11%, and the share of consumption in the domestic market fell by 11%. Revenue from product sales fell by 97.87%, whilst sales in the domestic market to 12.17%. These negative trends are in the opinion of Azot

as the direct result of Russian imports. Antidumping cases are assigned to the Ministry of Economy of Ukraine.

Azot insists on protecting the domestic market from Russian suppliers. Russian producers receive natural gas at a price believed to be around \$80 per thousand cubic metres. The gas price for Ukrainian plants is now \$255, not counting the cost of services for the delivery of gas to the plant. Prices were reduced against the first quarter from political concessions between the two countries, but despite the fall Azot still faces difficulties in competing against Russian methanol producers. Antidumping duties in Ukraine are applied to a number of products already, but the two governments have been trying to build on the principles of customs union. That is proving extremely difficult when gas prices are so diverse.

Azot's methanol capacity at Severodonetsk stands at 200,000 tpa, with production totalling 171,379 tons in 2009. However, production has been significantly reduced this year largely due to high gas prices and as a result Azot has only produced for captive needs in acetic acid and formaldehyde. Azot would like the opportunity to regain the domestic consumers from the gas industry that are currently buying from Russia. Metafrax is the largest Russian exporter in the Ukrainian market, and may be affected if the anti-dumping measures are applied, but this not expected to happen quickly.



#### Ukrainian exports of acetic acid

Despite the problems facing Azot over methanol, exports of acetic acid increased 16% in the first six months in 2010 against last year and totalled 34,200 tons.

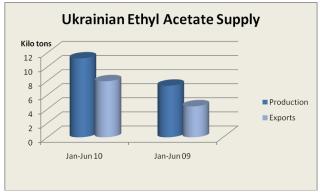
#### Ukrainian urea-formaldehyde resin market

Ukrainian producers of urea-formaldehyde resins continue to increase utilisation at its plants. As Ukraine is heavily engaged in construction activities for Euro 2012, it has had a favourable effect on the production of virtually all building materials, including

urea-formaldehyde resins. Ukrainian urea-formaldehyde resin producers depend largely on imports of urea-formaldehyde concentrate from Russia, accounting for 78% of consumption in the first half of the year. The only producer of urea-formaldehyde concentrate is Stirol at Gorlovka which finds it difficult to compete on price. Thus, Russian suppliers of urea-formaldehyde concentrate hold a dominant position on the Ukrainian market and the only factor prohibiting further growth is the solvency of Ukrainian consumers. The main suppliers of concentrate include Metafrax, Togliattiazot and Shchekinoazot. This year Shchekinoazot has significantly increased the volume of product shipped to Ukraine.

## Increased water dispersions production at Dneprodzerzhinsk

The leading player in the Ukrainian paint industry, ZIP at Dneprodzerzhinsk, has put into operation a new plant for production of water dispersions with a capacity of 20,000 tpa. The plant is intended for the production of paints for interior and exterior applications including brands TM Zebra and Triora. A special feature of the new line is a fully automated production process. The company's products will be sold mainly in the domestic market, but also there are plans for expansion into markets to other CIS markets including Moldova, Russia and Kazakhstan. With the commissioning of the new plant, total production capacity will amount to 30,000 tpa of water dispersions.



#### Ukrainian organic chemical markets

Ukraine produced 11,200 tons of ethyl acetate in the first six months in 2010, reflecting a 53% increase over the same period in 2009. The increase is due primarily to higher capacity utilisation of the largest domestic exporter Perechinsky LHK, combined with the good demand for ethyl acetate worldwide. In the first half of 2010, the share of the Perechinsky LHK in total production amounted to 79%, with the remainder being produced by Kirovograd Raiagrosnab. Exports totalled 7,960 tons in the first half year, 81% up on 2009. The

main destination for Ukrainian ethyl acetate exports this year to date has been Poland with 28%, Austria with 11% and Slovakia with 11%.

Ukraine produced 74,000 tons of white spirit in the first six months, which is almost twice the amount in the same period last year. The increase is due to increased demand for petroleum solvents in the country. 91% of production took place from gas fractions at the Shebelinka GPP and 9% of oil white spirit produced by the Azov Oil Company refinery at Mariupol.

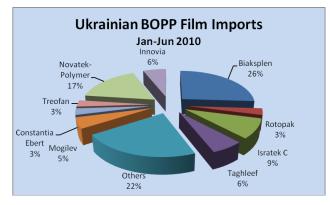
#### Ukrainian polymer film trade

Polypropylene film imports into Ukraine totalled 11,990 tons in the first half of 2010, 1% up on the same period last year. Russia was responsible for 54% of imports, with Biaksplen accounting for almost half. Other Russian BOPP producers Novatek Polymer and Isratek C accounted for 17% and 9% respectively.

Whilst Ukraine depends on imports to meet demand for polypropylene films, it holds the position of net exporter for polyethylene films. A total of 7,770 tons of polyethylene films were exported in the first half of 2010, 2% up on the same period last year.

The main supplier of polyethylene stretch film is Sirius Extrusion at Khmelnitsky, with 77% of total Ukrainian

exports in the first half of this year. Over 80% of polyethylene film exports are sent to Russia.



#### Central Asia & Kazakhstan

## SOCAR starts work on ethylene-propylene plant

SOCAR has undertaken the initial phases of the overhaul of the ethylene and propylene plant at Azerkimya. This has included the centrifugal devices (M-1, M-4, F-5 and F-6), which are provide the basis for the complex EP-300, as well as the first and second compressors. Also as part of repair work already carried out on a request to purchase

150 tons of pipes. Some of the equipment has been provided from Technoprom at Saratov in Russia.

A total of nine compressors exist in the EP-300 cracker, whilst work elsewhere in the complex is being carried out in the surfactant, synthetic rubber and organic chemical divisions. Completion of the repairs will enable Azerkhimya to resolve problems from delays and losses from raw materials. This will increase productivity and at the same time reduce harmful emissions into the atmosphere

## Atyrau aromatics complex approved

By the decision of the government of Kazakhstan, Sinopec has been granted the right to start construction of the aromatics complex at the Atyrau refinery. Despite environmental opposition Sinopec Engineering is being allowed to proceed with the project due to a perceived need to develop a petrochemical industry. Approval has been influenced by an organised visit to Zhenhai Petrochemical Plant, where Sinopec is involved in construction. It has proved to be an indication that environmental standards that have been taken into account when considering the construction of a new complex. Construction in China exceeds the scale of the Atyrau complex, and as many of the concerns have been answered the conclusion is that the project is safe to start. Under the terms of the contract, the technology used is ParamaX supplied by Axens, and applied in a good third of plants in West Europe.

Project construction of the aromatics complex at Atyrau will involve about 2,000 people, some of whom will come from the local workforce under the management of Sinopec Engineering. The investments into aromatics and the refinery at Atyrau will go some way to resolving the country's gasoline problem. The total volume of naphtha will be processed in the high-octane gasoline, whilst there is a technical possibility of processing of light oil to 1.3 million tpa from Tengiz, Kashagan and Karachaganak. Currently, demand for high-octane gasoline in the Atyrau region is about 75,000 tpa, West Kazakhstan 117,000 tpa and the Mangistau region 54,000 tpa. Production of gasoline after the completion of the project will amount to 266,000 tpa that would fully meet the needs of the western regions in Kazakhstan.

## Relevant Currencies

Czech crown. Kc. \$1 = 20.85. €1 = 25.5671: Hungarian Forint. Ft. \$1 = 223.5. €1 = 274.065: Polish zloty. zl. \$1 = 3.1135. €1 = 4.065: Bulgarian leva: \$1 = 1.5956. €1 = 1.9596: Romanian Lei. \$1 = 3.4151. €1 = 4.187: Croatian Kuna HRK. \$1 = 5.9239. €1 = 7.2641: Ukrainian hryvnia. \$1 = 7.931. €1 = 9.7253: Rus rouble. \$1 = 31.022. €1 = 38.0405

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