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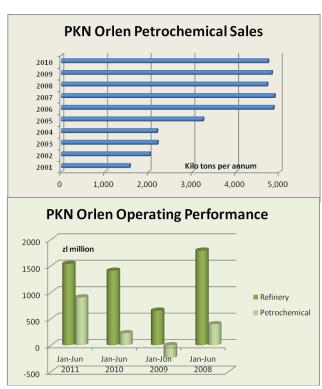
## FROM THIS ISSUE

BORSODCHEM INAUGURATED ITS NEW TDI PLANT AT KAZINCBARCIKA AT THE END OF SEPTEMBER PKN ORLEN IS CONSIDERING FURTHER DEVELOPMENT OF THE PETROCHEMICAL SECTOR CROATIA IS ARRANGING A DEBT-FOR-EQUITY SWAP FOR DIOKI WITH INA AND BANKS THE SOLE PRODUCER OF SYNTHETIC RUBBER IN ROMANIA, CAROM AT ONESTI, HAS RESUMED PRODUCTION INTERCONNECTOR PIPELINE HAS CREATED OPPORTUNITIES FOR POLISH GAS DIVERSIFICATION RUSSIAN CONCESSIONS COULD SAVE COMPANIES UP TO 30% FOR PETROCHEM CONSTRUCTION COSTS SIBUR IS CONSIDERING SEVERAL OPTIONS FOR GAS TO PETROCHEMICALS IN EASTERN PARTS OF RUSSIA TOBOLSK-NEFTEKHIM HAS COMPLETED THE INCREASE OF MTBE CAPACITY TO 150,000 TPA FIRST PHASE OF TESTING THE TANEKO COMPLEX AT NIZHNEKAMSK TOOK PLACE AT THE END OF SEPTEMBER GAZPROM NEFTEKHIM SALAVAT AND KAUSTIK TO BUILD NEW ETHYLENE PIPELINE IN 2012 NIZHNEKAMSKNEFTEKHIM EXPECTS TO START THE PRODUCTION OF ABS IN SEPTEMBER 2012 POLYOM POLYPROPYLENE PLANT AT OMSK HAS BEEN CONNECTED TO THE PIPELINE FOR PPF SIBUR AND SINOPEC TO CREATE TWO JVS FOR THE PRODUCTION OF NBR AT KRASNOYARSK AND SHANGHAI IMPORTS OF BENZENE INTO THE RUSSIAN MARKET MORE NOTICEABLE IN 2011 THAN IN PREVIOUS YEARS AZOT AT KEMEROVO IS INSTALLING NEW REFRIGERATION EQUIPMENT FOR CAPROLACTAM UNIT GAZPROM NEFTEKHIM SALAVAT IS TO CONSTRUCT AN ACRYLIC ACID COMPLEX-MITSUBISHI TECHNOLOGY UZBEKNEFTEGAZ AND CNPC AIM TO CREATE A JV FOR THE PRODUCTION OF BUTADIENE AZOT AND KHIMVOLOKNO AT GRODNO HAVE NEARLY COMPLETED THEIR MERGER, WITH ALREADY APPROVED.

FINAL INVESTMENT APPROVAL HAS BEEN RECEIVED FOR A PDH-TO-PP PROJECT AT ATYRAU

# **CENTRAL & SOUTH EAST EUROPE**

#### **Petrochemicals**



#### **PKN Orlen-petrochemical prospects**

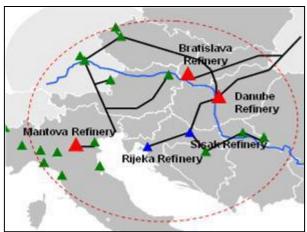
Following the initial success of the PX-PTA projects PKN Orlen is considering further development of the petrochemical sector. Production volumes have been fairly similar over the past few years with the BOP polyolefin plants being last major addition to capacity in 2005.

Orlen wants to develop further the value chain in petrochemicals beyond the PX-PTA plants which have been started this year. The chain ends at

PTA, which is sold to variety of consumers including Alko-Naphtha at Kaliningrad and Indorama at Wlocalwk, and Orlen is considering moving into PET. The PX-PTA chain will translate into an increase in EBITDA of about zl 400 million a year, according to Orlen group estimates, after reaching full capacity. In 2011 the average utilisation will amount to no more than 70% and full capacity is expected to be achieved only in 2012. Orlen's finiancial results for the second quarter were positive, partly due to the start-up of the PTA and paraxylene plants. It is the significant improvement in operating profits from the

petrochemical sector that has stimulated more interest in the sector from at board level.

GE will introduce a system for the Orlen cracker at Plock that will facilitate the optimisation of the production of ethylene. The demo version will be installed in one of the plants of PKN Orlen and will be tested by the end of 2012. In the future, GE plans to commercialise the system in the entire sector. The new GE systems, fibre optic sensors have been integrated with the technology of monitoring and allow smoother operation and longer equipment and eliminate crashes. Application of new solutions also allow flexibility to choose the feed gas, which is extremely important in the face of the unstable situation in the market.



## **Central European refineries**

Slovnaft plans to spend around €80 million (\$109 million) to upgrade an oil pipeline link between Slovakia and Hungary. The upgrade will allow Slovnaft to process oil from the Adria pipeline and reduce Slovakia's dependence on Russian crude being transported through the Druzhba. After the upgrade, as much as 6 million tpa of crude could be transported through the link annually, fully meeting Slovnaft's processing capacity. In Croatia, MOL has come under criticism for not modernizing the Sisak and Rijeka refineries.

Sluggish demand for gasoline and oil

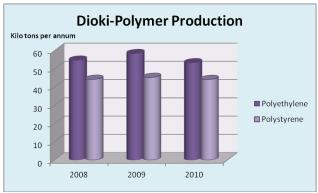
product sales and a surplus of refining capacity in Central Europe and the EU are raising questions about the long-term viability of the Czech oil refining sector. In the shorter term, Unipetrol is considering closing the smallest of its three refineries Paramo. This is in large part due to the loss of revenues from the fall in demand for asphalt. In 2010, the Paramo refinery recorded a Kc 187 million loss. Unipetrol's three Czech refineries

MOL's Refinery Capacity				
Refinery	Country	Capacity		
Danube	Hungary	8.1		
Slovnaft	Slovakia	6.1		
Mantova	Italy	2.6		
Rijeka	Croatia	4.5		
Sisak	2.2			
Total 23.5				

face stiff competition from among others OMV, whose refinery at Schwechat has a capacity of over 8 million tpa. Total's refinery at Leuna possesses a capacity of around 12 million tpa and the Slovnaft refinery at Bratislava with a capacity of around 6 million tpa.

#### Dioki-cogeneration project

Croatia is arranging a debt-for-equity swap through the Ministry of Economy that would leave INA and creditor banks with shares in Dioki. Dioki owes 68 million Kuna (\$12 million) to INA, which it has run up for gas costs, and 160 million Kuna to the national power board. Supplies of ethane and electricity have been suspended temporarily in recent months by both INA and HEP. Dioki, which owns Dina-Petrokemija on the island of Krk, also owes millions of Kuna to local banks.



External interest in Dioki has mounted, i.e., Croatian company Crodux Gas intends to buy a minority stake. Terra Nova Royalty Corporation, based in Vancouver, has been undertaking due dilgence regarding the injection of of large sums of funds into Dioki after agreements reached with the holding group Advance. It is not expected that Terra Nova will enter into the shareholding structure of Dioki, but it will allocate funds in several phases. Terra Nova is a specialised global trader of raw materials, especially minerals, iron, plastic and energy.

Dioki claims that INA is charging too much for feedstocks have not been offset by polymer prices. While gas is completely derived from Croatian sources, INA charges around 40% more than the price of gas than is recorded in regional neighbours such as the Czech Republic, Hungary and Italy. The Croatian government owns 44.84% of INA's stock, while MOL owns another 47.47%.

Dioki's holding group Advance has launched a tender to build a cogeneration plant worth €25 million and has invited interested companies to become involved in the project. The deadline for construction is two years and a return on investment estimated at four years. The company has undertaken an environmental impact study, and has applied for a location permit at the Ministry of Economy for the cogeneration plant.



of paraxylene and 233,000 tpa of benzene.

## Romanian petrochemical modernisation

A tender has been started for the replacement of 13 km of pipeline supplying crude to Rafo Onesti from the Port of Constanta. The investment, amounting to over nine million lei, is part of the modernisation programme of the Onesti refinery. The pipeline to Onesti is the main supply route for Rafo, with the refinery originally located in order to supply fuel to the north-east of the country, and the north and west of Transylvania. Rafo is one of five major refineries in Romania, of which only three now operate. Petrochemical Holding Company (Austria) introduced a viable project last year for modernisation and investment in Rafo, linked together with a recovery of the petrochemical industry in Romania. Rafo's main investment plans for petrochemicals include 411,000 tpa

## **Oltchim-Arpechim**

Investment fund Carlson Ventures International is considering the sale of its 14% stake in Oltchim if the Romanian state continues to ignore the plant's debts and its worsening financial situation. Oltchim holds debts of over €550 million. Romania has pledged to privatise Oltchim at the request of the International Monetary Fund. The main shareholder in Oltchim is the Romanian state, with 54.8% of the shares.

Carlson Ventures International considered that the actions taken by the Romanian state in the past few months show that Oltchim's privatisation process would be delayed considerably, or even cancelled. The Ministry of Economy is working on a conversion of the debts into shares at Oltchim and the acquisition of a non-operating

refinery from OMV-Petrom to integrate it in Oltchim. Carlson Ventures say that if the Romanian state will not change its attitude the investment fund thinks of withdrawing its investment in Oltchim and will sell the shares it holds in the company. PCC and Carlson have called for an urgent restructuring within the company. Based on Carlson's experience, which has been investing in companies in difficulty, the only viable option for Oltchim is a rapid and substantial restructuring.

#### Chemicals

#### **BorsodChem-TDI**

BorsodChem inaugurated its new TDI plant at Kazincbarcika at the end of September, with an initial capacity of 160,000 tpa that could later be expanded to 200,000 tpa. Due to unfavourable market conditions at present, the plant is not expected to operate at full capacity at least until later in 2012. BorsodChem is now a part of China's Wanhua Industrial Group, and started test production at its new TDI plant in July. The project had previously been stalled due to a lack of finance, but Wanhua made €80 million available to BorsodChem to restart construction of the TDI-2 plant last autumn. As a result of the new plant, BorsodChem's total TDI capacity is being increased to 250,000 tpa.

BorsodChem is also expanding its capacity for MDI this year. Together with the 800,000 tpa of capacity belonging Yantai Wanhua Polyurethanes, Wanhua is currently the third largest global producer of MDI. BorsodChem's MDI-2 plant shut down from seven weeks from July 22 to undergo developments.

## **Donau Chemie-Hungary**

Under a partnership agreement between BorsodChem and Donau Chemie, a jv is to set up to construct a water-treatment chemical plant at BorsodChem's site at Kazincbarcika. The new facility will process hydrochloric acid, a by-product from BorsodChem's isocyanate production. Donau Chemie will build the plant through an initial investment of around €6 million, creating around 20 new jobs. As part of the partnership agreement, Donau Chemie make use of the hydrochloric acid which is now produced in higher quantities after BorsodChem's new TDI plant has started operating.

BorsodChem called an international tender last year to select a partner to take possession of the hydrochloric acid in the long term, and selected Donau Chemie out of several applicants. The new plant is scheduled to start operating at the end of next year. In the event of a shortage, Donau Chemie could also supply BorsodChem with chlorine. Although Donau Chemie will now take over most of the hydrochloric acid generated at BorsodChem, BorsodChem will continue to sell 30,000-40,000 tpa of hydrochloric acid directly on the Central European market.

Polish Chemical Production (unit-kilo tons)			
Product	Jan-Aug 11	Jan-Aug 10	
Caustic Soda Liquid	183.2	166.9	
Caustic Soda Solid	34.8	39.3	
Soda Ash	683.9	657.8	
Ethylene	365.2	325.2	
Propylene	245.2	213.5	
Butadiene	43.6	39.5	
Toluene	49.8	62.4	
Phenol	29.0	20.6	
Caprolactam	106.2	103.5	
Polyethylene	243.6	235.2	
Polystyrene	87.0	92.0	
PVC	189.9	132.2	
Polypropylene	165.7	150.4	
Synthetic Rubber	125.2	106.4	
Pesticides	14.2	14.8	

## Serbia-foreign involvement in chemical industry

Gas prices are to rise 15% in Serbia from 1 November, which may affect efforts to restart Azotara and MSK Kikinda. Azotara, according to a preliminary agreement, is to be sold to a Bulgarian partner for about €67 million, and the debts owed to the gas supplier Srbijagas will be repaid through government cooperation. At the same time Gazprom has been linked to a possible restart of the MSK methanol and acetic acid units at Kikinda.

#### **Ciech-Soda Division**

Ciech has completed the planned merger to merge subsidiaries Soda Matwy and Janikosoda. In 2007, Ciech took steps towards the establishment of Soda Polska Ciech in which Soda Matwy and Janikosoda were included. The merger of the companies will take place by transfer of assets of Soda Matwy and Janikosoda being taken over by Soda-Polska. The merger of both soda companies with Ciech is the last stage in the restructuring of the soda division.

#### Chimcomplex, Jan-Jun 2011

Net sales in the first six months for Chimcomplex of 2011 amounted to 90 million lei, of which exports accounted by 71 million lei (79% of total revenues). Export revenues were higher by about a third, whilst gross revenues

#### **ZAT Tarnow Jul-Dec 2011**

Due to repairs and downtime the Tarnow group expects less impressive results in the second half this year after a strong first half. The second half will be affected by maintenance that has been carried out in the third quarter, combined with lower fertiliser sales. Other factors affecting performance include a minor accident at ZAK. Even so, the Tarnow group expects the year to end with revenue growth high margins. Due to the consolidation of ZCh Police, the Tarnow group hopes achieve to zl 6.5 billion in revenues in 2012.

#### **ZA Pulawy-Adipol**

ZA Puławy has started the final stages of completing the acquisition of a majority stake in Azoty-Adipol.at Chorzow. One of the advntages of Adipol is the location in the south of Poland, with excellent road and rail links. Moreover, the cokpany has its own railway siding. ZA Pulawy is located in the middle of Poland and strengthened its position in the north last year after the acquisition of Gdansk Phosphors. However, the south of Poland is largely dominated by the Tarnow group which is in direct competition to ZA Pulawy.

By taking Adipol, ZA Pulawy is expanding its potfolio and also enhancing its competitive ability when measured against ZA Tarnow its sudsidaries ZAK and ZCh Police. Due to the takeover by ZA Pulawy Azoty-Adipol will be able to continue investment on its projects. One of the plans includes the construction of a stearin plant aiimed at reducing the dependcy on imports into Poland. Although the most common application for stearin is associated with the production of candles, it is also used to produce glycerine and soaps, toothpastes, cosmetics, etc.

### **Biesterfeld Spezialchemie**

Biesterfeld Spezialchemie GmbH in east Germany has taken over 50% of Biesterfeld Pro at Sofia, from the jv Bross Holding AD. Biesterfeld Pro operates now under the name Biesterfeld Bulgaria. The company distributes specialty chemicals in the fields of life science, food Ingredients, etc, in Bulgaria. Biesterfeld Spezialchemie is a pan-European, rapidly growing distributor of highly sophisticated chemicals in the fields of LifeScience (personal care, oleochemicals, pharmaceuticals, household cleaning products, and organic synthesis), and food Ingredients.

were also higher by 22 million lei. In the first half of this year, Chimcomplex achieved a net profit of nearly 7 million lei, compared to losses of 3 million in the same period in 2010.

Chimcomplex is carrying out studies and other developments, even though debts to banks are still presenting a problem. In recent years, Chimcomplex recorded a very high degree of indebtedness of 160 billion lei, and will require around four consecutive years of profit to eliminate these debts. 2011 and 2012 are expected to be relatively good for Chimcomplex, with growth rates of around 8-9%.

Chimcomplex has developed a strategic plan tailored for the period 2011 to 2014, covering electricity and environmental measures. The programme must however be supported the current achievements of the plant, in terms of profits, although some European funds might be required. One of the strategic objectives includes energy efficiency on membrane (Soda M) unit. Other goals include partnership cooperation with other companies in the Onesti region.

## Carom restarts synthetic rubber production

The sole producer of synthetic rubber in Romania, Carom at Onesti, has resumed production after a break of six years. The synthetic rubber line produces 1,500 tons per month, and will soon be supplemented by two more lines. Carom now belongs to SC Energy Bio Chemicals, which also includes local companies Rafo and Chimcomplex all of which are working together to meet joint development goals. Carom resumed production of SBR 1502 in August 2011, after substantial maintenance and a revamp.

Modernisation of butadiene and MTBE facilities were started in early September 2008, resulting in 4-6,000 tons per month of C4 fractions. In April 2009 Carom was awarded ISO 9001 certification for the production and sale of butadiene, LPG, MTBE and other energy products. Carom is currently looking to develop a project for a glycerine purification plant, whilst other goals include the construction of a cogeneration plant.

#### Styron-SSBR plant

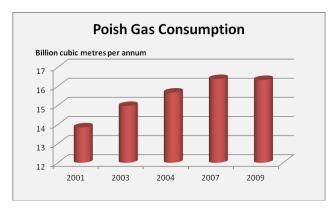
Styron has begun construction of a new rubber production line at Schkopau, which has an additional capacity of 50,000 tpa and will meet the growing demand for environmentally friendly high-performance tyres. The new production line will be built along the already existing plants. The production is scheduled to start in the fourth quarter in 2012. The first and second production lines at Schkopau were launched in 2002 and 2009, respectively. The additional capacity of 50,000 tpa will allow

Styron to help customers around the world meet the increasing demand for high performance tyres.

## **NCHZ-attracts two bidders**

Only two companies have bid to buy Novacke Chemicke Zavody (NCHZ) following the tender in August. Companies M-Energo and Spolchemie Slovakia, which belongs to Czech company Via Chem, each paid €1 million which was the amount set by the manager of the international tender. They will now have to wait for an audit which will determine the final bids. Meanwhile, the Slovak Parliament passed a draft amendment to the law on bankruptcy which will enable the European Commission to observe the tender. This means that if Slovakia does not choose the winner of the tender by 1 January 2012, the decision will be taken in Brussels.

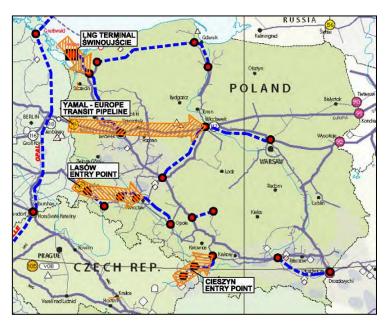
Despite the bankruptcy, NCHZ continues to be a major Slovak exporter. According to NCHZ, the market value of the plant is currently about €15 million, and still employs 1,500 full-time employees having laid off after 200 in the spring in order to cut costs. The creditors have accepted the sale of the plant is possible provided that the investor will keep the plant operating for at least the next five years.



#### Polish gas market 2012

The introduction of the Interconnector pipeline between Poland and the Czech Republic has created opportunities for Polish chemical companies to access gas supplies from other sources other than PGNiG. The four largest chemical plants in the country have already signed agreements for gas supply using the Interconnector which provides access to European pipelines and reduces the dependency on Russian gas. The only company not to conclude a supply agreement is ZA Tarnow due to possessing its own local deposits and reserves.

The existing system consisted of chemical companies buying gas solely from PGNiG due mainly to the lack of transmission capacity. However, the situation is now changing with the construction of the Interconnector to Cieszyn on the border with the Czech Republic which extends as far as Lasow near Zgorzelec in the eastern part of Poland. This opens new opportunities for the chemical industry and at the same challenges. The most important will be to create a market for gas trade and chemical companies will need to understand the potential gains and pitfalls of buying and selling gas.



The total gas demand of the chemical sector in Poland currently exceeds 2.5 billion cubic metres per annum. The major chemical players benefiting from the new gas transmission include ZCh Police, ZA Pulawy, ZAK and Anwil. ZCh Police recently signed an agreement with the Polish company Gaz-System for the provision of the gas transmission service, and the Interconnector 6-7% constitute will of requirements for ZCh Police starting January 2012. Although it will be possible to purchase approximately 40 million cubic metres of gas from Germany, PGNiG will remain a strategic partner of the company. Due to agreement with Gaz-System and scheduled launch on 1 January of Polish-German gas pipeline, ZCh Police will be able to save significant resources to purchase gas.

The Tarnow group consists of three chemical plants, ZA Tarnow, ZAK and ZCh Police. Their annual gas demand far exceeds the one billion m3, and this will increase if ZA Tarnow is able to undertake its expansion plans. In principle this means that the amount of gas consumed by GK Tarnow could be doubled. Due to its location in the past ZAK has faced the biggest restrictions in the past, particularly in the gas dispute between Ukraine and Russia. Several years ago, a lack of supplies caused the loss of Kedzierzyn several million-zlotys. The new supply opportunities will help to stabilise supply and possibly reduce costs.

The new interconnector will initially transmit around 500 million cubic metres of gas per annum to Poland, but this could later be increased to 2-3 billion m3. Construction on the Czech and Polish sides started in 2009, and is a joint investment between Polish company Gaz-System and Czech Net4gas. On the Polish side the section is 22 km long and the Czech side 10 km. The cost of building a new connection amounted to zl 120 million, and the construction was co-financed from EU funds.

The construction of the pipeline forms a part of a strategy to increase Poland's energy security, which includes, inter alia, the construction of at least two nuclear power plants, construction of LNG terminal in

Świnoujście, expansion of transmission networks and gas storage tanks, as well as securing proper conditions for shale gas extraction. These investments fit into the policy of strengthening the EU's internal energy market - one of the priorities of the Polish Presidency of the EU Council.

### Polish gas trading

As a result of the new pipeline connections ZA Pulawy is now preparing to trade gas. The company, which annually consumes over 800 million m3 of gas, believes that trade is a viable option. Four of the five largest chemical companies in Poland have concluded supply agreements for gas through the Interconnector which connects Germany in Lasów. The Polish-Czech gas company Tauron is the major beneficiary of the new interconnector as it can now supply before further distribution to Katowice and Blachownia. Agreements are expected to be formed between chemical producers and other suppliers. Tamero Invest, a Synthos subsidiary, entered has already into an agreement to supply natural gas for zl 40 million to Oswiecim. The gas supplier is Vemex from the Czech Republic.

# RUSSIA

Russian Chemic	al Production (	unit-kilo tons)
Product	Jan-Aug 11	Jan-Aug 10
Acetic Acid	86.9	104.3
Ammonia	9,390.3	8,726.3
Benzene	731.5	707.7
Butanols	120.5	174.6
C Black	483.7	428.2
Caustic Soda	664.7	699.9
Ethylene	1,636.8	1,630.8
Methanol	2,035.0	1,953.1
PET	234.0	196.4
Phenol	173.5	150.3
Phthalic Anhydride	70.0	75.3
Polyethylene	990.6	1,097.4
Polypropylene	453.5	419.8
Polystyrene	197.8	179.8
Propylene	832.2	713.6
PVC	369.7	383.4
PVC plasticizers	18.3	84.2
Soda Ash	1,871.0	1,782.7
Styrene	318.0	308.0
Synthetic Fibres	0.0	71.7
Synthetic Rubber	812.6	786.2
Urea	3,982.2	3,778.5

## Russian concessions on project costs

Russian government concessions to oil refineries and petrochemical companies that have been proposed could save companies up to 30% of construction costs in new projects. Oil refining and petrochemical companies have been waiting considerable time for a simplified system for obtaining permits to build refineries. The basis of the existing legislation was formed in the 1950-60s and has only been reformed slightly since the transformation from a planned economy to market economy. The process of construction and commissioning of production facilities currently requires more than 4,000 regulations for undertaking a project, and the procedure can be extremely cumbersome and expensive.

Overall the requirement to build plants at a certain distance from each other means that the total area of Russian petrochemical plants in 1.5-2 times higher than their foreign counterparts. Despite this regulation rates of accidents and injuries at work in Russia on average is three times worse than in the West. Moreover, the existing requirements for the distance between plants can restrict the possibilities for energy efficient solutions.

The Ministry of Economy has proposed adapting regulations to international standards that will reduce the financial cost of investment and construction time by

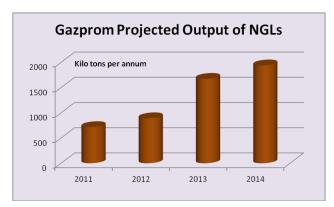
about 30%. Other savings could be achieved in capital costs and critically the time required for construction. The process of harmonisation in the construction of new production facilities takes an average of 22 months in Russia at present, whereas in Saudi Arabia it takes on average 11 months and in the USA up to 15 months. To obtain permission for the construction of a hazardous production facility in Russia requires 53 procedures over 540 days at a cost of \$388 011, according to the World Bank and Technip. As a comparison in the UK the procedure takes 95 days and costs \$26,302. Proposed changes could be important for speeding up the entire process of project development and construction, particularly taking into account the large-scale plans that are being assessed for the petrochemical industry in Russia.

# Feedstocks & petrochemicals

#### SIBUR-East Siberia & Russian Far East

SIBUR is considering several options for constructing gas processing plants linked to petrochemicals in the eastern parts of Russia, of which Sayansk, Krasnoyarsk and Vladivostok are under consideration. The proposed plant at Sayansk is based on associated gas availability from the Krasnoyarsk and Irkutsk regions in East Siberia. Hydrocarbon producers Rosneft, Slavneft and Gazprom will eventually require a gas processing

plant to process the associated gas from the fields under development in these regions. This could include 12 billion cubic metres of dry lean gas and up to 3 million tons of ethane and NGLs. The project at Sayansk is complicated, however, by the need to construct a gas pipeline to supply consumers with dry stripped gas to the Parabel-Kuzbass pipeline.



**Gazprom-gas processing and NGL developments** 

Gazprom has laid out plans to invest around 80 billion roubles in period 2011-2015 for the reconstruction and technical re-equipment of gas processing and liquids. The launch of the Novy Urengoy gas chemical complex will form a major part of the group's strategy with polyolefin production expected to start in 2013. Furthermore, Gazprom is considering an expansion of the original design capacity of 400,000 tpa for polyethylene to 1.2 million tpa. Gas liquid production should increase significantly in the next few years, helped largely by the Novy Urengoy gas processing plant. Moreover, Surgut Gazprom plans

to build an installation for condensate stabilisation to increase the capacity to from 8 to 12 million tpa.

Aside Novy Urengoy, Gazprom is also involved in preliminary studies to establish a gas refinery and chemical complex at Sayansk and may co-operate with SIBUR in the project. In 2010, Gazprom Processing, Sayanskkhimplast and SIBUR-Vostok signed a memorandum of understanding in which SIBUR has pledged to expand the resource base of the project, and Sayanskkhimplast to provide a platform for their placement of the gas processing plant and petrochemical plant.

Gazprom estimates that a processing plant capable of 4.5 billion cubic metres of gas per annum could be constructed, which could utilise feedstocks from the Chikanskoye and Kovytka fields. The Chikanskoye field is less abundant in feedstock resources but after the receipt of Gazprom's license for the much larger Kovytka field in early October the problem of raw material supply for the Sayansk project has to some extent been resolved.



# **Gas processing plant-Tomsk**

**Following** decisions resulting from SIBUR's feasibility study to locate the Barabinsk Gas Processing Plant (GPP) at Tomsk, Tomskneftekhim is expected to benefit further in terms of feedstock diversification and reduced dependency on traditional sources. The selected location of the Barabinsk GPP is the northern industrial district in Tomsk, which will be situated close to Tomskneftekhim. The GPP and Tomskneftekhim are intended to be integrated and the aim is to share the same infrastructure, facilities and support systems.

The projected GPP is being designed for

the processing of associated gas from the Luginetskoye-Pudinskiy group of fields. If gas demand from Tomskneftekhim and local consumers does not account for all of the gas produced at the GPP, the surplus could be fed into the Parabel-Kuzbass gas pipeline owned by Gazprom.

Tomskneftekhim Projected Feedstock Alternatives 2016 (kilo tons per annum)			
Plant	Feedstock	Availability	
West Siberian Oil Refinery	Naphtha	380	
Barabinsk GPP	NGLs	300	
Yuzhniy Balyk GPP	Ethane	90	

The Barabinsk project involves the collection of associated gas from a number of fields linked on a single compressor station. Feedstocks will then be transported to the future gas processing plant. Aside the Barabinsk plant Tomskneftekhim expects to receive some gas feedstocks from the Yuzhniy Balyk plant which is part of SIBUR-Tyumen. In addition to sources of gas feedstocks being made available to Tomskneftekhim, the construction of the West Siberian Oil Refinery at Tomsk

provides a further dimension for reducing costs in petrochemical production. The first stage of the West Siberian oil refinery is expected to comprise a capacity of 3 million tpa with plans to increase to 4 million tpa at a later stage. The first products from the refinery are expected to be delivered to nearby Tomskneftekhim for petrochemical production.

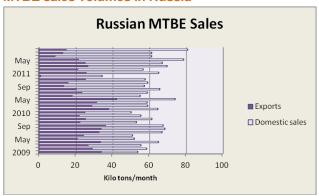
#### SIBUR-Citco

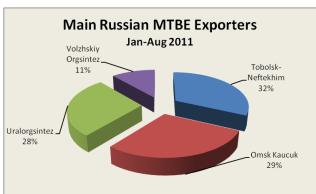
Trading company Citco Waren-Handelsgesellschaft has changed its name to SIBUR International GmbH. SIBUR acquired 100% of Citco in 2009, which had previously been one of the largest traders of liquefied petroleum gas in this market. Renaming a trader connected with its further integration into the structure of SIBUR. SIBUR International GmbH is now the export division SIBUR, ensuring the delivery of products from the holding company to Europe and Asia. The company has storage space in the ports of the Black and Baltic Seas.

## **Tobolsk-Neftekhim increases MTBE capacity**

Tobolsk-Neftekhim has completed the renovation of facilities for the production of MTBE, increasing capacity to 150,000 tpa. As part of the reconstruction company has upgraded the pumping, heat exchange equipment and the replacement of an adiabatic reactor. Amongst other producers Angarsk Petrochemical Company is investing in an upgrade of its MTBE plant to be completed in 2012.

#### MTBE sales volumes in Russia





MTBE production in Russia is focused mainly on the domestic market, although exports play an important part in the overall marketing. Exports accounted for 48% of total sales in 2010 against 7% in 2009. In the first eight months this year exports accounted for 45% total sales or 157,500 tons. The biggest consumers of Russian commercial product in foreign markets stem from the CIS including Ukraine, Belarus and Lithuania. For the first eight months of this year's total, their share was about 55% of the gross volume of Russian MTBE exports. The structure of Russian MTBE on external markets for the first eight months of 2011 changed significantly versus the same period of 2010. The main suppliers of MTBE to the Russian foreign markets in 2011 have included Tobolsk-Neftekhim, Omsk Kaucuk and Uralorgsintez. Imports are seldom seen in Russia but in September, the Pavlodar refinery in Kazakhstan sold 1,520 tons of MTBE in Russia which was 6.3 times higher than in August. All production has been shipped to the Saratov Oil Refinery, due to increased demand for high-grade gasoline.

#### Rosneft-Nakhodka petrochemical complex

Rosneft has been trying to allow continues to present plans to the local region for its proposed petrochemical complex at Nakhodka in the Russian Far East, where opposition is strong. Rosneft is also trying to engage foreign participation in the project, whilst at the same time stating that it would be ready to go alone if it cannot identify a partner. Japanese companies have shown interest in co-operation and investment in the Rosneft project, but it remains unclear whether a jv could be created. Efforts have been made by Rosneft to attract foreign companies to provide marketing assistance, and this has indicated a big demand for products in Asia and Pacific Rim.

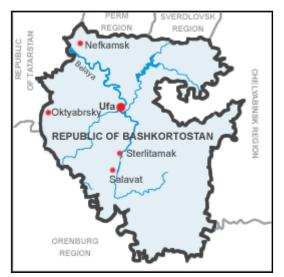
At the end of 2010 Rosneft approved the overall concept of building a petrochemical plant near Nakhodka in the Far East. The complex is set to be designed to process between 3.4-5.0 million tpa of feedstocks and will process naphtha and LPGs from the Komsomolsk and Achinsk Refineries and Angarsk Petrochemical Complex. The target markets are the Far East and Southeast Asia, primarily China. It is planned that the facility will process about 3.3 million tpa of naphtha, which would translate into 1.2 million tpa of ethylene. Rosneft originally planned to construct a refinery with a capacity of 20 million tpa, but partly due to environmental reasons the project was revised downwards at the same time increasing the proportion of petrochemicals. The first stage of

the project envisages the production of polymers (polyethylene and polypropylene), benzene, olefins, mono ethylene glycol, hexene, butadiene, etc. Some of the licensors have already been selected, and work is currently under way to find a general contractor.

#### Gazprom could invest around 80 billion roubles at Salavat

The first phase of the large-scale expansion of ethylene capacity at Salavat has started with pre-design contracts being concluded with Toyo and KBR. Currently Gazprom Neftekhim Salavat is focused on the upgrade of the existing EP-300 cracker which will raise capacity to 380,000 tpa. The second phase envisages a 600,000 tpa cracker and subsequently a 400,000 tpa cracker thus raising the total capacity to 1.38 million tpa. Total costs of the project at Salavat are valued at 140 billion roubles.

The project includes the construction of a number of industries for the production of polymers in the 2016-2018 period. In addition, agreements have been reached recently with Japanese licensors for acrylic acid and ester technology to be added at Salavat as part of the diversification of petrochemical production.

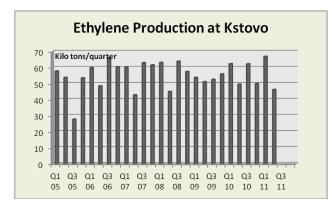


## Gazprom Neftekhim Salavat-Kaustik new pipeline

Gazprom Neftekhim Salavat and Kaustik aim to start construction of a new ethylene pipeline in the first half of 2012 which will link to Sterlitamak to Salavat. This will allow the delivery of 20 tons per hour via the pipeline, whilst Kaustik currently consumes 12 tons of ethylene per hour supplied via the so-called ethylene ring.

The cost of building such capacity ethylene is estimated at \$1 million per kilometre, and the total cost of the project coming out approximately at \$30 million. The main ethylene ring Salavat-Sterlitamak-Ufa-Nizhnekamsk-Kazan, is owned by Nizhnekamskneftekhim. The length of the Salavat-Sterlitamak link is less than 32 km, but Kaustik has repeatedly complained that the owner of the pipeline inflates transport costs prices of raw materials. In 2006, the FAS fined Nizhnekamskneftekhim 70 million roubles for price hikes. In view of the expansions in

olefin capacity at Salavat, Kaustik requires a pipeline system that can not only deliver more ethylene to meet current VCM needs, but also future plans for more VCM-PVC capacity.



#### SIBUR-Kstovo

SIBUR-Kstovo produced its five millionth ton of ethylene on 25 September since start-up on 18 October 1981. The construction of the complex was started in the mid-1970s, involving Soviet, East German and Czechoslovak engineers. After incorporation into the SIBUR group in 1999-2000 the installation has reduced its dependency on naphtha and increased consumption of mixed raw materials including liquid and gas.

SIBUR-Neftekhim has introduced new facilities for the EP-300 cracker over the past few years, including the

capability of processing LPGs and a new high-furnace pyrolysis of hydrocarbons F-110, 120 and 130, supplied by Technip. By product pipeline, the plant is linked to Dzerzhinsk to supply ethylene to the plants for ethylene oxide and glycols, as well as the production of PVC and PVC cable, where it is used in the production of ethylene, PVC and other products.

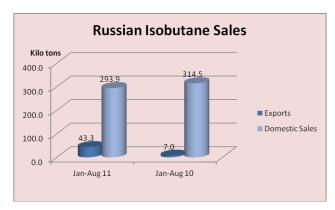
## Russian ethylene pricing-regulations

The conflict over ethylene prices in the past year between petrochemical producers and PVC producers in Russia has led to the Russian Federal Antimonopoly Service (FAS) to devise a formula which is related to the PVC price. The conflict between Kaustik at Sterlitamak and Gazprom Neftekhim Salavat (formerly Salavatnefteorgsintez) provided the basis of the new formula, with both companies unable to agree on a suitable price. The FAS with the support of interested companies decided to start developing rules of non-discriminatory access to the ethylene in the monopoly position of economic entities, owners of the pipeline system.

The absence of a contract created Kaustik significant problems, but the two companies have now resolved their differences with a five year contract. However, Sayanskkhimplast and Angarsk Polymer Plant constantly disagree over pricing and volumes. The FAS is likely to develop a draft regulation in order to avoid future disputes in the Russian ethylene market. The main purpose of the draft regulation is to ensure continuity of supply and transportation of ethylene, preventing conflicts of interest of producers and consumers of ethylene. Non-discriminatory access to the ethylene provides equal conditions for the acquisition of goods to consumers, regardless of legal form and legal relationship with the manufacturer if there is a connection to ethylene.

## Russian petrochemical feedstocks

Propane and butane output in Russia increased in the period January-August 2011 by 10.5% over the same period of 2010 and amounted to 7.282 million tons. Exports of butane from Russia have increased significantly this year due partly to the resumption of production of olefins by Karpatneftehim located in Ukraine in September 2010. This consumer has accounted for 120,000 tons of butane in the first seven months in 2011. More important destinations included Turkey and Finland which took 251,000 tons and 199,700 tons respectively in the first seven months.



The main Russian plants for butane exports include Tobolsk-Neftekhim, Uralorgsintez and the Omsk oil refinery. These three plants accounted for 295,200 tons, 95,800 tons and 89,300 tons respectively. By 2015, production of LPGs in Russia is forecast to reach around 16.4 million tons; domestic consumption is expected to rise from higher demand in the petrochemical sector and as a fuel for utilities. From January to September shipments of isobutane to foreign markets increased by 6.2 times to 43.3 thousand tons. High export activity reduced domestic sales by 3% to 293,900 tons. In the isobutene domestic market sales are dominated by MTBE, with

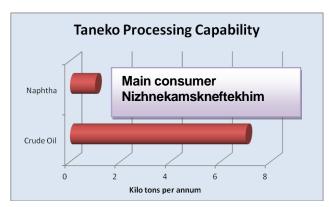
main consumers including Nizhnekamskneftekhim, Togliattikaucuk and Omsk Kaucuk.

In other feedstocks, domestic sales of butylene-butadiene fractions totalled 247,700 tons in the first nine months in 2011 which was the same as in 2010. Major suppliers to the merchant market include Angarsk Polymer Plant, Ufaneftekhim and Tomskneftekhim, none of which produce synthetic rubber. The main consumers include Togliattikaucuk and Nizhnekamskneftekhim: Omsk Kaucuk and Sterlitamak Petrochemical Company also buy fractions on the open market.

Naphtha sales to the Russian domestic market totalled 222,260 tons in September, 19% up on August due to demand from the petrochemical sector. 60% of naphtha sales or 134,160 tons went to steam crackers, partly influenced by increased purchases by Stavrolen and Tomskneftekhim.

## Taneko-refinery starting commercial operations

The first phase of testing the Taneko complex at Nizhnekamsk took place at the end of September, running at

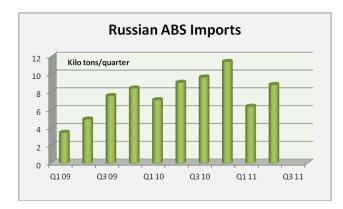


60% of utilisation. The CDU-AVT-7 (primary crude oil processing plant, with capacity of 7 million tpa, processed 361,500 tons of crude in the first phase producing 47,800 tons of naphtha; 114,200 tons of domestic fuel and heating oil 193,100 tons of fuel oil. Currently, in accordance with organisational and technical measures agreed by Rostekhnadzor, the company is engaged in registration of documents for obtaining a license to operate. Rostekhnadzor granted approval for Transneft to pump oil to Taneko in the amount requested by the company. At the same time Transneft has the right to sell Taneko not a raw material for tests, and the commodity oil.

Tatneft owns 91% shares in Taneko through of Svyazinvestneftekhim and 9% directly. The first phase of Taneko's refinery was put into a mode of start-up on 26 October 2010. In June this year, the refinery started the procedure towards full production which is expected to be in full flow by the end of 2011.

The aim is to increase capacity eventually to 14 million tpa. The significance of Taneko is that Tatarstan until now has lacked advanced refining capability and on the original Nizhnekamsk refinery could only process a limited amount of oil. These facilities not only provide the republic the tools to be able to process large volumes of oil extracted locally, but they also can provide more feedstocks for Nizhnekamskneftekhim. Evaluations are currently underway regarding the proposed 1 million tpa cracker for Nizhnekamskneftekhim and naphtha from the Taneko refinery is expected to play a role.

## **Bulk Polymers**



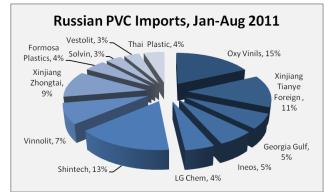
## Russian ABS & polystyrene

Nizhnekamskneftekhim expects to start the production of ABS in September 2012, adding to the existing Plastik plant at Uzlovaya. The bulk of ABS used in Russia is imported. The capacity of the new plant at Nizhnekamsk will be 60,000 tpa with an investment value of 4.3 billion roubles. A wide range of consumers in Russia, including POZIS in Tatarstan, have already expressed interest in the product. Nizhnekamskneftekhim is also expanding polystyrene capacity to 260,000 tpa in 2013, with the start of the fourth line. Eventually the company hopes to reach 290-300,000 tpa.

Nizhnekamskneftekhim reduced exports of polystyrene in August to 2,280 tons, 13% less than in same month last year. For the period January to August Nizhnekamskneftekhim exported 20,410 tons of polystyrene which was 17% less than in the same period in 2010. The company is selling more product to domestic markets thus restricting export availability.

The 60,000 tpa plant for ABS at Nizhnekamsk will add to Plastik's 40,000 tpa plant at Uzlovaya which will compete strongly against imported material. On the basis of import trends since 2009 Nizhnekamskneftekhim may have a surplus to export over domestic sales. Despite current import volumes being lower than the projected capacity at Nizhnekamsk, the company expects the extra availability to generate new applications and end-uses.

Plastik, as part of the SIBUR group, has invested over 300 million roubles in modernisation of production of styrene. After upgrading the plant, the capacity for styrene increased 1.5 times up to 60,000 tpa. The modernisation of the units has included the distillation column, whilst steam jet units were replaced by modern liquid ring vacuum system.



which was 10% less than last year.

## Russian PVC consumption, Jan-Aug 2011

Russian PVC consumption is estimated to have increased 18% in the first eight months of 2011 to 765,500 tons. The rise in consumption was facilitated by an increase in imports which rose 1.5 times over 2010 to 397,500 tons. The largest share of imports arrived from the USA and South East Asia (mainly China). Imports from the US totalled 174,400 tons in the first eight months which is 2.6 times higher than the same period last year. Imports from South East Asia rose 1.3 times to 132.300 tons.

Domestic production of PVC in Russia fell 3% in the period January-August 2011 to 370,250 tons. Shipments abroad continue to remain small at just 2,380 tons

One of the main causes explaining lower production this year has been reduced utilisation by Kaustik at Sterlitamak. However, the plant is now running at full capacity following the conclusion of a five year supply contract for ethylene with Gazprom Neftekhim Salavat. The company requires around 12 tons per hour of ethylene, which is being supplied mostly from Salavat.

## **Omsk-polypropylene project**

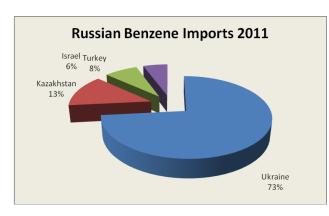
The Polyom polypropylene plant at Omsk has now been connected to the pipeline for propane-propylene fractions at the Omsk refinery owned by Gazprom Neft. Titan, which owns Polyom, has experience of cooperation with Gazprom Neft and already receives propane-propylene fractions for use by Omsk Kaucuk. The estimated capacity of processing for propane-propylene fractions at Polyom is 250 000 tpa aimed at producing 180,000 tpa of polypropylene. Any surplus propylene will be pumped to Omsk Kaucuk for cumene production.

#### **Russian LDPE market**

Exports continue to play an important role for Russian LDPE producers allowing plants to achieve close to full capacity. Plant utilisation rates have averaged 96% this year despite the main country of export China reducing the volume of purchases. Imports into Russia remain low at least in comparison to HDPE and will amount to around 100,000 tons this year. Belarus supplies a large share of imports from the Novopolotsk plant, which can be delivered quicker than from Europe and Asia, and often cheaper. Around 85% of the entire issued LDPE is used in the production of polyethylene films. Some processors involved in the production of high quality LDPE film or cable prefer to purchase West European polymer as it provides higher quality characteristics.

The largest supplier of LDPE to the Russian domestic market in 2011 is Tomskneftekhim (as opposed to last year, Kazanorgsintez). For the first seven months of 2011 the share of total Russian production by Tomskneftekhim was 24%. This was followed by Kazanorgsintez and Ufaorgsintez with 23% and 17% respectively.

## **Aromatics & derivatives**



#### Russian benzene imports rise in 2011

Imports of benzene into the Russian market have been more noticeable in 2011 than in previous years. Imports totalled 25,900 tons in the first eight months in 2011 which was 4.5 times more than the same period last year. Ukraine was the main supplier, particularly from the eastern parts of the country.

Russia produced 82,800 tons of benzene in August which was 7% less than in July. Reduced production was due to repairs at Gazprom Neftekhim Salavat and Angarsk Polymer Plant. In the first eight months this year Russia used 722,400 tons of benzene in

applications, almost identical to last year. Whilst production has not taken place at the West Siberian Metallurgical Plant at Kemerovo extra output has been available from Uralorgsintez.

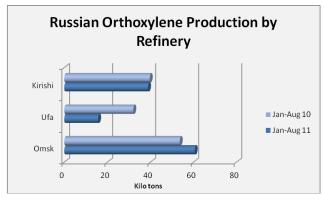
Russian Benzene Market (unit-kilo tons)				
Jan-Aug 11 Jan-Aug 11 Jan-Dec 10 Jan-Dec 09				
Production	792.8	8.008	1196.5	1118.2
Exports	14.2	22.2	31.0	0.0
Imports	25.9	5.8	6.8	11.9
Market balance	804.5	784.5	1172.3	1130.2

Russian benzene production totalled 792,800 tons in the first eight months in 2011 which was 1% less than in 2010. Petrochemical plants increased production 10% to 441,700 tons, whilst refineries reduced volumes by 6% to 191,000 tons. The reduction was due to repairs on the catalytic reforming unit at the Ryazan oil refinery and Slavneft-Yanos in March to May 2011.

Coal based benzene production fell by 18% to 157,400 tons due to the idle plant in Siberia. Overall, the deficit was made up by extra production from petroleum based plants including SIBUR-Neftekhim and Uralorgsintez. However, increasing demand has put pressure on buyers who have been forced to import.

The main buyers of benzene included Samaraorgsintez and Kuibyshevazot, which accounted for respectively 42% and 40% of total imports. Samaraorgsintez and Kuibyshevazot bought product previously from West Siberian Metallurgical Plant. Imports are sourced largely from coal based benzene plants in the eastern parts of Ukraine. Earlier this year benzene supplies were bought from Israel and Turkey.

Imports may increase slightly for the rest of this year and for most of 2012, but domestic supply could be increased after the new regulations have been applied requiring a reduction in aromatics content in motor fuels. This is expected to result in more benzene availability from refineries. These changes may not address the long term supply side questions over benzene, but they do offer some respite.



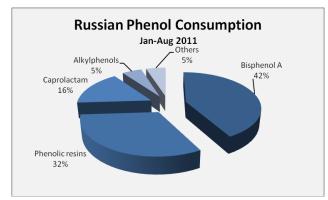
#### varnishes.

#### Russian orthoxylene supply, Jan-Aug 2011

The increase in paraxylene production in Russia this year has led to a subsequent reduction in orthoxylene availability which has created tight supply in the domestic market. In addition to high demand for orthoxylene from Kamteks-Khimprom to produce phthalic anhydride, demand has been strong this year from other sectors such as plasticizers and alkyd paints. Around 68% of orthoxylene produced in the period January-August 2011 were used in the production of phthalic anhydride under long-term direct contracts, whilst other applications included high-octane additives and as a solvent for paints and

In 2011, paraxylene production has increased due to increased demand for PTA both at home and on export markets. Overall for January-August 2011 Russia increased xylene production by 3% against 2010, but orthoxylene production dropped 8% in the same period to 115,100 tons. The largest reduction was recorded by Ufaneftekhim, which focused more on paraxylene to meet demand from nearby Polief.

The deficit in orthoxylene has led to upward pressure in prices in the Russian market. Since January, prices have risen 1.5-fold from 29 900-31 900 roubles per ton to 46 000-48 000 per ton in August. Demand is expected to decline over the winter months, but the market cycle seems likely to repeat itself in 2012 unless refineries redress the balance between orthoxylene and paraxylene.



## Russian phenol market, Jan-Aug 2011

Phenol consumption in Russia rose 14% in the first eight months in 2011 over the same period last year, reaching 162,000 tons. Russian consumers increased their purchases of phenol on the merchant market by almost 18%, while captive consumption has grown almost 10%. Reduced processing of phenol in the bisphenol A resulted in changing consumption patterns of phenol in Russia by industry in August. Seasonal demand is expected to stay positive until almost mid-November.

Planned repairs to plants that produce marketable products, in September and October, have resulted in less availability for domestic purchases. Imports have become more attractive in terms of price and availability for consumers in the Volga region; for example Kuibyshevazot bought its first batch of Finnish product in September.

#### Russian PET project in Kabardino-Balkaria

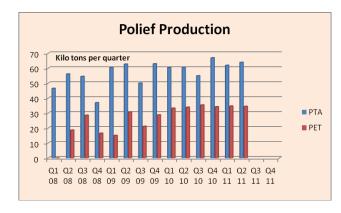
The Ministry of Regional Development of the Russian Federation has approved four investment projects in the territory in the Kabardino-Balkaria region, totalling more than 27 billion roubles. As part of this programme the Investment Fund will provide 1.338 billion roubles for building the PET plant in Kabardino-Balkaria. The total cost of the plant is estimated at 12.3 billion roubles. The investor of the project is the company Ethan which aims to use 2.7 billion roubles of its own funds, whilst 8.1 billion roubles will be provided through loan funds. The first phase of the project involves start-up in 2013 and 162,000 tpa of PET, rising to 288,000 tpa in 2014 and 486,000 tpa in 2015. The supplier of the technology and equipment is Buhler AG. The plant intends to produce PET food and textile grade products, of which around 30% of the production will be sold domestically providing a challenge to imports. The supplier of technology and equipment stands Swiss Buhler AG.

#### Alko-Naphtha-PET

Alko-Naphtha produced 9,470 tons of PET in August, 18% more than in July, and is gradually increasing

utilisation rates. In the first eight months of 2011 production amounted to 46,710 tons accounting for 18% of total Russian production. Alko-Naphtha imported 7.600 tons of PTA in August which was twice less than in July.

The largest amount (2,100 tons of PTA) was bought from PKN Orlen at a price of \$1,242 CIF Kaliningrad. In addition, Tuntex Petrochemicals from Taiwan shipped 1,500 tons at \$1,300 CIF Kaliningrad, Indorama Petrochem 2,000 tons at \$1280/ton CFR Kaliningrad, and Lotte Chemical UK 2,000 tons at \$1284 CFR Kaliningrad.



#### **SIBUR-Polief**

The Russian Federal Antimonopoly Service (FAS) has granted SIBUR the right to acquire 49.99% of Domestic Polymers, which controls Polief. At present SIBUR owns 50.000002% of the share capital in Domestic Polymers and can now increase this to 100%. The next decision for the FAS to take is whether to allow SIBUR to take control of 82.5% in Polief, but the FAS is concerned about the impact on competition for the PTA market. If approved SIBUR will make an offer to buy the Bashkortostan Republic owned 17.5% stake in Polief which is controlled by

## Bashneft.

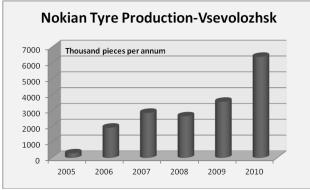
The Russian state bank VTB this year sold its 32.5% stake in Polief to Domestic Polymers, and thus stage by stage SIBUR is increasing its ownership of the PTA-PET complex at Blagoveshchensk. Domestic Polymers was created by SIBUR and LUKoil-Neftekhim in 2007 in an effort to buy Polief. In 2007, the jv acquired a 50% stake in Polief for 2.085 billion roubles (\$80 million). In 2010 LUKoil sold its stake in Domestic Polymers to SIBUR.

SIBUR is involved in developing and implementing the investment programme of Polief to increase PET capacity to 200,000 tpa by 2013. As a manufacturer of light hydrocarbons, the company will contribute to the republic's petrochemical companies with additional volumes of raw material. In addition, SIBUR is considering possible participation in the construction of new petrochemical plants in Bashkortostan.

## **Synthetic Rubber**

#### Nokian expanding tyre production

Nokian Tyres expects production to increase 1.5 times in 2011 against 2010 to 9 million tyres. At the beginning of the year production capacity amounted to 8 million tyres a year, but now it has reached 9-9.5 million tyres at Vsevolozhsk and will increase to 11 million tyres by the end of this year.



In 2012, the capacity of the plant at Vsevolozhsk, near St Petersburg, should reach a capacity of 12 million tyres per annum with a further expansion to 17 million tyres projected. Nokian Tyres Group has also begun construction of a new tyre plant in Russia, which will be located adjacent to the existing plant at Vsevolozhsk. This will increase production capacity by another 5-6 million tyres per annum.

## **SIBUR-Sinopec jvs**

SIBUR and Sinopec have signed a memorandum of understanding on the possible creation of two jvs for

the production of NBR at Krasnoyarsk and Shanghai. The memorandum was signed during the visit of Russian Prime Minister Vladimir Putin to China. The companies have also agreed to explore possible partnerships in the field of polyisoprene rubber and other areas, including the supply of petrochemical raw materials and non-traditional sources in Russia and China. In addition, the parties will negotiate mutually beneficial cooperation in the field of raw materials and processing.

SIBUR has agreed to supply the technology for the polymerisation of butadiene-nitrile rubber. Existing production capacity of NBR at the Krasnoyarsk Plant of Synthetic Rubber, which is the only Russian manufacturer of this type of rubber, will be increased to 56,000 tpa. In 2010 the plant produced 37,500 tons. Future production capacity at Shanghai envisages a capacity of 50,000 tpa. China is a large market for SIBUR accounting for 14% of the SIBUR group's exports in 2010 at €312 million. The group sells to the Chinese market a diversified range of products, primarily polyethylene, nitrile rubber and butyl rubber.

## Togliattikaucuk-upgrades

Togliattikaucuk has invested 380 million roubles on maintenance in the first eight months this year, which will rise to 1 million roubles by the end of the fourth quarter. At the isoprene monomer plant the company has invested in the production process whilst in the copolymer division it has introduced an automated process control system supplied by Yokogawa Electric. Other ongoing projects include the butyl rubber plant where modernisation will be completed in 2012.

## Orgkhim-expansion of synthetic rubber components

Biochemical holding Orgkhim expects to invest more than 0.5 billion roubles prior to the end of 2012. This will double the production of new components for synthetic rubber and rubber compounds at Uren in the Nizhny Novgorod region. For the project the company is asking the regional government tax incentives, particularly for the already completed construction of the third stage of the enterprise. Orgkhim started the project from September 2009: increasing capacity to 50,000 tpa of components. The fourth stage of the project is expected to cost of 531 million roubles and is scheduled for May 2012 which will raise capacity to 100,000 tpa.

The company already operates in Asian markets (South Korea, China), in addition to East and West Europe (Poland, Czech Republic, Slovenia, Hungary, Germany, Finland, etc). In the long term the holding plans to increase global market share to 18% by constructing a similar Nizhny Novgorod installed at sites in China and the US. The main suppliers of raw materials to Orgkhim include LUKoil, Rosneft and Gazprom Neft. Orgkhim hopes to receive benefits from the regional government for income tax (at a rate of 3.5%) and property tax (amounting to 2.2%) to mid-2016.

Orgkhim was created in June 2001 on the base of the former wood chemical plant in the Nizhny Novgorod region at Uren. Orgkhim specialises in the design and manufacture of resins and emulsifiers for synthetic rubber industry, as well as on the extraction of pine resin and the production of rosin, glue, etc. The company is one of three leading producers of printing hotmelts and is the sole producer of peracetic acid. Currently the main consumers of its products include synthetic rubber producers Nizhnekamskneftekhim, SIBUR-Holding and Sintez-Kaucuk at Sterlitamak.



## Russian tyre market, Jan-Aug 2011

Russian tyre consumption has risen almost 50% in the first eight months of 2011 against the same period last year, although when compared against 2008 the increase is much smaller at 2%. The share of imports in gross consumption amounted to 42% in the period January-August 2011 against 37% in the same period last year. The main suppliers of tyres in Russia during this period were Japan (19% of total imports), China (14%), Korea (13%), Finland (11%) and Germany (8%) and Poland (7%). Truck tyres increased 83% in the period January to August totalling 2.08 million pieces, with China being the main supplier.

Regarding exports the share in Russian tyre production amounted to 21% (5.68 million pieces) in the first eight months of 2011 against 26% last year. The main destination for Russian tyre exports is Ukraine. The main factors facing the tyre industry at present include changes in the cost of raw materials and the need to introduce seasonal tyres. Consumption is rising in Russia thus reducing export activity and this trend is expected to continue for the next few years in line with development of the car industry.

#### **Bekaert Lipetsk**

Bekaert Lipetsk, a subsidiary of global concern Bekaert, has launched the second phase of the plant for the production of steel cord and bead wire in the Lipetsk special economic zone (SEZ). To date, the company has

invested 2.04 billion roubles in the plant with construction of the second stage taking about a year. Production from the commissioning of new capacity will amount to 15,000 tpa.

Bekaert launched the first stage of the production line in 2009 with a capacity of 6,500 tpa has been increased to 15,000 tpa following the launch of the second line. The company is also planning construction of the third stage of the plant with the aim to increase capacity to 30,000 tpa. It is assumed that production by Bekaert Lipetsk will be delivered to Russian tyre manufacturers including Nizhnekamskshina and the SIBUR group.

## Methanol & related chemicals

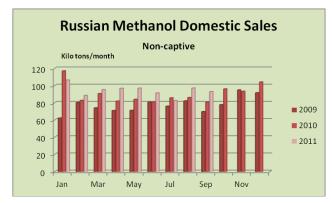
### Russian methanol projects

UralMetanolGroup, the jv between Itera and Uralkhimplast, has received the endorsement from the government environmental group Glavgosekspertiza for the construction of a methanol plant with a capacity of 600,000 tpa at Nizhny Tagil. The total investment in the methanol plant planned at €300 million and construction is scheduled for completion by 2014.

In July 2006, Itera and Uralkhimplast signed an agreement on the construction of the Nizhny Tagil Complex for advanced processing of natural gas into products of organic chemistry. This resulted in the creation of the jv UralMetanolGroup. Construction of the plant is being undertaken by the Czech company Alta, and 85% of the funding is being provided by the Czech Export Bank. The complex is being built on the Uralkhimplast site, with Itera providing the gas.

The Russian bank VEB has attracted loans from foreign banks worth \$0.5 billion for a period of five years to support the construction of the Mendeleevsk ammonia, urea and methanol complex. The project is being implemented by Ammonium. The foreign banks club consists of foreign banks Sumitomo Mitsui Banking Corporation, Bank of Tokyo-Mitsubishi UFJ, Ltd., Mizuho Corporate Bank, Ltd., and JPMorgan Limited.

The Dzerzhinsk based institute NIIK and Sojitz Corporation (Japan) have signed a contract to design the urea unit as part of the new Ammonium complex at Mendeleevsk in Tatarstan. NIIK will act as a general contractor for the design and construction of offsite and storage facilities in the project. The entire complex is planned for completion by 2015



## Russian domestic methanol market, Jan-Sep 2011

Sales of methanol on the domestic merchant market totalled 93,000 tons in September, 4% down on August. Metafrax increased the volume of the product compared with August by almost 23%. Sibmetahim and TOAZ, on the contrary, reduced sales of commercial product in September to the domestic market relative to August, 11% and 23%, respectively. The largest consumers of commercial methanol in Russia include Nizhnekamskneftekhim, Togliattikaucuk, as well as plants in the Gazprom group.

In the first nine months of this year, shipments of commodity methanol for the domestic market of rose by 7% against 2010 and totalled 848,500 tons. Apart from January, sales on the open market have exceeded performance in the past two years due primarily to increased demand from synthetic rubber producers. The largest consumer of methanol in the Russian market for January-September this year was Nizhnekamskneftekhim, accounting for 35% of purchases. Gazprom took 26% of the market followed by Togliattikaucuk with 14%. Metafrax, Sibmetahim and TOAZ accounted for 87% of domestic sales in the period January-September 2011. Metafrax increased domestic sales by 15% this year, whilst Sibmetahim and TOAZ increased their supply by 18% and 59%, respectively.

#### Russian urea projects

ASG Power has signed an agreement with the Omsk administration to build an ammonia-urea complex, planned at Kalachinsk. The regional Ministry of Industry is to provide ASG Power with the required information on the construction of the complex, whilst the Swiss company will start to consider options for the construction of the complex, and start to prepare technical documentation.

#### Other products

#### Gazprom Neftekhim Salavat-acrylic acid project

Gazprom Neftekhim Salavat has signed an agreement with Mitsubishi Heavy Industries for the support of Mitsubishi Chemical Corporation and Sojitz Corporation to license technology and supply basic engineering for an acrylic acid complex. The proposed project includes 80,000 tpa of acrylic acid and up to 60,000 tpa for butyl acrylate. The new units will be built next to the Salavat petrochemical complex and be based on Mitsubishi technology. The project is targeted for a completion date of the fourth quarter in 2015. In addition to acrylic acid, Gazprom Neftekhim Salavat is considering investments into water-dispersion paints and other derivatives areas such as superabsorbents.

#### **Galopolymer-expansions**

Galopolymer (formerly Plant Polymers KChKhK) is expanding its fluoropolymer facilities by investing 532.6 million roubles over the next year. In 2011 the company plans to complete the project for the production of chloroform methane using new technology. The project started in 2010, with investment amounting to 224.7 million roubles. Another important goal is the conversion of chlorine from mercury to membrane method. Investment in the project in the period 2010-2013 has been estimated at 872 million roubles.

Galopolymer is part of the Uralkhim group which was created by former SIBUR CEO Dmitry Mazepin. This has merged several Russian chemical and mineral fertiliser producers, including Kirovo-Chipetsky Chemical Combine (KChKhK) and Galogen at Perm.

## Russian hydrochloric acid market

Russian HCL Market (unit-kilo tons)				
Jan-Jul 11 Jan-Jul 10				
Production	587.8	599.7		
Exports	22.0	19.7		
Imports	1.7	1.2		
Market Balance	567.4	581.3		

Hydrochloric acid consumption has been in decline in the past three years. From January to July 2011 consumption totalled 565,700 tons, which is 3% less than the same period in 2010. Production has also declined by 2% to 587.750 tons. The largest producers of hydrochloric acid in Russia include Kaustik at Volgograd, Kirov-Chipetskiy Chemical Plant, Kaustik at Sterlitamak, Khimprom at Cheboksary and Khimprom at Volgograd. These plants produced 76% of total production in the first seven months in 2011

Hydrochloric acid imports into Russia play an insignificant role in the market. Small amounts of Ukrainian production are purchased by Russian consumers which benefit from logistics. The cost of acid delivered from Ukraine, this year has not changed and has amounted on average to around \$80 per ton. Consumption of hydrochloric acid in Russia is focused on barium chloride, pigments, various additives and coagulants. In addition, large amounts of hydrochloric acid are used in the oil and gas industry.

Gazprom Neftekhim Salavat aims to complete construction and installation for a new urea granulation unit in the near future. The new unit will be capable of producing 1,400 tons per day and has been constructed by Toyo Engineering Corporation. The installation will be provided with the company's own integrated transformer substation. An option exists to increase capacity by 10%; production is to be focused largely on exports.

Akron intends to double urea capacity by 2013, and bring it to a total of 900,000 tpa. The company now produces 450,000 tpa and in December 2011 plans to introduce a new plant with capacity of 330,000 tpa. Another 120,000 tpa is planned by 2013.

## Azot to start melamine plant in 2012

Azot at Nevinomyssk aims to start producing melamine in March 2012 with the start-up of the new 50,000 tpa plant. Russia annually imports about 35,000 tons of melamine and thus the new plant will in theory at least cover the full needs of Russia and the CIS. The volume of investment by Evrokhim in this project will amount to about 9 billion roubles. The latest technology has been used for the project leading to the production of low-pressure melamine.

The mother company Evrokhim plans to invest around \$1 billion in Azot at Nevinomyssk to build a fertiliser complex including ammonia at 700,000 tpa, in addition to derivative plants. Ammonia from the new complex will be shipped to Belorechensk Minudobrenya, which is also part of Evrokhim. This project could take four to five years to construct.

## Belarus

#### Azot Grodno, exports Jan-Aug 2011

Grodno Azot increased exports 1.6 times in the period January-August 2011 against the same period last year to \$331.4 million. The company issued 497,500 tons of mineral fertilisers which is 26,700 tons higher than the same period, caprolactam production rose 6.9% to 88,700 tons and methanol was down 5.3% to 50,500 tons. Labour productivity increased 62.3% in the first eight months showing a major improvement over 2010 due to structural changes.

Investments in fixed assets from January to August this year totalled 164 billion Belarussian roubles which was up 75.2% over 2010. Azot's long-term development programme in the period 2011-2015, and then up to 2020, comprises more than a dozen investment projects. Already the company has completed the construction of facilities for the production of methyl esters of fatty acids with a capacity of 30,000 tpa. Another project close to completion is the expansion of the

urea-3 plant. Most of the other units will be revamped in addition to the construction of a new melamine plant.

## Azot & Khimvolokno Grodno complete merger

Azot and Khimvolokno at Grodno have nearly completed their merger, with amendments to the charter already approved. The merger has been initiated by Belneftekhim and has been approved by the government. The aim of the merger is to improve the performance of the two companies and provide more opportunities to diversify their product choices. There are plans to optimise costs by using one enterprise to produce polyamide-6 and its derivatives. The reorganisation of the two companies and merger into one is expected to be completed this year.

Azot started went operations in 1963 and in 2002, was converted into an open joint-stock company. Khimvolokno is a major manufacturer of polyamide and polyether yarns and fibres and polyamide-6 and derivative composite materials. The Grodno-based plant was founded in 1971, and similarly to Azot was converted into an open joint-stock company in 2002.

	Chemical C t-kilo tons)	Output
Petrochemicals	Jan-Aug 11	Jan-Aug 10
Ethylene	84.7	79.1
Benzene	61.1	54.6
Caprolactam	76.8	71.6
Phthalic Anhydride	6.7	14.0
Polyethylene	80.3	78.5
PET	118.8	128.3

Khimvolokno's project programme involves commissioning of complete process plants combined spinning, stretching and winding of polyamide (PA-6) industrial yarns. Its completion is planned for the third quarter in 2012. After the full development of capacities, this will help to develop the production of high-strength fibres and increase output by 30 tons per day. Reconstruction of the twisting plot twisting and weaving shop represents further sub-project as part of the reconstruction of polyamide industrial and cord yarn.

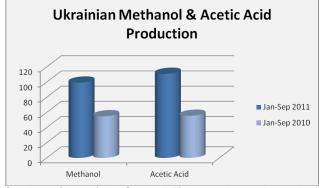
#### Belarussian project news

A new polyurethane foam plant has been started up in Belarus at Brest, with a Polish company MZCh Organika taking part in construction and ownership. The plant uses British equipment, automatic production line Foam Cannon-Viking, with a production capacity of 450 tons of foam per month. In the rubber sector, Belarus is considering establishing production facilities for products used in mechanical engineering.

The Free Economic Zone Mogilev (FEZ Mogilev) has registered a new resident OOO Termopir, which will undertake an investment project for polyurethane foam insulation. The plant will be built on a former unit at Mogilevkhimvolokno, and be based on equipment from the UK. Termopir plans to buy equipment in October to start its installation in December and has already produced its first products. The FEZ Mogilev currently comprises 33 residents.

Belaruskali plans to build a chemical plant in 2012 for processing of chlorinated minerals. The company wants to build a 10,000 tpa plant for potassium hydroxide, and produce caustic potash, hydrochloric acid and liquid chlorine. The potassium hydroxide plant could be expanded to 50,000 tpa at a later date. The new production unit will satisfy the needs of Belarus for liquid chlorine.

# Ukraine



## Ukrainian methanol supply

Against the backdrop of rising demand for derivatives methanol production in Ukraine has been higher this year, despite a shutdown in the spring. From January to September total methanol production amounted to 99,238 tons against 54,900 tons in the same period in 2010.

The current utilisation rate is expected to be maintained for the remainder of 2011 the plant could start to approach levels that were seen prior to 2008. The Antimonopoly Committee of Ukraine has given

Ostchem (part of the Group DF) to purchase shares in Azot at Severodonetsk.

Ukrainian Polypropylene Market(unit-kilo tons)

50.2

21.2

32.8

61.8

Jan-Aug 10

<b>Ukrainian Chemical</b>	Production (u	nit-kilo tons)
Product	Jan-Aug 11	Jan-Aug 10
Acetic Acid	97.2	44.8
Ammonia	3424.7	2620.5
Benzene (-95%)	119.7	139.0
Benzene (+95%)	87.2	73.0
Caprolactam	41.0	12.9
Ethylene	131.9	0.0
Formaldehyde	24.0	37.3
Methanol	86.3	44.7
Polyethylene	70.3	0.0
Polypropylene	64.3	50.3
Polystyrene	12.8	10.5
Polyvinyl Acetate	3.9	4.6
Propylene (merchant)	60.4	0.0
Soda Ash	518.7	450.3
Titanium Dioxide	103.9	84.7
Toluene	3.4	3.5

Jan-Aug 11

64.3

27.6

47.8

84.5

Production

Market Balance

**Exports** 

**Imports** 

## Ukrainian polypropylene market

The Ukrainian market for polypropylene consumption has risen by 36% in the first three quarters in 2011, and this follows an 11% increase in 2010 over 2009 to 95,000 tons. Consumption of polypropylene in Ukraine could exceed 110,000 tons by the end of the year. At the end of 2011, the share of imports in total consumption is expected to comprise 50-55%.

The sole Ukrainian producer Linik at Lisichansk increased production by 28% in the period January-September 2011, largely due to the absence of an extended maintenance shutdown this year. Moreover, in 2010, production was stopped due to technical faults in the second half of November. This September an accident took place on the supply line of triethylaluminum, resulting in lower production temporarily.

This year the main suppliers of the products to the Ukrainian

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market have come from West and Central Europe. From West Europe Ukraine has imported mainly block copolymers and random. Exports of Ukrainian polypropylene rose 30% in the period January-August reaching 27,550 tons. The main export destination for Ukrainian product is

Russia: accounting for 84% of gross exports or 23,180 tons of polymer. Other destinations included Turkey, Uzbekistan and Moldova. Exports to Russia will be more difficult after the start-up of the Omsk plant, particularly in 2012 when the plant is in full operation. This may force Linik to develop other markets.

Jai

98.

58.

45.

85.

Jan-Dec 10

82.8

36.1

48.5

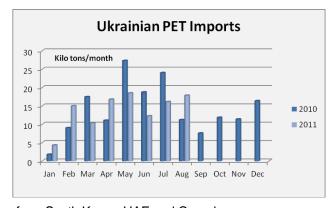
95.2



applications in the first three quarters in 2011.

# Ukrainian coatings-2011

Ukraine produced 194,460 tons of paints in the period January-September 2011 which was 3% less than in the same period last year. Imports exceeded last year's volumes by 24% whilst exports rose 9%. As a result, domestic consumption increased by 1% in the first three quarters in 2011 with growth restricted by customer solvency. Some market sectors have witnessed declines such as alkyd paints. The only sector of the consumer market for paints is industrial paint applications which resulted from the gradual recovery of the country's industry. An 8.9% increase was recorded in paint production for industrial



from South Korea, UAE and Canada.

#### **Ukrainian PET market**

Low solvency continues to affect Ukrainian consumers for PET purchases thus limiting the volume of imports. In 2010, purchases of PET by consumers in Ukraine increased by 24% over 2009 but this year consumption has been affected by the constant rise in price of PET. Demand for PET in Ukraine began to start a decline in the second half of 2010 and has carried on into 2011. From January to August this year Ukraine imported 111,380 tons of PET which is 8% less than the same period in 2010. The largest consumer of PET in Ukraine is Retal which accounts for around 60% of total imports. The company acquires polymer mainly

Ukrainian Plasticizer Market (unit-kilo tons)				
Jan-Jul 11 Jan-Jul 10 Jan-Dec 10 Jan-Dec 09				
Production	7.8	0.7	7.6	4.6
Exports	2.4	0.2	1.0	0.4
Imports	12.9	9.6	15.6	15.0
Market Balance	18.3	10.0	22.2	19.2

# **Ukrainian plasticizers 2011**

Production of diester plasticizers was eleven times higher than in the first seven months in 2011 against the same period last year and totalled 7,800 tons. The two Ukrainian plants for plasticizer production, Polikem and Lizinvest, have run well this year accounting for 4,800 tons and 3,000 tons respectively.

Both producers import 2-EH and phthalic anhydride from Russia, although Lizinvest can produce its own phthalic anhydride. The consumption of plasticizers in Ukraine has yet to reach levels seen in 2007. In 2011, Polikem has increased its imports of raw materials 2.5 times more than in 2010. The other producer Lizinvest resumed production of phthalic anhydride in April, which will reduce the production cost of DOP.

Despite domestic production reviving, DOP imports still accounted for 52% consumption in Ukraine in the first seven months in 2011. DOP imports into Ukraine are duty free. The presence of imports forces Ukrainian producers to export, and volumes rose twelve times in January-July 2011 against 2010 to 2,400 tons. Most was shipped to Russia, with the main consumer being Kaustik at Volgograd. Both Ukrainian producers have asked the government to impose duties on imports into Ukraine as they are unable to compete successfully against Polish material.

Lizinvest at Rubezhnoye produced 2,800 tons of DOP in 2010 from a total of 7,600 tons, 66% up on 2009. At the same time, Imports of plasticizers totalled 15,600 tons, 4% more than in 2009. DOP imports rose 19% to 8,500 tons and DINP rose 12% to 6,700 tons. The main consumers of DINP in Ukraine are manufacturers of vinyl wallpaper and imported DOP was purchased for the production of PVC or by trading companies.

Consumption for plasticizers has increased this year due to rises in production of vinyl wallpaper and floor coverings based on PVC. For the first seven months purchases of diester plasticizers rose by 83% and amounted to 18.300 tons. DINP imports increased by 68% in January-July 2011 and amounted to 6,700 tons. The volume of imports from January to DOP in July 2011 increased by 12% and reached 5,900 tons.

## Central Asia & Kazakhstan



## Navoiazot-PVC project delay

Uzbekistan may delay the start of construction of the new PVC plant at Navoiazot to 2012. The pre-feasibility study (OTEC) project has not been approved by the authorised bodies. In mid-2009 Navoiazot and South Korean ISU Engineering established a jv ISU Navoi Chemical for the project for the production of PVC and caustic soda for \$180 million. Financing of the project was planned through a loan of \$120 million from the Fund for Reconstruction and Development of Uzbekistan, in addition to \$45 million of credits and \$15 million from Uzkhimprom.

Under the original schedule construction was planned to start in 2010 and to be completed in 2012. According to preliminary data, the design capacity of the plant includes 50,000 tpa of PVC and 32,000 tpa of caustic soda. Navoiazot (formerly Navoi Chemical Plant), the largest chemical company in Uzbekistan, was introduced in 1964. Navoiazot specialises currently in the production of nitrogen fertilisers, nitrile fibres, etc.

#### Uzbek butadiene project

Uzbekneftegaz and China National Petroleum Corporation (CNPC) aim to create a jv by the end of 2012 for the production of butadiene. The plant is to be located close to a new tyre plant that is to be constructed in Uzbekistan. The project could require around \$400 million providing for the production of butadiene with a capacity of 60,000 tpa. At present a pre-feasibility project is underway, and in the second half of 2012 the parties are hoping to be able to sign documents for the creation of a jv on a 50/50 basis. The project is intended to be financed by loans from Chinese banks and also by Uzbekneftegaz. The production of butadiene is being created to provide raw materials for tyres to be produced in Uzbekistan.

CITIC signed a contract recently with Uzkhimprom to build a tyre plant at Angren in the Tashkent region. The project is worth \$155 million and provides for the establishment of a plant with the capacity of 1.5 million tyres, per annum in addition to conveyer belts. In Uzbekistan, due to the absence of tyre production tyres are largely imported from Russia and China.

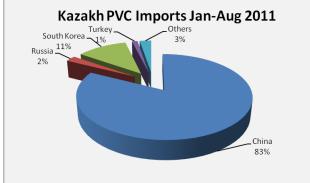
## **Kungrad Soda Plant-capacity expansion**

CITIC Pacific from China is in talks with Uzkhimprom to expand capacity of the Kungrad Soda Plant at Karakalpakstan in Uzbekistan, raising capacity 1.5 times by 2015 to 150,100 tpa. Currently, Chinese companies together with the design institute Uzkhimpromproekt, part of the Uzkhimprom, is developing the preliminary feasibility study at a cost of \$50 million. Capacity expansion of the Kungrad Soda Plant will be carried out by increasing the production of limestone at the quarry and Dzhamansaysk salt deposit Barsakelmes in Karakalpakstan.

Raw materials for Kungrad soda plant are located in the Republic of Karakalpakstan at the Barsakelmes deposit of salt (proven reserves of 131 million tons of salt containing NaCl over 97%) and limestone deposits at Dzhamansaysk (proven reserves of 70 million tons). The Kungrad Soda Plant produced 90,300 tons of soda ash in 2010, which is 17.6% more than in 2009. The plant expects to produce 95,000 tons in 2011.

## Azeri methanol project close to completion

The completion of the methanol plant in the Garadag district of Baku is expected by the end of 2011. The total cost of the first phase of the project to build a plant for methanol production is more than \$360 million, partly financed by the EBRD. The company AzMeCo aims to start production in test mode in early 2012. The initial production of methanol will run at a capacity rate of 560,000 tpa before being raised to 720,000 tpa. About 90% of production is expected to be delivered for export. AzMeCo was founded in 2007 in Azerbaijan and is the operator of the plant for processing natural gas into methanol.



## Kazakh PVC imports

Kazakhstan has imported 1,390 tons of PVC in August which was 24% more than in July. The bulk of the polymer is shipped to customers in Kazakhstan from China, accounting for 99% of gross imports. In the first eight months in 2011 Kazakhstan imported 9,370 tons of PVC which is 16% lower than the same time period in 2010.

## **LG Chem-Atyrau**

Final investment approval has been received for a propane dehydrogenation (PDH)-to-polypropylene (PP) project to be built at Atyrau. Detailed design and engineering work is now underway with Lummus Technology supplying the licence and basic technology for the complex. Capacities of propylene and polypropylene will each be 500,000 tpa with start-up scheduled for 2015.

Sinopec Engineering is to construct the complex which will be operated by KPI. LG Chem has formed a 50/50 jv with KPI to develop the project, with start-up scheduled for 2016. The complex, which is also located at Atyrau, comprises an 840,000 tpa cracker and two polyethylene lines with a total capacity of 800,000 tpa. In terms of marketing China is the most likely destination for output from the new complex. LG Chem and KPI might face competition, however, for freight-car space from PetroChina's Dushanzi Petrochemical complex in Xinjiang province in North West China.

Kazakhstan might not stop at just propane and ethane-based petrochemicals. Projects based on other hydrocarbon streams may be added during later phases of investment. Kazakhstan took LG Chem as a partner for the second phase under construction.

## Relevant Currencies

Czech crown. Kc. \$1=18.0764 €1=24.8513: Hungarian Forint. Ft. \$1=215.985. €1=296.927: Polish zloty. zl. \$1=3.172 €1=4.362: Bulgarian leva: \$1=1.4222. €1=1.9551: Romanian Lei. \$1=3.152 €1=4.340: Croatian Kuna HRK. \$1=5.426. €1=7.455: Ukrainian hryvnia. \$1=8.006. €1=12.6227: Rus rouble. \$1=30.914 €1=42.578

#### **Contents Issue No 251**

CENTRA	AL & SOUTH EAST EUROPE	2
PETROCI	HEMICALS	2
D	KN Orlen-petrochemical expansions	1
	entral European refineries	
	ioki-cogeneration project	
	omanian petrochemical modernisation	
	Itchim-Arpechim	
	ALS	
	orsodChem-TDI	
	onau Chemie-Hungary	
	erbia-foreign involvement in chemical industry	
	iech-Soda Division	
	himcomplex, Jan-Jun 2011	
	AT Tarnow Jul-Dec 2011	
	A Pulawy-Adipol	
	iesterfeld Spezialchemiearom restarts synthetic rubber production	
	tyron-SSBR plant	
	CHZ-attracts two bidders	
	olish gas market 2012	
	olish gas trading	
R	ussian concessions on project costs	7
FEEDSTO	OCKS & PETROCHEMICALS	7
S	IBUR-East Siberia & Russian Far East	7
	azprom-gas processing and NGL developments	
	as processing plant-Tomsk	
	IBUR-Citco	
To	obolsk-Neftekhim increases MTBE capacity	9
M	TBE sales volumes in Russia	9
R	osneft-Nakhodka petrochemical complex	9
	azprom could invest around 80 billion roubles at Salavat	
	azprom Neftekhim Salavat-Kaustik new pipeline	
	BUR-Kstovo	
	ussian ethylene pricing-regulations	
	ussian petrochemical feedstocks	
Ta	aneko-refinery starting commercial operations	11
<b>BULK PO</b>	LYMERS	12
R	ussian ABS & polystyrene	12
	ussian PVC consumption, Jan-Aug 2011	
	msk-polypropylene project	
R	ussian LDPE market	13
AROMAT	ICS & DERIVATIVES	13
R	ussian benzene imports rise in 2011	13
	ussian orthoxylene supply, Jan-Aug 2011	
	ussian phenol market, Jan-Aug 2011	
	ussian PET project in Kabardino-Balkaria	

# CIREC Monthly News, Issue no 251, 20 October 2011

Alko-Naphtha-PETSIBUR-Polief	
SYNTHETIC RUBBER	15
Nokian expanding tyre production	15
SIBUR-Sinopec jvs	
Togliattikaucuk-upgrades	
Orgkhim-expansion of synthetic rubber components	
Russian tyre market, Jan-Aug 2011	
Bekaert Lipetsk	16
METHANOL & RELATED CHEMICALS	17
Russian methanol projects	
Russian domestic methanol market, Jan-Sep 2011	
Russian urea projects	17
OTHER PRODUCTS	18
Gazprom Neftekhim Salavat-acrylic acid project	18
Galopolymer-expansions	
Russian hydrochloric acid market	
Azot to start melamine plant in 2012	
BELARUS	18
Azot Grodno, exports Jan-Aug 2011	
Azot & Khimvolokno Grodno complete merger	
Belarussian project news	
UKRAINE	19
Ukrainian methanol supply	10
Ukrainian polypropylene market	
Ukrainian coatings-2011	
Ukrainian PET market	
Ukrainian plasticizers 2011	
CENTRAL ASIA & KAZAKHSTAN	21
Navoiazot-PVC project delay	
Uzbek butadiene project	
Kungrad Soda Plant-capacity expansion	
Azeri methanol project close to completion	
Kazakh PVC imports	
I.G.Chem-Atyrau	