Chemical Information Resources for East Europe and CIS

CIREC MONTHLY NEWS

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

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FEATURES FROM THIS ISSUE

CENTRAL & SOUTH EAST EUROPE

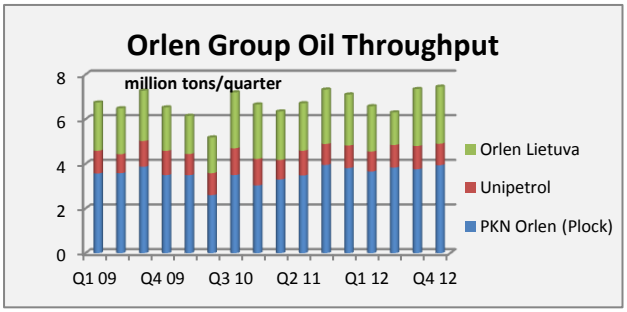
Petrochemicals

PKN Orlen Group EBIT (zl million)

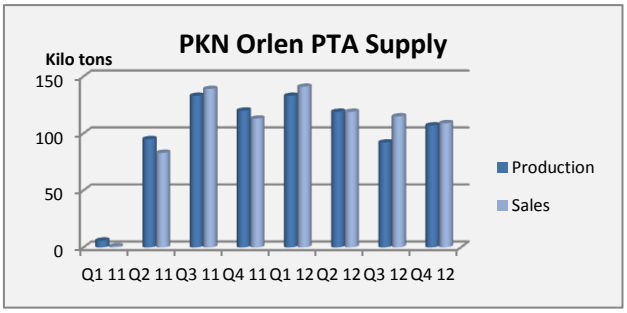
Division	*Jan-Dec 12*	*Jan-Dec 11*
Refining	927	2,106
Petrochemical	1,205	13
Retail	647	426
Corporate	-755	-479
Total	2,024	2,066

PKN Orlen 2012

PKN Orlen generated an EBIT in 2012 of zl 2.024 billion against zl 2.066 billion in 2011. The Orlen Group reported a high total volume of sales in excess of 35 million tons of refined oil and petrochemicals, comparable against 2011. A 1% increase in crude oil throughput was recorded by the group refineries in Poland, Czech Republic and Lithuania, whilst in total a 12% rise in sales revenue was registered. As part of the development projects carried out last year, four exploration wells in unconventional deposits were drilled, and steps were taken to acquire two new licences held by Exxon Mobil. The general contractor for the gas-fired power project at Wloclawek was also selected.



Orlen's profit from operations in the refining division in the fourth quarter amounted to zl 875 million and against zl 1108 million than in the same period in 2011. Falling crude oil prices impacted negatively on inventory valuation. The Plock refinery increased utilisation by 3% to 15.191 million tons, mainly due to lack of a maintenance shutdown during the year. Unipetrol reduced throughput by 4% to 3.927 million tons mainly as a result of discontinuation of crude oil processing at Paramo. IN Lithuania, Orlen Lietuva's utilisation ratio in the fourth quarter was close to its maximum level, but overall for 2012 production fell 4.8% to 8.579 million tons.



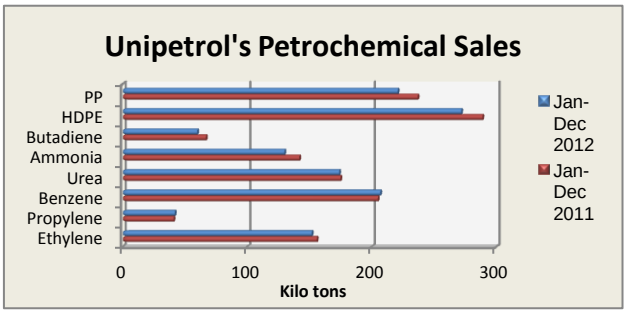
Regarding chemical production, PKN Orlen reduced cracker activity at Plock in 2012 resulting in a reduction of ethylene by 18.4% over 2011. Propylene fell by 9.3%. These reductions impacted on polyolefin production, in particular, by BOP at Plock. PTA production at Wloclawek has provided an important stimulus for PKN Orlen's petrochemical division in Poland with production totalling 451,000 tons in 2012 against 354,000 tons in 2011. Some of the PTA is sold domestically, whilst large volumes are exported to countries such as Germany and Russia.

In the group petrochemical division higher olefin and polyolefin sales took place in the fourth quarter mainly due to lack of production stoppages. Unipetrol held a shutdown in the fourth quarter in 2011, but ran uninterrupted in the period October to December 2012. Higher fertiliser sales were recorded for the Orlen Group in the fourth quarter, as well as higher PVC sales as a result of an increase in exports. PTA volumes of production and sales were stable. In the fourth quarter in 2012 PKN Orlen's petrochemical divisional profit from operations amounted to zl 267 million and was higher by zl 1 527 million vs. the same period in 2011. The impact of changes in prices of petrochemical products on valuation of inventories in the fourth quarter reduced the divisional operating result by zl 44 million.

The most significant investments undertaken in the latter part of 2012 were associated with an increase of operational security of the ethylene oxide II installation at Plock and also the replacement of equipment for pyrolysis gas separation. Other projects include the chlorine condensation and construction of sludge drying installation at Anwil and the reconstruction of pyrolysis furnace at the Litvinov cracker.

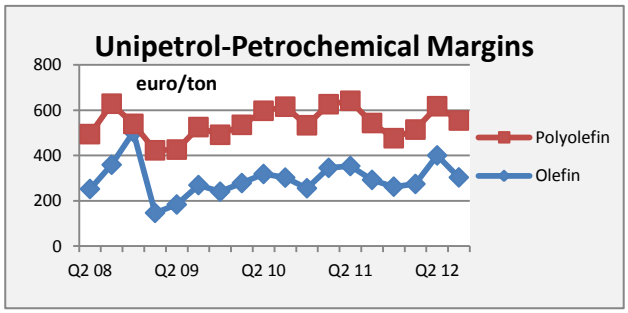
Unipetrol 2012

Sales of chemicals and petrochemicals increased for Unipetrol in January to December 2012 by 54,000 tons over 2011 to 1.312 million tons. Fourth quarter volumes reached 453,000 tons, the highest level recorded since 2010. The main factors that influenced fourth quarter performance for Unipetrol's petrochemical division included stable crude oil and petrochemical feedstock prices.



Ethylene sales from Litvinov totalled 156,000 tons in 2012 against 152,000 tons in 2011, of which around 80% was sold domestically to Spolana for PVC production at Synthos Kralupy for ethylbenzene production. The EBIT in the petrochemical division amounted to Kc 432 million in the fourth quarter, mainly due to better external market conditions in terms of crude oil prices and positive effect of feedstock prices. A positive EBIT was delivered also due to results of internal optimisation projects.

The model olefin margin was higher in terms of ethylene and propylene to naphtha, but slightly offset by a small decrease in model polyolefin margins. A slight increase in polymer demand was noted in the second part of the quarter due to production shutdowns of several competitors. The urea plant at Litvinov has now been shut down permanently from the end of 2012. Unipetrol's sales of petrochemical products increased 17% in the fourth quarter to 453,000 tons, mainly due to slightly improved demand for polymers and the fact that a cyclical turnaround of the Litvinov plant took place at the turn of the third and fourth quarter in 2011.



The volume of crude oil processed for Unipetrol was 3.927 million tons in 2012 against 3.942 million tons in 2011. Refinery utilisation averaged 82% in 2012, up 5% on 2011 due to mainly to the closure of the Paramo refinery which had been running at lower rates. The refining division recorded an EBIT of Kc-4,806 billion in the fourth quarter, mainly due to one-off impairments of fixed assets. Negative factors that influenced divisional performance included a significant increase of fuel imports and a stronger Czech crown against the US Dollar. Positive factors included a higher average Brent-Ural differential.

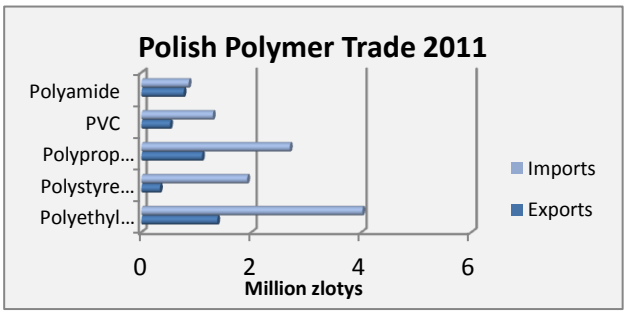
Unipetrol's Main Financial Indicators Kc bil

2012	*Refinery*	*Petrochem*	*Retail*	*Total*
Revenues	**59.524**	**37.412**	**10.289**	**107.22**
Operating Profit Loss	**-4.513**	**0.411**	**0.207**	**-4.013**
2011	**Refinery**	**Petrochem**	**Retail**	**Total**
Revenues	**55.377**	**32.027**	**9.845**	**97.427**
Operating Profit Loss	**-2.922**	**-3.059**	**0.365**	**-5.369**

Unipetrol Group recorded losses of Kc 4.013 billion in 2012 against Kc 5.369 billion in 2011. Results were influenced in 2012 mainly by one-off impairments of fixed assets of the refinery division, booked in the amount of Kc 4.386 billion. The group posted an operational result (EBIT) of Kc 4.013 billion, with revenues of Kc 107.281 billion in 2012. The best results were recorded in the petrochemical division in 2012, especially in the fourth quarter, but this was not sufficient to stem the losses from refining.

Crodux-Dioki

Zagreb oil and gas supplier Crodux Plin is planning to relaunch the polystyrene and expandable polystyrene (EPS) plants of Dioki. After signing a letter of intent in December and offering 5 million Euro to Dioki, which was forced to close down two of its plants last year, Crodux Plin is now reported to be in the final stages of negotiation of a partnership. If successful, Crodux Plin said it would like to expand the capacity of Dioki's polystyrene products.



Lotos-Azoty partnership for chemical investment

By the end of 2013, the Group Lotos and Grupa Azoty intend to decide on setting up a special purpose company, which will implement a project to build a large-scale chemical plant. The decision will be preceded by analyses and pre-feasibility studies for potential projects, the largest of which includes the installation of a steam cracker and polyethylene production. The scope for development is wide-ranging, as Poland shows a deficit in many sectors of the chemical industry and offers

potential for import substitution. By examining data for bulk polymers for 2011 the net deficits were quite significant in most cases, with only polyamide showing some degree of equilibrium.

After the results of the feasibility study the two groups plan to start work on the design of the selected option. Thus, Grupa Lotos and Grupa Azoty will become the beneficiaries of the newly-established programme in Polish investments. To date Grupa Lotos does not state a specific value of investments in petrochemicals and its implementation schedule. It remains too early to speculate on products and start-up dates, as the entire project concept needs to be very carefully analysed from all aspects, in relation to finance, technology and markets.

Grupa Azoty power projects

Grupa Azoty ZAK's most important project under consideration at Kedzierzyn is the issue of a new power plant, which may be coal-fired instead of gas based. The reason is that it is assumed that a coal-fired plant will have a much lower cost than using blue fuel gas block. Grupa Azoty ZAK hopes that the new plant will become operational by 2016 or 2017. Whilst the steam boiler is based on coal and turbine extraction, gas does have a role to play as a reserve resource.

The power plant at ZAK is to be implemented in stages. The launch of the facilities is covered by the investment, the cost of which is estimated at z 300 million, and is scheduled for the first quarter of 2016. After 2016 it will be possible to increase capacity based on either coal or natural gas. A coal-fired unit will produce heat for ZAK and the local Kedzierzyn area's requirements, and could work out around 60% cheaper than gas. In terms of gas supplies, ZAK does not possess good options. ZA Tarnow can use local deposits, whilst ZA Pulawy and Anwil are located relatively close to the Yamal pipeline. ZCh Police will have a better position after the construction of the LNG terminal whilst there is talk of a gas pipeline connection to Germany. By contrast ZAK has to draw its gas from some distance, and this coal is a better alternative.

Constructing a new power plant also forms a central part of ZA Pulawy's strategy, although gas is preferred over coal. This will increase gas consumption for ZA Pulawy from around a billion cubic metres per annum at present to two billion, taking around 15% of total Polish gas consumption. Most importantly, gas energy will minimise the costs associated with CO2 emissions and overall reduce the costs of the company. In addition to a new power plant ZA Pulawy wants to invest about zl 300 million on construction of a liquid fertiliser plant, ammonia storage and a flue gas desulphurisation plant.

ZCh Police-ammonia modernisation plans

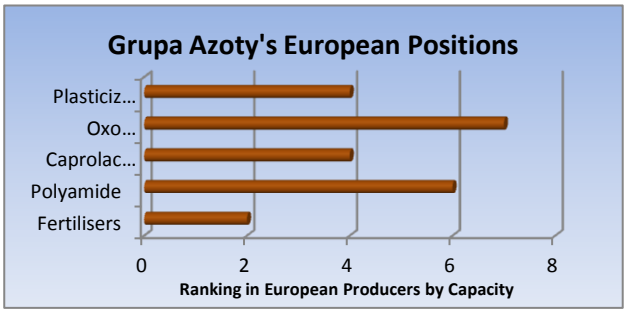
ZCh Police is preparing for an expansion in urea and ammonia capacity, with the main emphasis on reducing the average cost per ton of production. The planned modernisation of this system will allow for the removal of bottlenecks in the production process, which will increase production volume by more than 10%.

A reduction in the average cost per ton of ammonia production will increase price competitiveness of ZCh Police on the market. For an upgrade of the urea plant the primary aim is to adapt to the requirements of BAT (reducing emissions of ammonia and urea dust into the atmosphere and decreasing ammonia and urea condensates).

As stated, the stimulation for the Tarnow and Lotus investment project has emerged partly from the need to reduce the deficit in petrochemical raw materials in Poland. Azoty failed to agree on such an investment with PKN Orlen, which is the main Polish supplier of petrochemicals. The assumption is that Grupa Azoty wants to pursue investment in collaboration with Lotos, so that it becomes the main recipient of these products, offering further opportunities for investment and diversification. Grupa Azoty consists of Azoty Tarnow, Grupa Azoty ZAK, ZCh Plant Police and the group is currently being integrates with ZA Pulawy and its subsidiaries.

Consolidation update

The European Commission has issued a decision not to oppose to the consolidation of the Tarnow-Pulawy groups, providing the green light to create the second largest producer of fertilisers in Europe. The merger or acquisition of ZA Pulawy by ZA Tarnow may represent a vital move for both groups in fending off challenges from cheap Russian imports after the abolition of EU customs duties which is expected to take this year.



In terms of European significance the two combined groups account for about 11% of fertiliser production, with only the Norwegian company Yara is larger with a share of 23%.

In physical volume Grupa Azoty will possess the combined production capacity of around 7 million tpa of fertilisers. Unlike Yara, Grupa Azoty is engaged in organic chemistry, and occupies important positions in polyamide, caprolactam, oxo alcohols and plasticizers. In addition ZCh Police produces titanium white.

Azoty Tarnow has thus far acquired 14,032,026 shares representing 73.4% of ZA Pulawy's share capital. Also as part of the rebranding ZAK changed its official name in January to Grupa Azoty Zakłady Azotowe

Kedzierzyn S.A, and in shorter form Grupa Azoty ZAK S.A. or Grupa Azoty. The change of the company's business name is strictly connected with the rebranding process of Grupa Azoty. The Kedzierzyn plant has recently marked 65 years in operation.

Polish Chemical Production (unit-kilo tons)

Product	*Jan-Dec 12*	*Jan-Dec 11*
Caustic Soda Liquid	308.0	288.6
Caustic Soda Solid	75.4	56.0
Soda Ash	1116.2	1061.1
Ethylene	453.0	554.7
Propylene	326.0	359.0
Butadiene	57.1	67.4
Toluene	24.6	56.8
Phenol	34.5	40.7
Caprolactam	163.1	164.4
Acetic Acid	7.3	7.5
Polyethylene	329.1	365.7
Polystyrene	139.9	129.2
PVC	261.6	281.6
Polypropylene	243.6	250.4
Synthetic Rubber	191.3	185.7
Ammonia (Gaseous)	1270.0	1172.7
Ammonia (Liquid)	1257.0	1154.3
Pesticides	24.2	21.2
Nitric Acid	2320.0	2167.1
Nitrogen Fertilisers	1878.0	1763.4
Phosphate Fertilisers	468.0	531.8
Potassium Fertilisers	334.0	307.8

Chimcomplex-pressures to upgrade

Romanian chlorine producer Chimcomplex is building a new cogeneration plant with a capacity of 7.4 MWh to add to the same sized unit which was installed in 2008. Chimcomplex is located at Borzesti in the Moldovan region of Romania and is the largest regional consumer of electricity. The share of electricity costs in caustic soda production for Chimcomplex is estimated roughly 52%. The first cogeneration plant has already been a success in reducing the cost of electricity by around 40% against the cost of purchases energy from suppliers. The first project benefited from EU-EBRD funds, involving the combination of a gas turbine with a steam boiler with additional hydrogen combustion.

Chimcomplex is the second largest producer of caustic soda in Romania after Oltchim and faces pressure from Regional Environmental Protection Agency to implement an upgrade of its production facilities. Hydrochloric acid concentration is exceeding limits permitted by law, but has declined gradually over time, and the presence of this pollutant in waters discharged only due to historical pollution. Work in hydrochloric acid production plants was halted in 1996 and greening facilities for decommissioning was completed in 2011.

At the start of January this year Chimcomplex gave consideration to the closure of 18 plants, including hexachlorocyclohexane 1, acetylene purification II, hexachlorocyclohexane, detoxan, monoclorbenzene, trichloroethylene I, etc. EU environmental policy means that many plants will have to be shut as they do not comply with regulations.

Synthos-Research Centre

Synthos produced 191,300 tons of synthetic rubber in Poland in 2012 against 2011, and 139,900 tons of polystyrene and 129,200 tons. Synthos launched a new research and development centre at Oswiecim in September last year, engaged in the development of new, innovative products. This may include all types of rubbers which are used in the tyre industry. An agreement was signed for financing projects from EU funds, which amount to more than zl 43 million.

In the spring this year, Synthos will start construction of a plant for the production of styrene-butadiene rubber, whose launch is planned for mid-2015. Rubbers manufactured under license from Goodyear acquired will be used in the production of modern tyres. The estimated cost of this project is nearly zl 500 million of which zl 147 million has been provided from subsidies. The company also intends to include in the plans to build a waste incineration plant at Oswiecim, and construction is expected to start at the end of 2013.

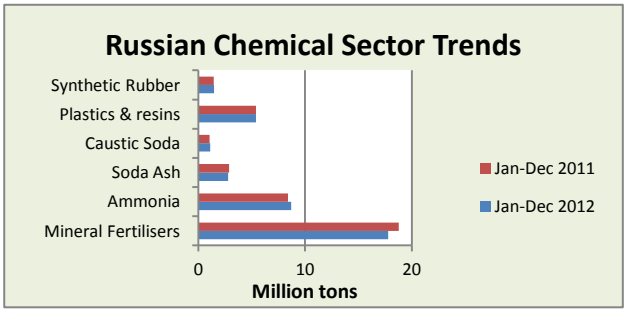
Nitrofert reopens production

Nitrofert at Kohtla-Jarve (north-eastern Estonia) has restarted fertiliser production after nearly four years of being idle. The plant was restarted on 20 December 2012, after being closed in 2009 due to the global economic crisis and the sharp fall in urea and ammonia prices. Nitrofert is the only producer of mineral fertilisers in Estonia, and processes gas from Russia via pipelines AS Eesti Gaas, to produce ammonia and urea.

Annual demand for Nitrofert for electricity is about 270 million kWh, i.e. about 5% of the electricity sold in Estonia, and in natural gas about 210 million m3, i.e., about 25% of the total volume of natural gas sold annually in Estonia. At full load the plant of ammonia and urea can produce 100,000 tpa of liquid of ammonia and 180,000 tpa of urea. Nitrofert employs over 400 people and is part of Ostchem Holding. In January the company aims to produce about 7,200 tons of ammonia and 17,000 tons of commercial urea. Production volumes are adjusted according to changes in world market prices. Before closing the plant consumed per year to 210 million cubic meters of natural gas, accounting for about a quarter of the gas sold in Estonia.

RUSSIA

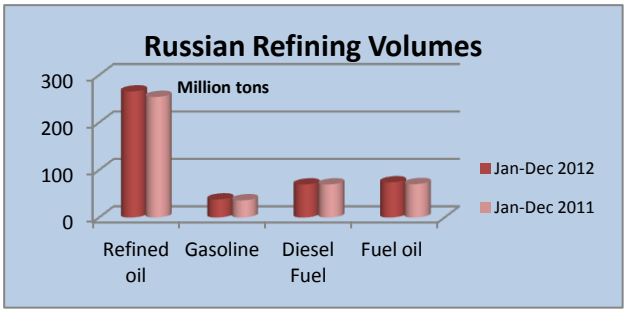
Russian Chemical Production (unit-kilo tons)		
Product	***Jan-Dec 12***	***Jan-Dec 11***
Acetic Acid	148.9	139.9
Ammonia	13,281.6	13,884.8
Benzene	1,135.9	1,131.7
Butanols	259.6	201.2
C Black	731.1	726.0
Caustic Soda	1,010.5	1,002.5
Ethylene	2,276.1	2,468.3
Methanol	3,288.2	3,065.3
PET	431.5	360.0
Phenol	277.6	244.8
Phthalic Anhydride	94.6	94.6
Polyethylene	1,433	1,550.1
Polypropylene	648.7	681.8
Polystyrene	353.4	321.2
Propylene	1,165.6	1,218.9
PVC	616.0	575.5
Soda Ash	2,587.8	2,822.4
Styrene	541.5	486.4
Synthetic Rubber	1,475.0	1,446.0



Russian chemical production 2012

Chemical production in Russia declined by 2.2% in physical volume in 2012, heavily influenced by a fall in fertiliser output by 5.5% against 2011 to 17.8 million tons. Other declines in bulk chemical production included ammonia which declined by 1.1% to 13.8 million tons and soda ash which fell by 0.3% to 2.8 million tons. Increases were recorded for caustic soda which rose by 4.5% to 1.1 million tons and sulphuric acid which increased by 3%, to 11 million tons.

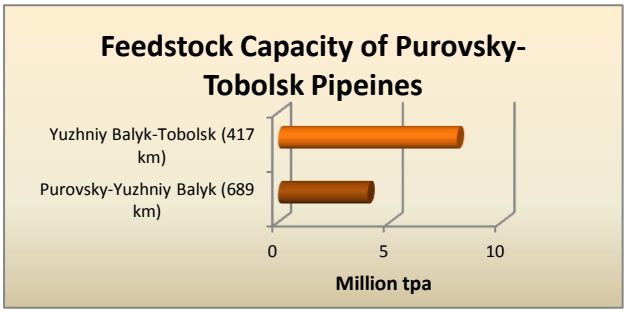
Plastics production remained unchanged at 5.4 million tons, whilst synthetic rubber rose 2% to 1.48 million tons. The production of paints and varnishes based on polymers has grown by 3.4% to 831,000 tons whilst of chemical fibres and filaments decreased by 1.2% to 140,000 tons. Polyamide production dropped 19.7% in 2012, down to 119,000 tons, whilst polycarbonate rose 1.6% to 51,000 tons. Polyethylene fell 8% against 2011, whilst polypropylene fell 5.1%. Rises were recorded for polystyrene (11.5%) and PVC (1.6%).



Russian oil production and refining 2012

Production of oil and gas condensate production in Russia in 2012 amounted to 518.018 million tons, which is 1.3% higher than in 2011. Last year Rosneft produced 117.473 million tons of oil, followed by LUKoil with 84.620 million tons, TNK-BP 72,911 million tons, and Gazprom Neft 31.637 million tons. Refineries increased oil processing in 2012 by 4.5% over 2011 up to 265.690 million tons. Production of gasoline increased by 5.2% to 38.14 million tons, diesel fuel dropped by 0.1% to 69.6 million tons and fuel oil rose by 5.4% to 74.1 million tons.

Petrochemical Projects



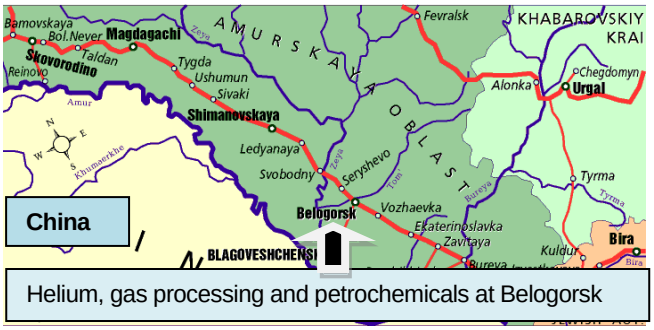
Novatek-SIBUR feedstock agreement

Novatek' shareholders approved its agreement with SIBUR to provide a 20 year contract for the supply of gas liquids of around 24 million tons. The price for the liquids is to be determined by a formula based on the market value of the products obtained by processing natural gas liquids with the projected increase of formula components.

Another transaction that has been concluded is for the sale of LPGs to SIBUR, of up to 8 million tons in the period 2014-2033. In addition, Novatek plans to enter into a contract with SIBUR to transport natural gas liquids from the product pipeline from Purovsky Plant (owned by Novatek) to Tobolsk-Neftekhim.

Agreements with SIBUR, as previously emphasised, will help to support Novatek in investment into the expansion of expansion of the Purovsky Gas Condensate Plant, and to optimise logistics supply of LPGs and natural gas liquids. In late 2012, SIBUR started construction of the main gas liquid pipeline from the Purovsky Gas Condensate Plant to Tobolsk-Neftekhim. This is divided into two construction stages, firstly Purovsky Plant-Yuzhniy Balyk which is 689 km long, and Yuzhniy-Balyk-Tobolsk 417 km. The capacity of the first product pipeline is 4 million tpa, and the second 8 million tpa.

In 2014, Novatek plans to launch the first start-up complex of the third stage of the Purovsky Plant, which will help to expand capacity to 12 million tpa. The Purovsky Plant currently possesses a capacity of 5 million tpa of unstable gas condensate at present, which allows up to 3.7 million tpa of stable gas condensate and 1.3 million tpa of liquefied petroleum gas. In 2015 Novatek plans to produce about 2.1 million tons of LPG, of which 43% is intended to be sold to SIBUR, and the rest to be sold in equal proportions to export and the domestic market.



Helium, gas processing and petrochemicals at Belogorsk

Gazprom-gas processing & petrochemical project

Gazprom plans to invest more than 620 billion roubles in the construction of gas processing and petrochemical complex in the Amur region. The complex will be located around 23 km from Belogorsk, which was chosen due to its proximity to the Trans-Siberian Railway and four river ports in the area.

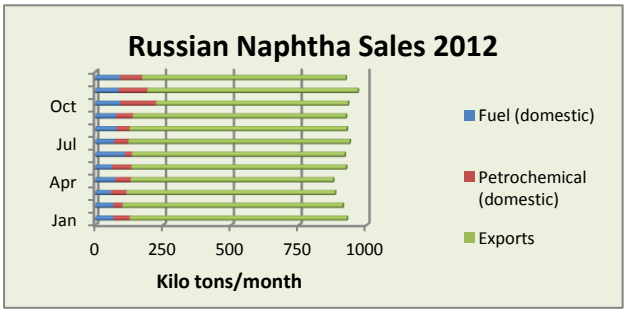
The complex in the Amur region is intended to include three main production sections including gas, helium and petrochemicals. Its products will be a mixture of propane and butane, polypropylene, glycols, polyethylene, marketable helium. The project is intended to be designed in two stages: the first includes input capacity gas processing and production of helium, the second a gas chemical complex. Design of the first phase is scheduled to begin in the second half of 2013. In 2015 it is expected to complete the design stage and the start the first phases of construction of the complex, with a planned start-up at the end of 2018. The raw materials for the gas-chemical complex will be natural gas from the Chayanda field, which is expected to start gas producing in 2017-2018 preceded by oil production in 2017.

Linde has already expressed interest to become a major buyer of helium produced from the Chayanda condensate field. Construction of the Belogorsk complex is extremely complicated, providing enough challenges to delay the project from its intended completion date of 2018. The natural gas from the Chayanda deposit is to be supplied on a new transportation pipeline system Yakutia-Khabarovsk-Vladivostok. Russia possesses about 34% of the world reserves of helium, followed by Qatar with 21% and the US 18%, and Algeria 17%.

Feedstocks & Petrochemical Producer News

Russian naphtha 2012

Russian domestic sales of naphtha amounted to 172,500 tons in December, 11% down against November. The reduction was due to lower consumption at petrochemical plants where purchases dropped 28% to 82,300 tons. SIBUR-Neftekhim and Tomskneftekhim together reduced purchases from 60,000 tons to 37,000 tons due to higher availability of gas liquids from SIBUR.

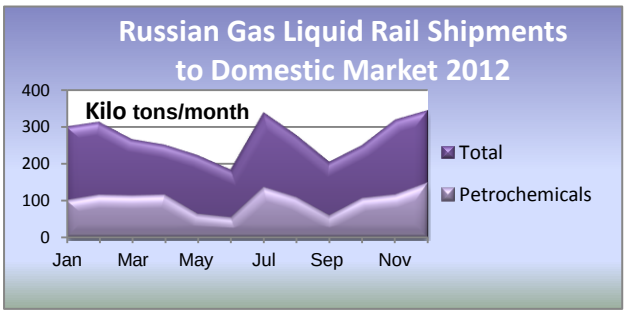


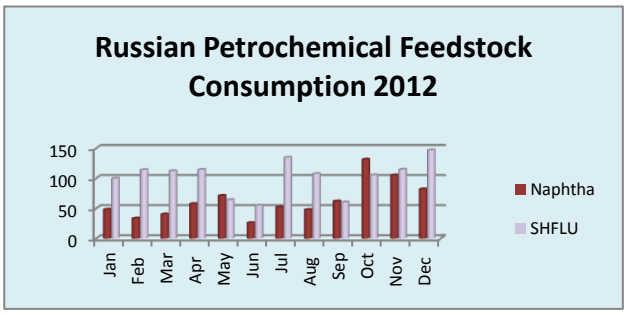
In total Russian refineries sold 11.047 million tons of naphtha in 2012, of which 86% was exported. Sales of naphtha to the petrochemical sector accounted for only 6% of total sales in 2012.

Russian petrochemical feedstocks 2012

Rail shipments of gas liquids to the Russian domestic market amounted to 344,400 tons in December, 8% more than in November. The rise was due to the increase in purchases from for petrochemical production. Shipments to petrochemical plants totalled 147,090 tons, 28% up on November. In December, Gazprom Neftekhim Salavat resumed purchases of liquid fractions (21,140 tons of product), whilst a combined

total of 57,570 tons were shipped to SIBUR-Neftekhim and Tomskneftekhim which is 22% more than in November. The increase in shipments was due to excessive amounts of liquids production by SIBUR.



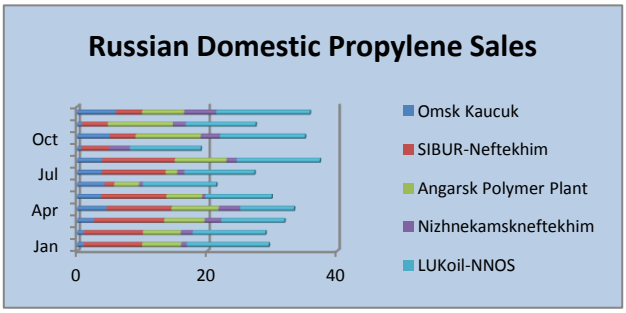


In total Russian rail shipments of gas liquids totalled 3.31 million tons in 2012, 13% up on 2011. Shipments were driven by an increase in demand from refinery fraction gas processing plants, in particular, Novokuibyshevsk Petrochemical Company which tripled d its purchases to 573,000 tons. In addition, Bashneft resumed processing fractions in October last year. In the petrochemical sector, gas liquid processing decreased by 18% to 1.25 million tons, which was due to downtime at Stavrolen.

Russian C4s 2012

Rail shipments of C4s amounted to 31,600 tons in December, 7% up on November. Tomskneftekhim increased shipments 30% to 7,200 tons, Angarsk Polymer Plant increased by 29% to 8,000 tons, whilst SIBUR-Neftekhim reduced by 13% to 4,600 tons.

Total deliveries of C4s to the domestic market in 2012 amounted to 267,700 tons, 19% less than in 2011. The main reason for the fall was the lack of supply from Stavrolen. Kazanorgsintez supplied 26,800 tons to the domestic market, which is 1.5 times higher than in 2011. The increase was due to higher volumes of butane being processed in cracker, which Kazanorgsintez uses to supplement ethane. In terms of consumption, the largest domestic buyers of C4s last year included Togliattikaucuk (with 50% of shipments) and Nizhnekamskneftekhim (with 28%). Russia imported 107,200 tons of C4s in January to December 2012, 1.5 times more than in the same period of 2011. The increase was due to downtime at Stavrolen and the deficit on the domestic market.

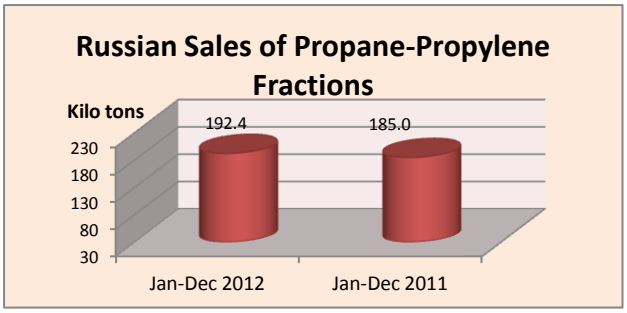


Russian propylene market 2012

Sales of propylene monomer on the domestic market in December totalled 37,400 tons, 39% up on November. Omsk Kaucuk increased shipments 8.4 times up to 6,000 tons due to increased capacity utilisation. LUKoil-NNOS sold 14,400 tons in December, which was 34% up on November. Sales of propylene monomer for the full year totalled 357,100 tons, 13% up on 2011. The main supplier was LUKoil-NNOS which supplied 136,000 tons, 22% higher, whilst Angarsk Polymer Plant shipped 70,800 tons which was 8% up. The largest consumer of monomer in Russia remains Saratovorgsintez for acrylonitrile, having accounted for 45% of total purchases in 2012.

The restart of the Stavrolen cracker has helped stimulate export activity, increasing 2.4 times in December against November to 5,000 tons. The main reason for the increase in exports was due to higher volumes from LUKoil-NNOS which shipped 3,000 tons. Omsk Kaucuk and SIBUR-Neftekhim exported 1,000 tons and 986 tons respectively. A total of 36,500 tons of propylene was exported in 2012 from Russia, 18% less than in 2011. The largest buyers of Russian monomer included Poland (66%), and Belarus (27%).

Imports amounted to 1,600 tons in December, all from Azerkimya in Azerbaijan. Saratovorgsintez was the sole Russian buyer, using propylene for acrylonitrile production. Purchases were motivated in December by some concerns over possible market shortages of propylene monomer as soon as the Polyom polypropylene plant at Omsk starts to operate normally. For the whole of 2012 Russian imports of propylene totalled 42,700 tons, of which Karpatneftekhim supplied 69% and Azerkimya 31%.



Russian propane-propylene fractions 2012

Russian sales of propane-propylene fractions to the domestic market amounted to 17,000 tons in December, 20% more than the previous month. The Ryazan refinery shipped 9,600 tons which was 1.6 times higher than November. For January to December 2012 Russian shipments of propane-propylene fractions to the domestic market totalled 192,500 tons, 4% up on 2011. Samaraorgsintez accounted for 28% of gross purchases and SIBUR-Khimprom 22%.

Exports of propane-propylene fractions amounted to 2,600 tons in December, 6% up on November. For January to December 2012 Russian exports of propane-propylene fractions totalled 32,000 tons, of which the Lisichansk refinery in Ukraine purchased 54% and Naftan in Belarus purchased 21%.

Russian Styrene Market (unit-kilo tons)

	Jan-Dec 12	*Jan-Dec 11*
Production	541.5	486.9
Merchant sales	90.2	86.7
Exports	130.4	117.4

Russian styrene market 2012

In December producers of styrene increased sales to domestic market by 2% to 8,600 tons. The main reason for increasing the supply of monomer to domestic consumers was the increase in shipments from SIBUR-Khimprom 3.4 times, up to 3,700 tons.

Russian styrene sales on the domestic merchant market amounted to 90,200 tons in 2012, 4% up on 2011. The increase in monomer sales was due primarily to the increase of its shipments by Plastik at Uzlovaya, rising 3 times to 16,800 tons, and Nizhnekamskneftekhim 1.6 times to 12,700 tons. At the same time, Gazprom Neftekhim Salavat reduced sales to domestic consumers by 2.3 times to 18,700 tons. Last year, large quantities of Russian commercial styrene (42% of gross purchases) were shipped to Pizhi Prof.

Exports amounted to 17,200 tons in December, 2.3 times up on November. Gazprom Neftekhim Salavat increased export shipments in December by 2.5 times to 15,600 tons. In December Plastik at Uzlovaya exported 1,600 tons of product, 39% more than the previous month. For the whole year Russian exports of styrene totalled 130,400 tons which was 10% up on 2011. The largest volumes of Russian styrene were delivered to Finland (57%), and Turkey (25%).

Nizhnekamskneftekhim, Jan-Dec 2012

Nizhnekamskneftekhim achieved revenues of 126 billion roubles in 2012 against 123 billion roubles in 2011. The fourth quarter witnessed lower revenues lowering the expected rate of increase which was expected at the end of September. The average number of employees in 2012 for Nizhnekamskneftekhim totalled 17,447 people, with an average salary of 31,884 roubles per month.

The company achieved full utilisation last year for halobutyl, polybutadiene rubber, ethylene, polyethers, polystyrene, polyethylene, and liquefied gases. In 2012 Nizhnekamskneftekhim completed construction of the ABS plant, increased the capacity for synthetic rubber and upgraded the production of ethylene oxide. Nizhnekamskneftekhim produced 190,000 tons of polystyrene in 2012, including HIPS and GPPS, which was 3,000 tons up on 2011. The company is expanding its range of polystyrene and in the past couple of years has mastered the production of GPPS grades 590, 530, 530V, and 585V. The share of exports in total production is about 50%.

SANORS Production (unit-kilo tons)

Product	*2012*	*2011*
Isopentane fractions	61.3	41.9
LPG	439.4	143
Ethylene	54.073	51.438
Phenol	76.6	65.5
Acetone	46.9	40.9
Ethanol	82.3	66.9
Para-butylated phenol	7.7	7.5

SANORS 2012

Revenues for the SANORS group in the Samara region almost doubled in 2012 over 2011 and totalled 22.5 billion roubles. Total production amounted to 942,800 tons of chemicals and feedstocks, 2.2 times higher than in 2011. The most significant rise was in the production of liquefied petroleum gases which amounted to 439,900 tons (up 3.4 times). The overall increase in production was the result of technical upgrade of some existing facilities and introducing new units for TAME and the isomerisation of n-pentane up to 150,000 tpa. In 2013, the holding

company plans to manufacture TAME at full capacity of 300,000 tpa and to undertake modernisation and commissioning of a gas fractionation plant TSGFU-2 up to 350,000 tpa. Other projects include the completing of the programme of modernisation of the phenol plant and an increase in capacity.

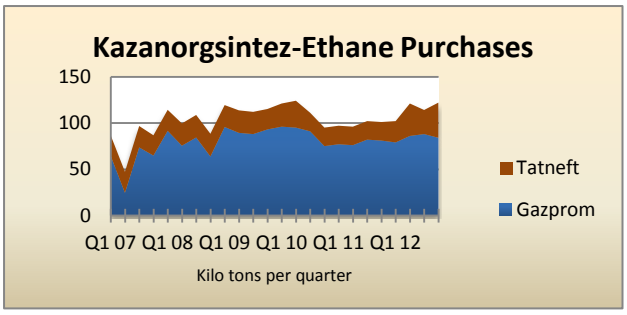
Ufaorgsintez to supply ethylene to the Volga-Urals pipeline

As from February this year, Ufaorgsintez intends to start delivering ethylene to customers using the Volga-Urals ethylene pipeline Salavat-Sterlitamak-Ufa-Nizhnekamsk-Kazan. Ufaorgsintez has previously purchased ethylene via the pipeline to supplement its own cracker output (from Gazprom Neftekhim Salavat and Nizhnekamskneftekhim). Although production has not increased the plant states it is in a position to become a net donor. Ethylene will be delivered to buyers such as Kazanorgsintez or to Kaustik at Sterlitamak. It is not clear what volumes could be sent at this stage, but probably not enough to alter the regional supply/demand balance.

The plant capacity for Ufaorgsintez for ethylene is about 180,000 tpa, but production has never reached this level. The total amount of regional capacity to produce ethylene is estimated at 1.3 million tpa, which in theory should meet derivative demand, but consumers such as Kazanorgsintez and Kaustik have struggled to secure sufficient supplies in the past. Nizhnekamskneftekhim is currently in the early stages of constructing a new 1 million tpa cracker which could be completed in 2016-2017. Gazprom Neftekhim is undertaking the same target although on a slower scale, rising gradually to 1.0 million tpa by 2018 and 1.4 million tpa by 2022.

Kazanorgsintez, increased ethane supply

The Minnibayevo Gas Processing Plant (part of Tatneft) should be capable of increasing ethane production this year to 146,000 tons, all of which will consumed by Kazanorgsintez. In 2012, the plant processed 122,000 tons of ethane after the plant expansions had taken place in 2010-2011. In 2013 Tatneft expects to reach full capacity at Minnibayevo, increasing shipments to Kazanorgsintez by around 20%. The capacity expansion and modernisation of the gas processing plant started in 2010, when the capacity stood at 90,000 tpa. However, there were technical issues which delayed full utilisation.

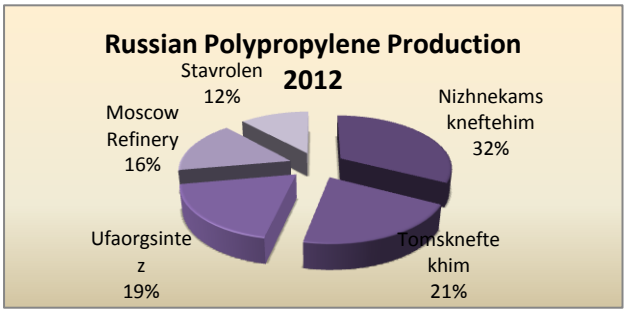


Ethane is the main raw material for Kazanorgsintez, with total demand based on existing ethylene capacity rated at 716,000 tpa. Gazprom provides around 300,000 tpa from Orenburg and Tatneft provides a smaller share from Minnibayevo. Kazanorgsintez increased capacity in 2010 for the production of ethylene in 1.5 times to 640,000 tpa.

Bulk Polymers

Russian polypropylene imports 2012

Imports of polypropylene into Russia increased by 43% in 2012 compared with 2011 and amounted to 276,400 tons. Imports in December rose to 20,400 tons, which was lower than average for the previous eleven months. The main cause of the significant leap in volumes last year was due to the shortages in April and May and purchases thereafter. The total import volume of the propylene homopolymer imports into the Russian market amounted to 138,500 tons, up 35% over 2011. Block copolymers of propylene increased by 35% to around 51,400 tons, whilst imports of propylene copolymers increased by 67% to 47,000 tons.



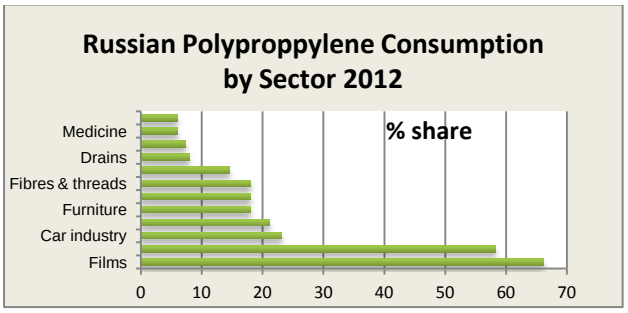
In the second quarter and third quarters this year Polyom and Tobolsk-Polymer are expected to start production capacities at Omsk and Tobolsk respectively. In total the addition of new capacity will be equal to 680,000 tpa, although it may take some time before full capacity is reached. In the first phase of operations both plants are expected to concentrate on homopolymers so there will be still opportunities for imports of other grades.

Russian polypropylene market-structural outlook

Important changes are expected to take place in the Russian polypropylene market in 2013, possibly impacting on both the volumes of imports and domestic prices. Until this year production has been

traditionally been lower than domestic consumption, but in 2013 the picture is expected to change as the new Polyom and Tobolsk-Neftekhim plants come on stream. Further ahead, total production capacity of polypropylene in Russia by 2017-18 could exceed 2 million tpa if proposed projects are undertaken and completed. This is expected to create a large surplus for potential export activity, irrespective of strong domestic growth.

At present domestic producers of polypropylene can meet virtually the full needs of converters for homopolymer, but not for copolymers where imports dominate purchasing activity. Polyom at Omsk and Tobolsk-Polymer have a total combined capacity of 680,000 tpa. Due to the emergence of new players in polypropylene Russian production should exceed net demand by the end of the year, although importers will still have a key role to play. The new surplus is probably expected to be exported than challenge imports in the first year, or two, of operation.



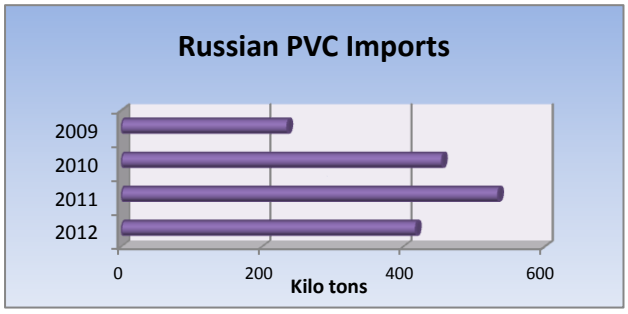
Polyom intends to produce a wide range of grades that might challenge imports. Titan, the holding company for Polyom, aims to sell around 120,000 tons on the domestic market, of which 45,000 tons will sold directly to customers and the remainder sold through traders. The other 60,000 tons from the 180,000 tpa plant will be targeted on exports. It is assumed that a significant proportion of exports of polypropylene from Omsk will be sold in Ukraine where production has been halted at Lisichansk. Low paying Ukrainian processors will help to ensure that they will choose polymer from Omsk and not European or Asian.

The Polyom plant is based on Spheripol technology which places it in a strong position to challenge imports produced by LyondellBasell and a number of other producers. SIBUR is using Innovene technology for the 500,000 tpa plant at Tobolsk-Polymer, which will also produce grades which may counterbalance import activity. Commissioning of the Tobolsk plant is expected to start in the first quarter this year. Based on initial estimates in the first full year of operation Tobolsk-Polymer wants to sell around 200,000 tons to the domestic market whilst exports will comprise around 300,000 tons

Chinese Polymer Exports to Russia (unit-kilo tons)

Product	*Jan-Dec 12*	*Jan-Dec 11*
PET	70.2	111.0
PVC	100.7	118.0
Polystyrene Exp	39.4	31.0

At this stage it is not clear how the two new plants in Russia will compete against one another, but the main obvious difference is that SIBUR already possesses experience in the polypropylene market through its subsidiary Tomskneftekhim and more indirectly through the Moscow plant. Polyom will produce homo, block and random copolymers, whilst Spheripol technology will allow the plant to turn out film, fibre, extrusion and injection moulding, and pipe grade polypropylene. Nizhnekamskneftekhim uses the same technology and this may be where the head to head competition is primarily focused for Polyom. When Polyom is operating at close to full capacity, Russian polypropylene prices could start to come under pressure or at least that is the hope of the converters. Last year prices were influenced by the Stavrolen cracker outage which reduced availability and helped increase imports.



Russian PVC imports 2012

Imports of PVC totalled 417,600 tons in 2012 against 534,200 tons in 2011, indicating that imports into Russia may have gone past their peak. Domestic production increased last year reduced the demand for imports, in addition to the early part of 2012 which saw purchases restricted by over-stocking. About 70% of the total imports in 2012 came from the US and Canada.

Both Sayanskkhimplast and Kaustik at Sterlitamak increased capacity utilisation in 2012, resulting in an additional 50,000 tons of product on the market. Both producers have been affected by ethylene shortages in recent years from their respective pipeline connections, although the situation for Kaustik has improved in the past few months. In addition to more stable deliveries from Gazprom Neftekhim Salavat, supplies are also being secured from Nizhnekamskneftekhim.

In the early part of 2013 the supply of PVC resin for the production of PVC profiles has been placed under pressure. Contrary to trends in early 2012 when warehouses were full of PVC, traders have started 2013 with very low stocks forcing them to purchase more resin to cover maintenance shutdowns, etc. The Ukrainian producer Karpatneftekhim's downtime will result in a shortfall of around 25,000 tons in the first quarter this year, which will probably made up by imports from the US and China depending on prices.

South Korean Polymer Exports to Russia (unit-kilo tons)

Product	*Jan-Dec 12*	*Jan-Dec 11*
PET	55.6	83.0
PVC	10.4	22.6
Exp PS	18.7	30.4
Polystyrene	17.6	16.0
HDPE	67.1	44.9
LDPE	27.0	21.3
PP	13.8	14.5
Polycarbonate	5.2	2.2
ABS	19.6	20.1

Kaustik-investment plans

Kaustik at Sterlitamak plans to spend about 60 billion roubles over the period 2013-2019, invested mostly in the reconstruction of existing facilities for EDC-VCM-PVC and also new facilities. Around 40.5 billion roubles is allocated for this investment plan, increasing PVC capacity to 600,000 tpa. The company also plans to build its own energy source by 2016 and has allocated 25 billion roubles for the purpose. In 2013 the company plans to replace the air separation unit at a cost of 650 million roubles.

Having reached agreement with Gazprom Neftekhim Salavat for ethylene supplies, in addition to opening a new ethylene pipeline to connect the two plants, Kaustik is much better placed than two years ago to complete the investments in the PVC chain. Kaustik's ownership is divided between 51.77% owned by the Cypriot company Modisanna Ltd and 48.23% by Bashkhim.

Russian polyethylene imports

Polyethylene imports into Russia totalled 762,000 tons in 2012, 28% up on 2011. The Stavrolen outage lasted until September last year and was a key factor in the rise in imports, with production at Budyennovsk dropping four-fold to 70,000 tons. However, this was not the sole factor determining import flows as strong demand continues for specific grades of imported polyethylene. Although Stavrolen is expected to operate normally this year the flow of imports is expected to remain high.

Imports of HDPE rose 35% in 2012 against 2011 to 410,000 tons. The largest increase in imports was in the film, blow moulding and pipe grade polyethylene. External supply HDPE film in 2012, have more than doubled and reached 99,000 tons. Polyethylene pipe imports increased by 45% to 130,000 tons. Supply of HDPE blow reached 50,000 tons.

Imports of LLDPE to Russia for 2012 amounted to 160,000 tons, an increase of 19% over 2011. Linear polyethylene film imports rose to 116,700 tons. Russian LLDPE production totalled 29,000 tons in 2012, all of which was produced by Nizhnekamskneftekhim. Rising consumption of polyethylene stretch film is generating strong demand for LLLPE.

Novy Urengoy LDPE project

LDPE production from the Novy Urengoy Gas Chemical Complex could be seen in 2014, according to local reports in the Yamal-Nenets region. The 400,000 tpa plant is close to completion and could be followed by a further investment raising total capacity to 1.2 million tpa. In March last year, Gazprom issued a guarantee for a period up to March 2016 from the Bank of Tokyo-Mitsubishi, amounting to 10.6 billion roubles. In July 2012 Gazprom agreed for guarantees of 11.2 billion roubles from Sumitomo Mitsui Finance Dublin in addition to other loans from the Bank of America Securities, etc. The Novy Urengoy Gas and Chemical Complex has been constructed over a period of two decades. Special equipment has been introduced for providing infrastructure support for the Novy Urengoy complex in conditions of up to -60 Celsius.

Polief PET expansion

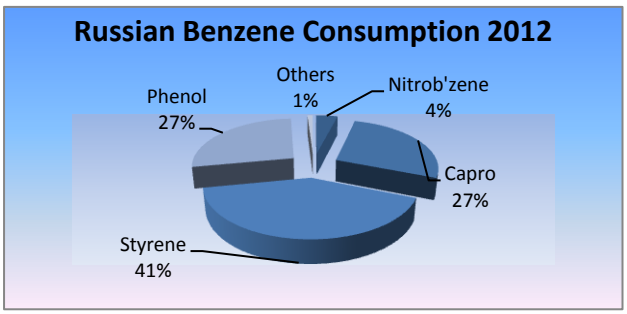
Polief has started the process of assembling equipment at Blagoveshchensk as part of the project to expand PET capacity from 140,000 tpa to 210,000 tpa. The device is solid state polycondensation SSP which is key equipment for PET edible. The height of the device is more than 30 metres. In autumn 2012 the equipment was delivered to the site on a specially equipped platform. In December 2012, Polief received a positive opinion from Glavgosekspertiza (Moscow) and building permits for the expansion of production of PET. The SSP reactor represents the key equipment for producing crystalline PET by solid edible polycondensation. Polief awarded a tender to Russian company Kronstadt in early January 2013 for the supply of spare parts for chemical pumping systems, designed by Swiss company Maag Pump.

Russian Imports of PET (unit-kilo tons)		
	Jan-Dec 12	Jan-Dec 11
China	70.2	111.0
South Korea	55.6	83.0
Others	28.2	27.8
Total	154.0	221.8

Russian PET imports 2012

Russian imports of PET dropped 44% in 2012 over 2011 to 154,000 tons. Due to increasing Russian production volumes of PET and a low pricing policy of domestic manufacturers, imports fell in 2012 to the lowest level in the past decade. Imports from China and South Korea both fell significantly. Unlike in previous years, the supply of PET produced in China exceeded the supply from Korean manufacturers. This was due to the difference in price of around $50 per ton in the pricing policy of the Chinese manufacturers.

Aromatics & derivatives



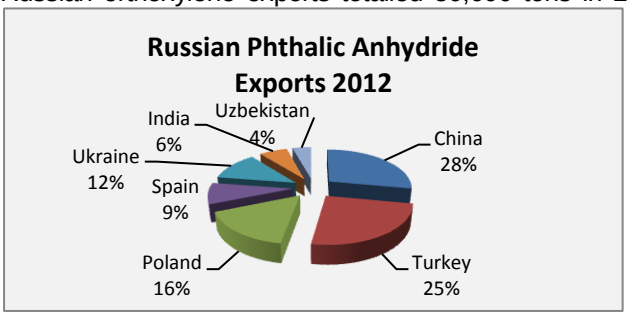
Russian benzene market 2012

Benzene production in Russia totalled 1.136 million tons in 2012 against 1.131 million tons in 2011. In 2012 Russian benzene producers sold 731,900 tons to the domestic market, which is 1% less than in 2011. The main outlets for benzene consumption are shown opposite with styrene dominant, followed by caprolactam and phenol.

Benzene sales on the domestic market amounted to 65,100 tons in December, the same as in November. The largest buyer was Azot at Kemerovo which accounted for 15% of total purchases, followed by SIBUR-Khimprom with 12% and Kuibyshevazot with 12%. Benzene imports from Kazakhstan, from ArcelorMittal Temirtau, amounted to 2,570 tons. Imports into Russia totalled 37,700 tons last year, 4% down on 2011. Kuibyshevazot was the largest importer, accounting for 74% of shipments.

Russian orthoxylene & phthalic anhydride exports 2012

Russian orthoxylene exports totalled 50,600 tons in 2012, 10% up on 2011. December exports amounted to 5,000 tons, 35% less than in November and 40% lower than in December 2011. Gazprom Neftekhim Salavat accounted for 61% of orthoxylene exports in December (3,080 tons), followed by Ufaneftekhim with 1,960 tons. Most of Russian exports went to Finland.



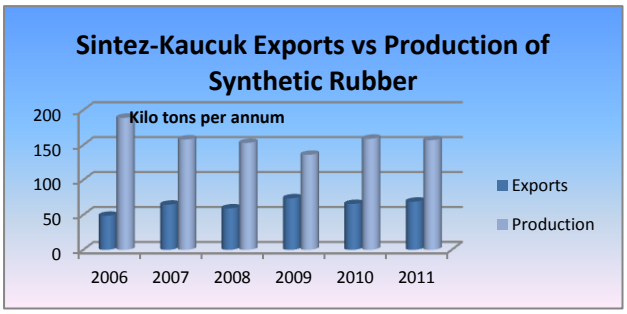
Phthalic anhydride exports rose to 8,300 tons in December, 2.1 times higher than in November and 2.3 times higher than in December 2011. The increase in supply was due to a significant increase in demand for these products in Turkey. About 98% of product exported 8,150 tons originated from Kamteks-Khimprom, whilst the remaining 2% (190 tons) was re-exported through Ukrainian company Lizinvest. China accounted for 43% of shipments, Turkey 30%, Ukraine 7% and Poland 5%.

For January to December 2012 exports of phthalic anhydride from Russia totalled 56,800 tons which is 10% more than in 2011. The main direction of exports in 2012 comprised China (26% of the gross deliveries), Turkey (23%), Poland (15%), Ukraine (11%), Spain (8%), India (6%) and Uzbekistan (4%).

Russian toluene market 2012

Total shipments for toluene by rail to the Russian market for 2012 was 110,600 tons, 10% more than in 2011. Toluene supply tightened last year due to good demand, despite the increase in production. Demand for toluene in Russia is met solely from domestic plants produced at such refineries and coking plants. The largest consumers of toluene are the manufacturers of industrial explosives, such as the Biysk oleum plant, the Sverdlov plant, Promsintez at Chapayevsk, etc. After explosives comes coatings. Rises in consumption in this sector has put pressure on the market in the past year.

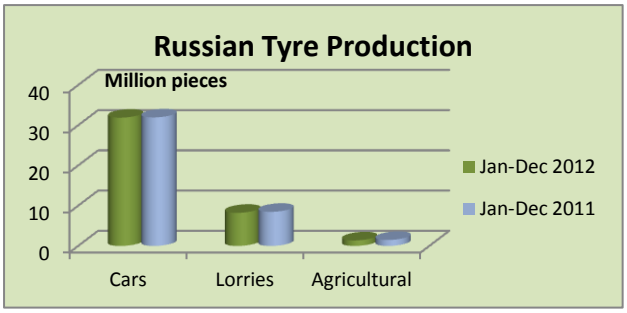
Synthetic Rubber



Sintez-Kaucuk-Russian Railways

Russian Railways Logistics has begun to organise the transportation of export of finished products from Sintez-Kaucuk at Sterlitamak for foreign shipments. The first 30 containers with cargo have been shipped for export to India, Indonesia and South-East Asia. Production of synthetic rubber at Sterlitamak is controlled under the management of TAU Neftekhim. In recent years part of the production has been allocated to Sterlitamak Petrochemical Company, but Sintez-Kaucuk is the main producer of rubber and takes full charge of export shipments.

In January this year Sintez-Kaucuk was fined for exceeding the limits in contamination of soil and ground water, contravening the law on the protection of the environment. Sintez-Kaucuk combines several productions for propylene, cis-isoprene, epichlorohydrin and other brands of synthetic rubber. In 2009, the company started commercial production of new environmentally friendly styrene butadiene rubber (being the second company in Russia, producing these products.) The main countries in which supplied goods Italy, France, Spain, Germany, Finland, Poland, Hungary, China, India, Indonesia, Korea.



Russian tyre news

Production of tyres for passenger cars in Russia fell in 2012 0.2% to 31.9 million units, according to the information provided by Rosstat, whilst the production of truck tyres declined by 3% to 8.237 million units. Agricultural tyres dropped 9.2% to 1.365 million units. In contrast to the decline in tyre production, car production in Russia increased in 2012 by 13.3% to 2,000,000 units. The production of buses increased 30.7% to 57,100 units and trucks up 1.5% to 210,000 pieces. The rise in car production and the simultaneous stagnation or slight decline of car tyre production has helped drive up tyre imports in 2012 to around 61 million pieces against 55 million pieces in 2011.

In 2013 the two Russian manufacturers of all-steel tyres, Kordiant and Nizhnekamskshina, intend to increase output volumes. In February 2013, Kordiant will start a new shop for SSC tyres at Yaroslavl whilst Nizhnekamskshina intends to increase capacity by the end of 2013. These expansions could raise Russian production of all steel tyres to around 2.2 million tyres per annum. In 2012, truck manufacturers KAMAZ and GAZ initiated the process of transition to the equipment for truck and bus tyres in order to accept all steel tyres from Nizhnekamskshina.

The investment project SSC-650, at Yaroslavl Tyre Plant (YaShZ) involves launching a new workshop for steel tyres with an annual capacity of 650,000 units. This will increase Kordiant's total capacity for SSC tyres up to 1 million units per annum. Further increases to 1.3 million units per annum are planned. From January to October 2012 Kordiant produced 361,600 SSC tyres (2.3 times higher than in the 10 months of 2011).

Titan installs new compressor

Titan plans to sign an agreement with Siberian mechanical engineering institute in 2013 for equipment improvements at Omsk Kaucuk in synthetic rubber production. A new central air compressor station has been introduced by Titan for joint usage by Omsk Kaucuk and Polyom (the new polypropylene plant). The construction of the polypropylene plant forced Titan to initiate a new project for air compression. The structure of a fully automated installation includes two compressor units of 17,000 cubic metres per hour. The supplier of equipment for the new facility was the Belgian company Atlas Copco.

Kazan Synthetic Rubber Plant to develop polyurethanes

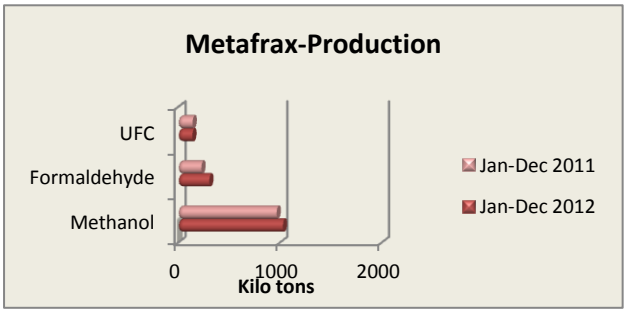
Kazan Synthetic Rubber Plant (KZSK) has announced that it is ready to introduce a new technology for the synthesis of polyurethane, avoiding the import of d isocyanates. Kazan company Ecopolymer has developed a

technology to use local canola oil instead of toxic isocyanates. The company is preparing an application for a patent. The new technology is expected to reduce the cost of production of polyurethane by around 30% (at present it is 72,000 roubles per ton). Furthermore, the products will be environmentally friendly, whilst improving their physical and mechanical properties. Investment in new production capacity could reach 800 million roubles. The Russian market for polyurethanes is growing at 15% to 20%, and is close to 450.000 tons at present, or in value terms about $1 billion per annum.

Methanol & Ammonia

Russian methanol market, Jan-Dec 2012

Russian production of methanol in 2012 totalled 3.288 million tons against 3.065 million tons in 2011. For the whole of 2012 Russian sales of methanol on the domestic merchant market totalled 1.2 million tons, 2% up on 2011. Stable production at Togliattiazot in the past few months has helped stabilise methanol supply in the domestic market. Domestic sales of methanol amounted to 129,000 tons in December, 14% up on November. Metafrax, Sibmetakhim and Togliattiazot accounted for 86% of the total sold in Russia methanol. Togliattiazot sold 38,000 tons in December, 50% up on November.



Metafrax, Jan-Dec 2012

Metafrax increased the production of methanol by 6.3% in 2012 over 2011 up to 1.031 million tons, the increase being due largely to the absence of an extended shutdown in 2012.

Production of formaldehyde totalled 307,700 tons (down 1.8%), urea formaldehyde concentrate 193,100 tons (down 2.2%), pentaerythritol 23,300 tons (an increase of 7.6 %), hexamine 26,100 tons (13.6%), sodium formate 12,100 tons (up 9.3%).

Metafrax increased turnover by 23% in 2012 to 11 billion roubles. The share of exports in total sales in 2012 amounted to 39.2% against 40.2% in 2011. Last year Metafrax benefited from the early completion of planned maintenance on the methanol unit. Currently, the plant is running at full capacity and its profitability has increased by 12% compared to 2011.

Metafrax plans to maintain annual investment in 2013 at around 500 million roubles, part of which will be directed to a large-scale reconstruction of the pentaerythritol plant and another part to the reconstruction of the methanol plant in order to raise capacity 10% to 1.1 million tons. Metafrax has reached agreement recently with VTB Capital in Moscow for funding short-term projects as well as the possible allocation of $500-600 million for major projects. Mirvak Group Inc. (Panama) owns 19.46% of shares in Metafrax, and Lipaned Ltd (Cyprus) 66.05%.

Russian MTBE market

SIBUR has increased production capacity for MTBE at Uralorgsintez (Tchaikovsky, Perm region) from 200,000 tpa to 220,000 tpa. Russian production capacity of MTBE totals 800,000 tpa, of which half is controlled by SIBUR Holding. In 2011, the company completed a project to increase the capacity for the production of MTBE at Tobolsk site from 120,000 to 150,000 tpa. At present, the domestic production of MTBE exceeds consumption, and unclaimed in the domestic market volumes being exported. However, demand for MTBE is growing, in part because of stricter quality requirements for gasoline.

LUKoil has advocated the abolition of import duties and levies on Russian exports on MTBE. The ban on the use of fuel emissions standard Euro-2 in Russia led to an increase in consumption of MTBE. LUKoil states that MTBE production in Russia is not sufficient satisfy the needs of the market and that domestic consumers are already trying to weigh up options.

LUKoil (one of the main consumers of MTBE in Russia) wants to apply export duties on Russian product and at same time see cancellations on imported MTBE into to Russia. Producers oppose both moves due to seasonal fluctuations in demand which cause peaks and troughs in the supply/demand balance. Russian importers have to pay 5% on imports of MTBE which offsets the advantage of lower prices. Both consumers and producers provide tenable arguments, and some sort of compromise is sought.

MTBE imports into Russia totalled 72,400 tons in 2012, which is 10% higher than in 2011. During the high season for MTBE the price of imported MTBE is often lower than offered by domestic producers. The main supplier of MTBE in Russia is the UAE, accounting for 94% of imports in December.

Akron-Selected production 2012 (unit-kilo tons)

Product	*Jan- Dec 12*	*Jan-Dec 11*
Ammonia	1780	1770
Including in-house consumption	*1.63*	*1.58*
Methanol	79.9	77.8
including in-house consumption	*71.8*	*73.6*
Formaldehyde	139.1	144.3
including in-house consumption	*129.7*	*134.1*
Urea-formaldehyde resins	170.2	176.5
Low-density technical AN	241.9	247.6
Calcium carbonate	302.1	364.8
Liquid carbon dioxide	55.7	55.7
Argon	7	7.2
Hydrochloric acid	133.9	146

Akron, Jan-Dec 2012

Akron's chemical production totalled 5.8 million tons in 2012, about the same volume as in 2011. Production of nitrogen fertilisers increased by 11% up to 2.683 million tons, whilst urea rose 25% to 571,400 tons. The production of ammonia amounted to 1.783 million tons, up 1% over the previous year. Akron expects that in 2013 the production of urea will reach design capacity of 800,000 tons, which in turn will continue to increase production of urea-ammonium nitrate. The company's output of inorganic chemicals fell 10% to 740,600 tons.

Akron intends to increase annual sales of urea-ammonium nitrate to around 1 million tpa in the next few years. The company has launched a project to build a new large-scale ammonia plant with a capacity of 700,000 tpa which is scheduled to be operational in 2015.

Methanol production for Akron increased last year by 3% to 79,900 tons, whilst urea formaldehyde resins fell by 4% to 170,200 tons. Akron is concentrating on the expansion of the methanol plant to 600 tons per day, which has been ongoing for some time, and the construction of ground storage facilities for methanol. Other projects include the reconstruction of the urea plant to increase its capacity to 1800 tons per day.

The main challenges to Akron lie in the cost of natural gas, sylvite, apatite, energy and transportation. In all of these sectors rises have been recorded last year, although some of which were quite modest. Higher tariffs for electricity and natural gas took place from July. Part of the gas consumption is based on regulated prices, but this share has been in decline with the rise of volumes based on market prices. Gas prices are scheduled to rise in 2013-2014, up to a maximum of 15% each year, although it will take some time before Akron and other Russian fertiliser producers are paying full international prices.

Fosagro Production 2012 (unit-kilo tons)

Product	Jan-Dec 2012	Jan-Dec 2011
Ammonia	1,095	1,010
Urea	703	446
Phosphate fertilisers	4,340	4,105
Nitrogen fertilisers	1,098	901
Ammonium nitrate	315	456
Aluminium fluoride	24	24
Phosphoric acid	608	711
Sulphuric acid	4,437	4,441

Fosagro-2012

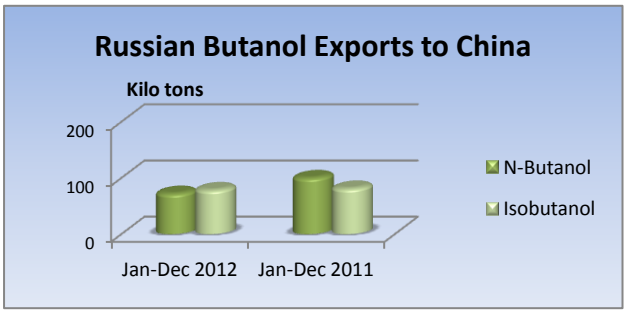
Fosagro increased the production of nitrogen fertilisers by 21.8% in 2012 over 2011 to 1.098 million tons. Total production of fertilisers increased by 8.6% to 5.4 million tons. Ammonium nitrate decreased by 31% to 314,600 tons, whilst the production of ammonia increased by 8.5% up to 1.095 million tons.

Production of urea rose 57.8% to 703,100 tons, due mainly to the launch of a new installation at Cherepovets in October. The new plant has a capacity of 500,000 tpa and is the first new urea investment in Russia for many years. Total capital investment in the urea and power plants amounted to around 7.5 billion roubles, using Stamicarbon technology. The need for a new urea plant arose due to the excess of ammonia at Cherepovets. This places Fosagro as the third largest producer of urea in Russia after Evrokhim (1.49 million tpa) and Uralkhim (1.2 million tpa). The new structure of Fosagro was established on 1 July 2012 through the merger of Ammophos at Cherepovets and Azot Cherepovets.

Organic Products

Russian MEG trade 2012

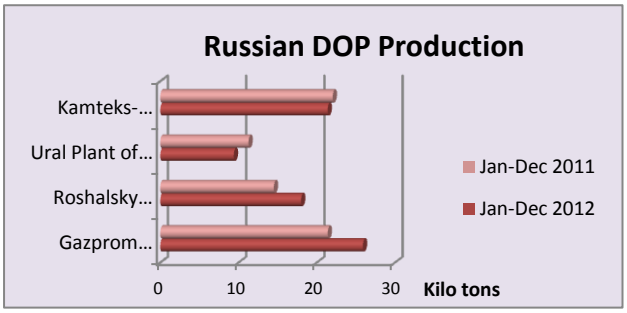
Russian imports of MEG totalled 37,800 tons in 2012, 3% down on 2011. Alko-Naphtha was the main recipient, purchasing 90% of imported shipments. The largest source of imports was SABIC from Saudi Arabia. Exports totalled 75,500 tons in 2012 which is 52% up on 2011. The main destination for Russian MEG exports remains Belarus, with SIBUR-Neftekhim and Nizhnekamskneftekhim the main suppliers.



Russian butanols, Jan-Dec 2012

Butanol exports from Russia totalled 153,900 tons in 2012, 26% less than in 2011. Gazprom Neftekhim Salavat accounted for 52% of shipments, SIBUR-Khimprom 27%, Angarsk Petrochemical Company 20% and Azot at Nevinomyssk 1%. The proportion of normal butanol in total exports amounted to 48% of shipments and isobutanol 52%.

Normal butanol exports from Russia to China declined in 2012 to 72,100 tons against 100,000 tons in 2011. Isobutanol exports totalled 78,600 tons against 81,200 tons. The drop in normal butanol exports is attributable to the rise in domestic consumption over the twelve month period. It could be added that butanol demand in Russia dropped in December prior to the holiday period, although significant quantities were exported. The cost of n-butanol currently stands at 47 500-48 000 roubles per ton, including VAT. Isobutanol is offered at 46,500-47,500 roubles per ton including VAT. The domestic Russian market has started 2013 slowly but significant quantities of products will continue to be exported.



Russian DOP 2012

A seasonal decline in demand caused reduced production of DOP at the start of this year, following a weak end to 2012. Production in December dropped 21% against November to 5,930 tons. Gazprom Neftekhim Salavat cut production by 7% to 2,520 tons. The only company that increased the production of plasticizer was Kamteks-Khimprom, which produced 2,100 tons of DOP, 5% more than in November.

For the whole of 2012 Russian production totalled 74,650 tons, 7% more than in 2011. The growth in production was due to rises by Roshalsky Plasticizer Plant by 24% to 18,000 tons and Gazprom Neftekhim Salavat by 21% to 25,900 tons. The Ural Plant of Plasticizers and Kamteks-Khimprom reduced DOP production by 20% and 3%, respectively, to 9,400 tons and 21,400 tons. In the first few weeks of 2013 nearly all the producers reduced production due to low demand. Gazprom Neftekhim Salavat had built up inventories of around a thousand tons which allowed uninterrupted sales in January and a plant stoppage at the same time.

Other Products

Soda to expand capacity

Soda at Sterlitamak plans to direct 1.5 billion roubles towards the development and technical modernisation of production capacity in 2013, in particular of calcium chloride and sodium bicarbonate. This year the company will work in several directions, including an expansion granulated calcium chloride capacity to 100,000 tpa.

Soda is also introducing an automated process control system for soda ash production, which will reduce the consumption of raw materials and energy resources. It will also improve the quality and volume of the product. In order to improve the quality of sodium bicarbonate the company will carry out a comprehensive modernisation, as well as introduce a line of packaging for sodium bicarbonate.

Soda Berezniki

Soda at Berezniki is planning to invest 1.9 billion roubles in 2013, 46% more than in 2012. This year, the funds will be used to increase soda ash production capacity, equipment replacement, building its own power plants and construction of a brine unit. Around 1.4 billion roubles will be allocated for the construction of a brine unit and 1 billion roubles for the construction of an energy source. In late 2012, Bashhkim decided to merge Kaustik and Soda at Sterlitamak with Soda at Berezniki and shipping company Transneftekhim.

Gazprom Neft-Total, polymer binders jv

Gazprom Neft and Total intend to sign documents on creation of a jv for the production of polymer-bitumen binders (PBB) and bitumen emulsion at the Moscow refinery. The investments are planned in equal parts as the

distribution of profits. Total guarantees delivery of components, and Gazprom Neft the supply of raw materials, and the source of bitumen. The product will be made by technology Styrelf.

The intended plant is to be designed with a capacity of 60,000 tpa. Demand is still evolving in Russia for PBBs, but it is clear that Moscow can absorb these volumes. Binders produced will be used not only in the construction and reconstruction of roads of Moscow and Moscow region, but also on federal highways.

Russian Chemical Exports to China (kilo tons)

Product	*Jan-Dec 12*	*Jan-Dec 11*
HDPE	0.2	0.1
LDPE	68.5	87.0
n-butanol	72.1	100.0
iso-butanols	78.6	81.2
PVC	0.4	1.2
Phthalic Anhydride	11.3	13.0
2-EH	9.4	12.5
PP	6.5	3.3
Acrylonitrile	17.4	7.4
Caprolactam	169.7	141.4
Polycarbonate	23.7	15.4
Styrene	8.0	12.2
Orthoxylene	2.9	1.0
Paraxylene	5.2	10.0
Phenol	1.5	0.0
Acetone	13.5	10.7
Bisphenol A	39.2	26.8
Methacrylic Acid	2.0	0.0
Polyamide	37.9	56.1
Polystyrene	0.0	0.4

Galopolymer-chlorform project

In 2013 Galopolymer at Kirov-Chipetskiy will carry out most of the priority tasks involved in the launch of a project for the production of chloroform. The plant will use methane technology and will have a capacity of 45,000 tpa. Chloroform will be produced from natural gas, which will increase the level of industrial and environmental safety compared with the existing plant. In 2014, the company's efforts will be aimed at increasing the quality of the main export product range of Teflon 4, Teflon-4MB (FEP); and fluoroelastomers series Elaftor.

Kuibyshevazot approves investments in Kurskkhimvolokno

Kuibyshevazot has approved the deal on the allocation of financial aid to its subsidiary Kurskkhimvolokno to the amount of 1.2 billion roubles for the purchase and installation of equipment. Thus, the investment will be used to modernise the Kursk operations. Kuibyshevazot acquired Kurskkhimvolokno in late 2008, as part of the long-term strategic programme to increase processing of caprolactam and reduce export volumes. Kurskkhimvolokno produces synthetic (nylon, polyester and polypropylene) fibres, textile and industrial yarns, resins, and consumer goods.

Gazprom Air Liquide helium agreement

Gazprom Export and Air Liquide have signed a memorandum of understanding, promoting cooperation in the development potential of helium resources in East Siberia. Gazprom and Air Liquide will explore forms of strategic cooperation, such as joint production, transportation, storage and marketing of helium in the project. Air Liquide will provide its technology, expertise and human resources within the newly established partnership with Gazprom. This is the third memorandum for Gazprom Export with possible partners in a helium project in East Siberia.

Gazprom has previously reached an agreement with Linde on cooperation in new projects for the production of helium. Linde was willing to make a strategic buyer of large amounts of helium from the new GEA Belogorsk. Also, Gazprom Export signed a memorandum of marketing and technology partnership with Matheson. This company intends to serve as a strategic partner of Gazprom not only as a recipient of significant amounts of helium, but also to bring to the project valuable knowledge.

Chemical investments Sverdlovsk region 2012

Investments in the chemical industry in the Sverdlovsk region amounted to around 3 billion roubles in 2012, of which around 580 million was targeted on the infrastructural development of the Chemical Park Tagil. Also as part of the project Chemical Park Tagil the phenol-formaldehyde resin plant was modernised and increased to 7,200 tpa capacity. The most important project involves the construction of the new methanol plant with a capacity of 600,000 tpa, progress will continue this year and in 2015 around 13 billion roubles is intended to be invested in construction.

Ukraine

Ukrainian HDPE market 2012

The global economic crisis had a negative impact on the development of the Ukrainian HDPE market, with consumption declining in 2012 particularly after the completion of the facilities for the Euro 2012 football championships. Consumption rose 24% in 2011 over 2010, but has since stagnated. The slowdown in domestic demand was one of the causes of the sole Ukrainian producer Karpatneftekhim suspending production in

Ukrainian Chemical Production (unit-kilo tons)		
Product	***Jan-Dec 12***	***Jan-Dec 11***
Acetic Acid	146.6	141.7
Ammonia	5050.0	3720.8
Benzene (+95%)	102.4	118.9
Caustic Soda	127.8	144.5
Ethylene	128.2	170.9
Methanol	168.9	144.9
Polyethylene	54.7	93.3
Polypropylene	25.5	85.0
Polystyrene	19.2	19.5
PVC	71.4	76.3
Propylene	55.2	76.9
Soda Ash	653.5	747.5
Titanium Dioxide	145.1	141.0
Toluene	6.1	5.3

September last year. Virtually all volumes from Kalush were supplied to Kiev Polymer Company, which is the distributor of this company in the Ukraine, or shipped from the factory directly to recyclers.

Whilst the Stavrolen plant at Budyennovsk was out of action last year Karpatneftekhim was able to make up for the loss of demand in the domestic market by exporting to Russia. A total of 55,080 tons of HDPE was exported in January to September last year. Since then LUKoil has stopped production on the basis of low profitability, both for HDPE and PVC. After extensive maintenance for two months the plants remained idle and are unlikely to restart prior to the second quarter.

Ukrainian benzene production 2012

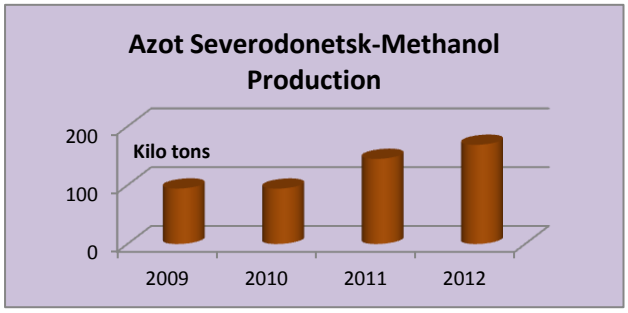
Ukrainian production of benzene totalled 4,700 tons in December, 11% down on November. Zaporozhkoks reduced production 1.9 times to 3,000 tons whilst Yasinovsky Coke increased production 34% to 3,200 tons. Total production for 2012 amounted to 102,400 tons against 118,900 tons in 2011. Several plants reduced production due to low profitability, including Ukrtatnafta, Zarya and Karpatneftekhim.

For the whole of 2012 Ukrainian domestic market sales of benzene totalled 27,700 tons, of which 55% were purchased by Azot at Cherkassy. From July onwards Azot did not buy from domestic sources and imported benzene instead.

Ukrainian titanium dioxide

Crimean Titan, the larger of the two Ukrainian producers of titanium dioxide, came under the full control in December last year of Ostchem owned by Ukrainian businessman Dmitry Firtash. The Ukrainian Cabinet of Ministers instructed the sale of shares of 50% +1 share in Crimean Titan to Ostchem. Currently Crimean Titan possesses two workshops for the production of titanium dioxide with a total capacity of 80,000 tpa.

Ownership changes are also taking place at Sumykhimprom, which is the smaller of the two titanium dioxide producers in Ukraine and is also owned partially by Ostchem. The capacity of the plant at Sumy is 30,900 tpa. The company wants to start constructing a new plant in 2013 after project documentation has been completed. Crimean Titan is predominantly export-orientated, with only small volumes consumed domestically.



Ukrainian methanol-excise duties increase prices

Azot at Severodonetsk increased methanol production to 168,900 tons in 2012 from 144,900 tons in 2011. The main problem for early 2013 is that the Ukrainian government has applied an excise duty to methanol purchases from the start of the year and this has led to a rise in the cost of production by Azot. The amount of the excise tax on the purchase of methanol has been set at €400 per ton. In January 2013 the sales price of methanol is about 9,600 hryvnia per ton including VAT, which is almost twice the level recorded in December 2012. Consumers are lobbying the government for a change in the policy.

Belarus

Belarus-benzene production

Benzene production in Belarus amounted to 11,100 tons in December, 2% less than in November. Production totalled 131,000 tons in 2012, 22% up on 2011. The increase in the production of aromatic raw materials in

Belarus has resulted from the modernisation at both refineries at Mozyr and Novopolotsk at the end of 2011. Ethylene production has also been boosted by modernisation.

Azot Grodno-Production (unit-kilo tons)

Product	*Jan-Dec 12*	*Jan-Dec 11*
Methanol	84.3	80.6
Caprolactam	121.3	130.6
Polyamide primary	51.6	40.5
Polyamide filled	10.3	10.4
Ammonia	1014.1	1046.0
Urea	949.0	927.6
Fertilisers	746.0	734.9

Azot Grodno 2012

Azot at Grodno reduced revenues by 2.8% in 2012 over 2011, although recording increases in production in most products. Fertiliser production rose 1.4% to 745,740 tons, whilst urea rose 2.3% to 948,950 tons. Ammonia totalled 1.014 million tons or 96.8% of 2011 volumes and methanol rose 4.6% to 84,279 tons.

In the fibre division caprolactam production dropped 7.7% to 121,268 tons, although production of polyamide primary rose from 40,000 tons to 51,625 tons. Polyamide filled production totalled 80,384 tons which was 0.5% down on 2011. Azot has undergone some major changes in the past year regarding the integration with Khimvolokno at Grodno, harmonising the production of caprolactam and fibres.

Belarussian carbon black project

Omsk Carbon Mogilev, a subsidiary of Omsk Carbon Group, is developing the production of carbon black for the production of automobile tyres in the FEZ Mogilev. The project is worth $130 million and will create 450 jobs. In 2015 Omsk Carbon Mogilev intends to produce 80,000 tons of carbon black, with a further expansion to 150,000 tpa by 2019. It is planned that more than half of this amount will consumed by Belshina, another 3-5% will go to the domestic market to smaller customers, and the rest sent for export to neighbouring countries.

The new company will be located on a site near Mogilevkhimvolokno. The Omsk Carbon Group includes companies in Omsk and Volgograd total production capacity of 360,000 tpa. The product range consists of 15 grades of carbon black: superfine, medium size, low dispersion, and conductive pigment. These products are widely used in tire, rubber and paint industries, printing, production of polymers and electrical cables.

Bashkortostan to assist Belarus in soda ash project

Bashkortostan has agreed to assist Belarus in the construction of a new soda ash plant in Belarus. Bashkortostan has qualified experience in the soda ash industry, controlling Russia's largest soda ash plant at Sterlitamak. The aim is not only to construct a soda ash plant in Belarus, but to also develop associated products such as barium compounds, construction materials, mineral fillers and synthetic detergents. The programme plans to utilise Baskhirian Technology Consulting to develop deposits of limestone in Belarus.

Svetlogorsk-Khimvolokno

Svetlogorsk Khimvolokno has completed the reconstruction of the plant producing polyester filament yarn (ZPTN). he completed renovation is the largest investment project implemented by the company in recent years, the result of which was the replacement of almost 90% of the equipment.

The first phase, which began in August 2010, involved the installation of seven new forming lines to replace the old lines using Japanese equipment. In the second phase, which began in mid-2012, two lines were installed forming in the spinning shops number 3 and 6.

The revamping almost has doubled the production capacity and reduced energy consumption up to 30% against previous levels. Svetlogorsk Khimvolokno was founded in 1964 and specialises in the production of polyester textile fibres, polymer and carbon fibre materials, and nonwoven polypropylene materials (SpunBel and AquaSpun). The company also manufactures polypropylene bags (food and technical), and rayon cord fabric. .

Lakokraska increases PA exports to Russia in 2012

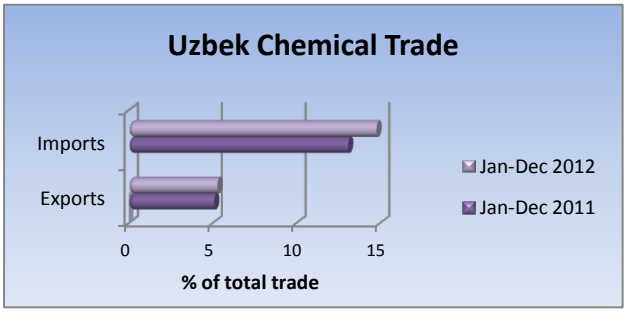
In December Lakokraska at Lida shipped 742 tons of phthalic anhydride to the Russian market, 35% more than November and seven times higher than in December 2011. Roshalsky Plasticizer Plant bought 425 tons from Lakokraska in December, or 57% of total imports from Belarus. The total sales in 2012 of phthalic anhydride from Lakokraska to Russia totalled 6,420 tons, 48% more than in 2011. Lakokraska is close to completing a project to increase the production of phthalic anhydride. The annual volume of production will double, reaching 48,000 tpa. In addition, revamping will entail reducing the consumption of raw materials, reducing energy costs, and increasing product profitability. Another important project for Lakokraska is a joint venture with Jotun Paints (Norway) for the production of anti-corrosion coatings.

Central Asia

SOCAR-urea plants

SOCAR has plans to build two urea plants; one of them will be located in Azerbaijan at Sumgait, and the second in Georgia. Construction of the Sumgait plant is scheduled to begin in the first quarter of 2013 and construction of

a second urea plant, which will be located in Georgia, will start by the end of 2013. The plants will be the same in all respects, and total capacity of the two plants is expected to comprise 1.2-1.3 million tpa.



Uzbek chemical production 2012

The Uzbek chemical industry increased the production of mineral fertilisers by 4.2% in 2012 compared to 2011 up to 1.221 million tons. The country remains heavily dependent on imports of mid-stream commodities and is only engaged in exports in base chemicals.

The production of nitrogen fertilisers increased in Uzbekistan last year by 2.1% to 943,600 tons, phosphate fertilisers by 9.4% to 152,500 tons, and potash fertilisers by 16% to 125,300 tons. Urea production increased by 1.7% to 513,500 tons, ammonium sulphate by 26.4% to 206,100 tons, and ammonium phosphate 12.3% to 152,200 tons.

Navoi urea-ammonia project-

A draft project for ammonia and urea production at Navoi is being considered, with the possibility of construction starting in 2014. Uzkhimprom plans to build a new production of urea and ammonia-based JV Elektrohimzavod (Navoi) with an estimated cost of about $500 million. The project comprises 500,000 tpa of urea and 250,000 tpa of ammonia, and will be financed by foreign loans and credits the Uzbek side. The project is being located at Navoi electrochemical plant which was founded in 1971 and specialised in the production of chemical protection of plants (insectoacaricides, herbicides, fungicides) for Central Asia and other former Soviet republics. Urea production in Uzbekistan totalled 504,200 tons in 2011, 6.5% down on 2010.

Ustyurt Gas Chemical Complex-infrastructure suupprt

The Uzbek government has pledged $212 towards constructing the infrastructure to support the Ustyurt gas chemical complex which is scheduled to be completed by 2016. The development of the Ustyurt gas chemical complex is based on the Surgil deposit. The entire petrochemical project requires an estimated amount of $2.5 billion, and will provide for processing 4.5 billion cubic metres of natural gas. This will result in the production of 400,000 tpa of polyethylene and 100,000 tpa of polypropylene.

The project allows for the extraction of natural gas and 97% of ethane, propane, and other valuable components. In this project, a consortium of leading international banks involved in the project financing without government guarantees.

Uzbek soda ash capacity to increase

Uzkimesanoat has agreed with the Chinese company Citic to increase the capacity of the Kungrad soda ash plant from 100,000 tpa to 200,000 tpa. The project construction period is intended to last two years, with the Chinese bank Eximbank providing finance of $77 million and the Fund for Reconstruction and Development of Uzbekistan providing $14.4 million. The Kungrad soda ash plant utilises local salt deposits Barsakelmes and Dzhamansaysk.

Kazakh chemical news

Kazakh company Tenir Logistics is trying to find investors to build a plant for the production of titanium dioxide pigment based at Zhambyl titanium-magnesium ores. Other projects are under planning in Russia which is making it harder to find investors.

At the start of December a new coatings plant Alina D / Holding was established at Aktobe in an effort to challenge some of the imported products. In the period January to December 2012, Kazakhstan imported around 26,000 tons of coatings, most of which came from Russia.

Kazakh refining news

The Atyrau branch of Sinopec Engineering is employing 1,040 people to undertake and complete the construction of the new aromatics complex, including 496,000 tpa of paraxylene and 133,000 tpa of benzene. The benzene and paraxylene projects at Atyrau are scheduled for completion by 2014, and will cost around $2.8 billion in total construction expenditure.

Pavlodar Petrochemical Plant (KMG) processed 5.0 million tons of crude in 2012, 7.5% up on 2011. The company has achieved these results due to the merger and the financial support of KazMunaiGaz and the stable deliveries of Russian crude oil to the refinery. In 2016 Pavlodar Petrochemical Plant plans to increase oil processing up to 7.5 million tons.

Relevant Currencies

Czech crown. Kc. $1= 20.753. €1 = 25.833: Hungarian Forint. Ft. $1 = 229.448. €1 = 288.154: Polish zloty. zl. $1=3.414. €1 =4.280: Bulgarian leva: $1 = 1.5956. €1= 1.557: Romanian Lei. $1 = 3.555. €1= 4.463: Croatian Kuna HRK. $1 = 5.998. €1= 7.530: Ukrainian hryvnia. $1 = 8.07. €1 = 10.140: Rus rouble. $1 = 33.192. €1= 41.867

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