



# PLASTIC PIPE MARKET TRENDS

# 2012

## MARKET RELATIONS

## WITH BAZAAR ELEMENT

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One of the most important factors for the development and maintenance of municipal infrastructure is the building and renovation of pipeline networks for water, gas and heating supply and sewage. Financing of these projects is vitally important for the plastic pipes market growth. Governmental programmes like Olympic Games in Sochi and the Student Games in Kazan, the Asia-Pacific Economic Cooperation summit in Vladivostok, and the Ak-Bulak Project in Kazakhstan played considerable part in market development in 2012.

### Volume and dynamics of the market

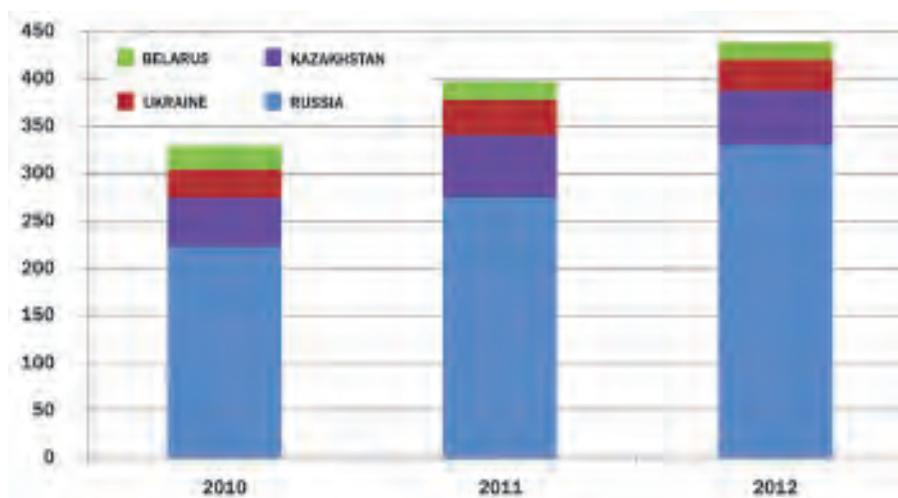
Russian polyethylene pipes market growth in 2012 was over 20% as in 2011 and 2010. The rate was 26% in 2010, 23% in 2011, and 20% in 2012. Annual market growth to 45–55 thousand tonnes of polyethylene pipes was not enough to prevent utility networks collapse. According to official data (published by the Federal Service of State Statistics of Russia), over

359,000 km of heating, sewage and water pipelines need replacement. Current replacement rate is much lower than necessary: only 71% of required norm for district heating networks, 41% for water-supply networks and 8% for sewage networks.

Market dynamics in Ukraine, Belarus and Kazakhstan has been unstable. Growth was altering with stagnation and falls.

The Kazakhstan market, which showed stable growth over the last decade and increasing volumes in crisis 2009, has shown a small decrease in 2012. As a result of joint efforts of PE pipe producers and Kazakhstan government to increase the quality of raw materials used in the production, the share of natural grades of PE pipes decreased in total consumption.

Fig. 1. Volume of PE pipes market in RUBK zone in 2010–2012 years.



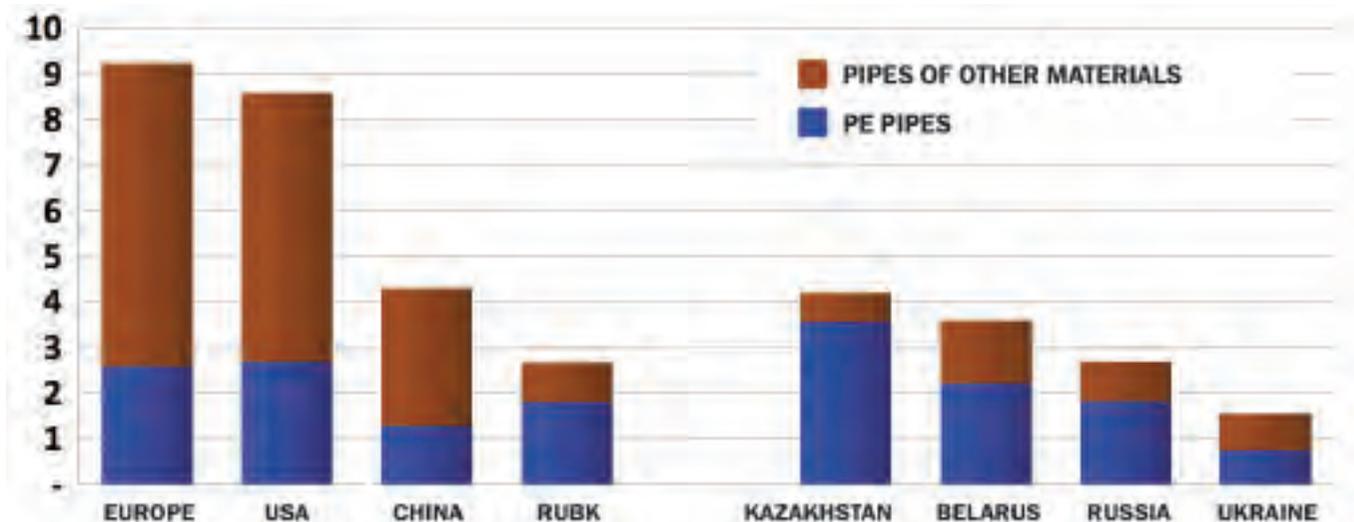


Fig. 2. Consumption of plastic pipes per capita in 2012 year, kg/cap.

The Belorussian market was characterized by the highest rate of consumption of plastic pipes per capita, except for 2011 when Kazakhstan market took the lead. Compared to the other countries, Belarus had most moderate fluctuations of volumes of consumption (its decline during the crisis period was 11%, compared to 33% in Russia and 45% in Ukraine). Post-crisis 2010 saw a 60% growth, followed by a drop to nearly a quarter in 2011 due the slump of the national currency to almost 3 times. The optimistic forecast is that 2% growth achieved in 2012 will lead to stable annual growth trend.

The market in Ukraine showed a negative dynamics during 2012. Volumes have not returned to pre-crisis levels and 2012 remains on par with 2005. Consumption of plastic pipes per capita remains at very low level – 1.4 kg (the average in RUBK countries is 2.91 kg, and in Kazakhstan more than 4.2 kg). Growth potential is complicated by a lack of financing and a high share (30–35%) of counterfeit pipes of natural grades of polyethylene.

According to our estimates, the total market volume of RUBK countries (Russia, Ukraine, Belarus, and Kazakhstan) in 2012 was 440,000 tonnes, where 330,000 tonnes were consumed by Russian market.

### Production of pipe grades of polyethylene

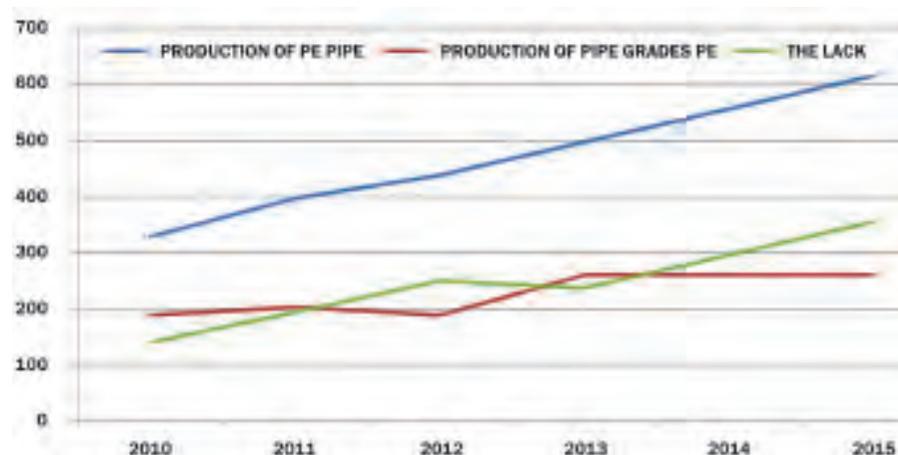
Polyethylene pipes for Ukraine, Belarus and Kazakhstan are manufactured by three Russian plants; Kazanorgsyntez (PE 100), Stavrolen (PE 80) and Nizhnekamskneftekhim (PE 100). In 2012, Stavrolen was idle for nine months due to breakdown elimination after an accident in December 2011. This fact had forced manufactures to import PE 80. Despite an increase from 1% to 8% in the PE 80 share of Russian import volumes in 2011–2012, the general share of PE 80 decreased from 37% to 13%. By the end of September, 2012,

Stavrolen completed its reconstruction work and in early October 2012, the PEHD producing facility has been launched and production of pipe grades of polyethylene has resumed. By the end of the month Stavrolen reached its full capacity.

As seen from Pic. 3, PE pipe market growth outpaces national resin production since 2005. In 2005–2012 production capacity of Russian PE suppliers has increased twice: when Kazanorgsyntez has renovated its factory in 2008 and after launch of new facilities at Nizhnekamskneftekhim in 2011.

In both cases, the changes were not enough to remove Russian import ad-

Fig. 3. Market structure of pipe grades PE in RUBK in 2010–2012 years and forecast for 2013–2015 years.



diction completely. In 2012, one third of all polyethylene pipes were produced from imported resin, with negligible exports of PE pipe grades.

**Foreign trade**

Within the last year, import structure for PE pipe grades has undergone significant changes. Only two years ago the share of resin supply from Saudi Arabia to Russia was 3% of total imports. In 2012, this index reached almost 30% (about 32,000 tonnes). This significant increase is mostly due to a decrease of share of European materials – from 42% to 25%. Most Arab polymer producers, as members of multinational companies and alliances, comply with historically formed geographical sales boundaries to protect their interests in the global market. Thus, direct sales of Arabic materials to Europe (including Russia, Ukraine and Belarus) are not implemented.

The reason for such a significant change in the Russian import structure is that some manufacturers have begun to supply Arabian materials to European countries and the CIS region from warehouses located in Europe.

The decrease of share of materials imported from Asia was not so significant; it changed from 55% to 46%, meanwhile its volume increased by 17,500 tonnes. The total increase of imported PE pipe grades in 2012 compared to 2010 was 82%.

In 2012, the structure of foreign trade turnover of polyethylene pipes has also changed. Exports have decreased by a quarter, imports have increased by more than a quarter. This has continued the trend of an increase in the net import volume of end product, but the share of pipe import in total volume of the market is very small – just 1%.

**Price trends**

European and Asian manufacturers of petrochemicals use straight run naphta as a primary product. This is the reason why HDPE prices in Europe

and Asia tend to follow trends in oil prices.

As a rule, European materials are more expensive than Asian ones. This is due to the higher cost of ethylene (with rare exceptions), smaller volumes of production and higher production costs. Producers of the Persian Gulf form their prices based on Asian market, which has much higher capacity than European one. According to the data published by Nexant marketing agency, the HDPE market in the Asia-Pacific region is more than two times larger than in Europe.

Comparison of PE pipe grades prices, reduced to a common equivalent, e.g. the price of material passed through customs and delivered to Moscow, is shown in Pic. 4.

Polyethylene prices are subject to seasonal fluctuations – there is a sharp decline in demand during the winter period. After a relatively quiet season in the first half of the year, the market recovers in the second half. In 2012 this recovery turned into real turmoil. In the third quarter, Stavrolen was not yet operational, and Kazanorgsyntez was stopped due to technical problems and lack of raw materials at first, and the routine maintenance later. This caused shortages of raw PE on the market and strong speculative increases in prices. The situation was exacerbated by an absence of proper supply system and production planning at most of polymer processing companies.

Purchase and transport of raw materials from foreign suppliers within two or three weeks was not possible. By the end of August prices for domestic pipe grades of PE reached 100,000 rubles/ton (including VAT, DDP Moscow).

Many pipe manufacturers were forced to stop production either because of raw material shortage or their inability to sell the product at excessive cost. The resulting deficit provoked a serious increase in production of counterfeit products – pipes made of natural grades of polyethylene.

Prices for Russian pipe grades of PE in 2012 were just slightly lower than imported materials. Still, the price and geographical proximity to the consumer are the only methods of competition.

In the second half of year 2012, polyethylene pipe producers who established relationships with foreign suppliers of raw materials, large production capacity and significant stocks of raw materials and end products ended up in the preferential position.

Despite all difficulties for the market participants PE pipe industry continues to evolve. Development potential of this branch remains significantly higher than real growth, suppressed by the lack of attention and funding of infrastructure projects. The growth in the RUBK market for 2013 is estimated to be about 13–14%.

**Pic. 4. Average weighted price dynamics for PE100, DDP Moscow, rub/ton including VAT**

