

Which petrochemical projects Russia needs?

MRC Overview
2010

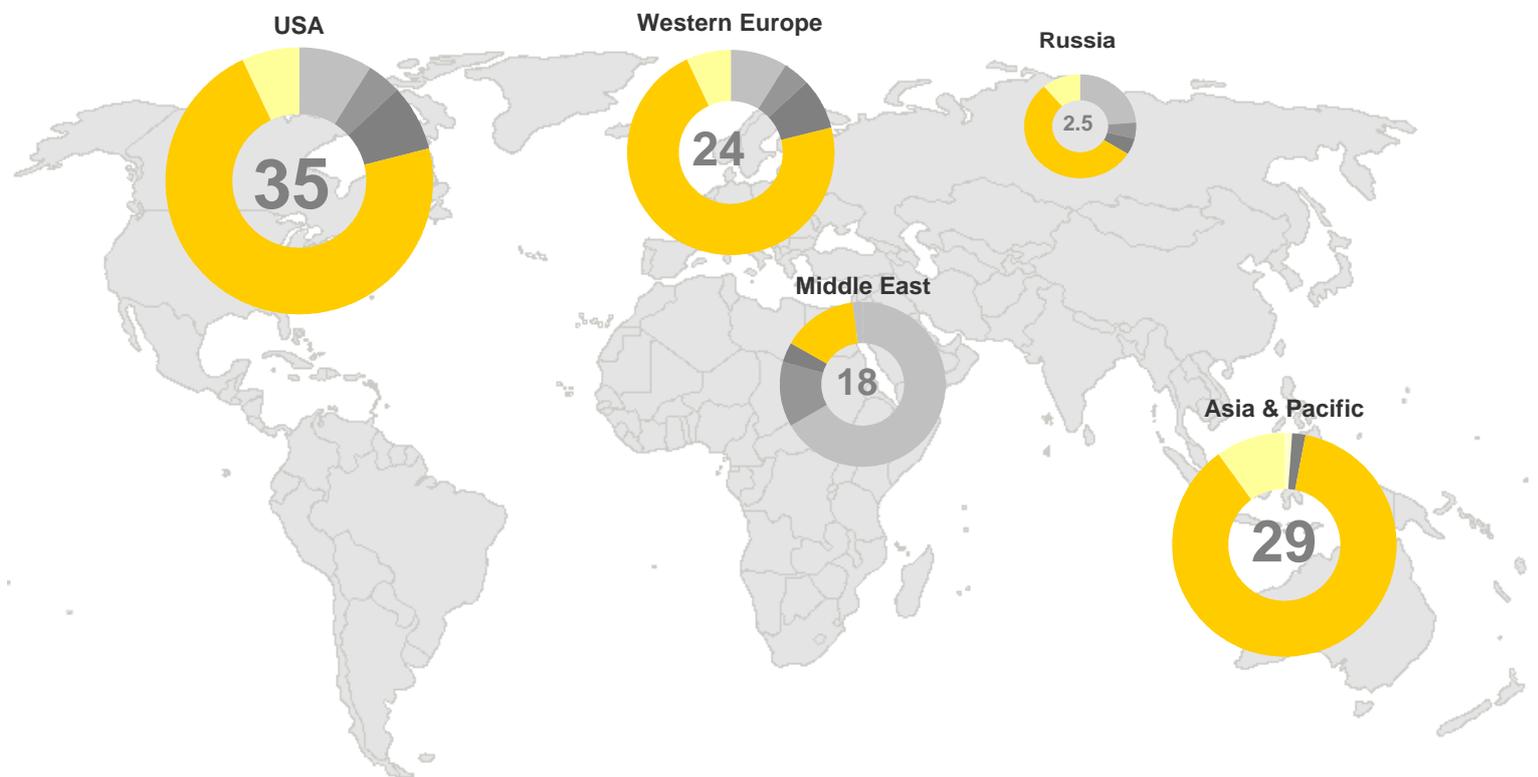


Russia - **LEADING** global
producer of hydrocarbons,
and **THE FIFTH** world
importer of polymers*

* Imports of PE, PP, PVC, PS, PET. Source: MRC



Global Ethylene Production Capacities

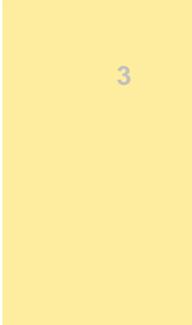


Raw materials composition in ethylene production, %

35 Ethylene production capacity, KTA

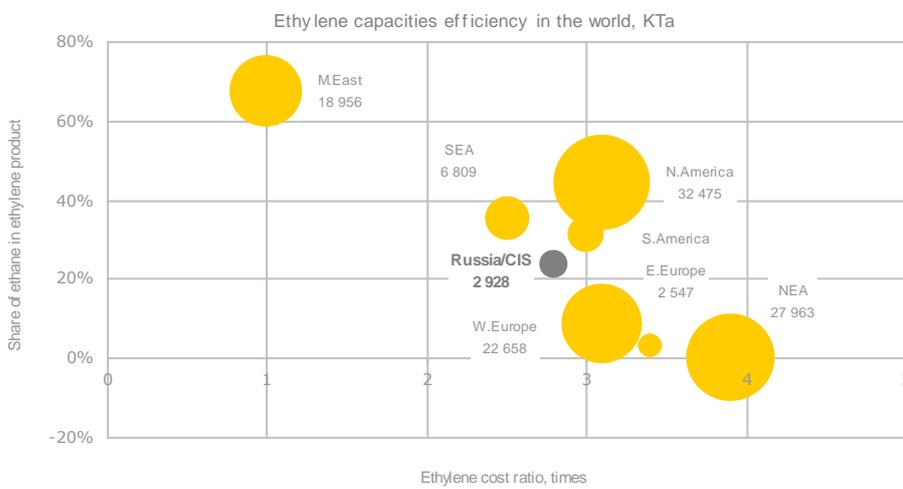
- ethane
- propane
- butane
- straight-run naphtha
- gas oil

Source: CMAI, MRC

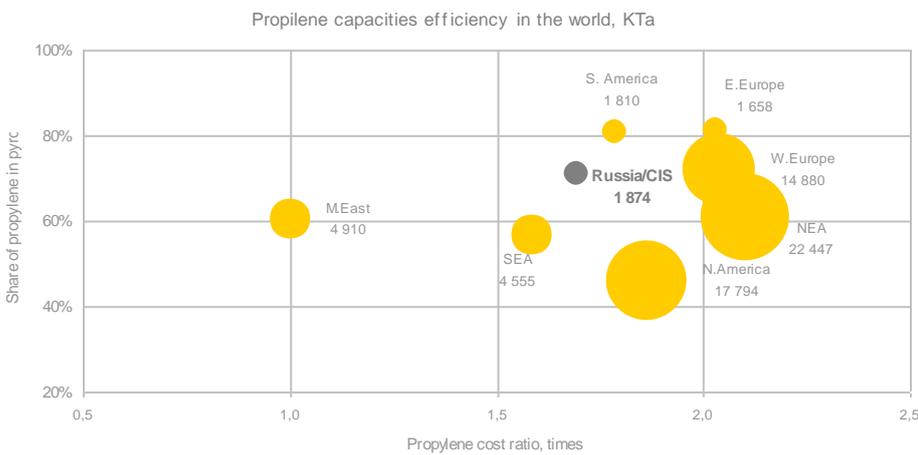




Feedstock prime cost foreordains strategy



- We greatly yield to the Middle East producers in terms of ethylene prime cost.
- European companies lag behind as well; therefore, they do not build new pyrolysis furnaces.
- All new projects in China are oriented toward imported oil, and only million tpa production complexes are being built.



- Middle-Eastern companies do not have any serious advantages in propylene, and we do not expect any serious propylene processing projects there.

Source: MRC



Polymers producers' development models

Canada

- Out of all petrochemical projects Canada works only on **Albert Ethane Complex** (Dow/ Nova Chemicals); the output capacity of the Complex exceeds all Russian ethylene output capacity.
- At the Albert site they built only new HDPE/LLDPE (swing) plants; the principal decision was not to develop polypropylene production.

Brazil

- The polyolefin production structure is similar to the Russian model: the average pyrolysis output capacity is about 250 KTa.
- New projects are related only to HDPE/LLDPE (swing).
- Refinery cracking plants are dominating in polypropylene production. Today, Brazil exports more than **500 KT** of polypropylene a year.

China

- Chinese projects are oriented toward naphtha (**94%** of overall feedstock volume used to produce ethylene).
- All new production plants are planned at the level of **500 KTa**.
- New complexes are founded as JVs, where global majors such as BP, BASF, ExxonMobil, Shell and LyondellBasell are already involved.

Middle East

- Overall ethylene production capacities will move at the level of **23 mln tpa** in six years. New plants are launched mainly in Saudi Arabia, Iran and Qatar (gas chemistry mainly related to ethane).
- Overall olefin capacities increased more than **11 times** over the last 20 years.
- Middle-Eastern players are seeking after integration with European business (deals with DSM, Huntsman, Borealis).

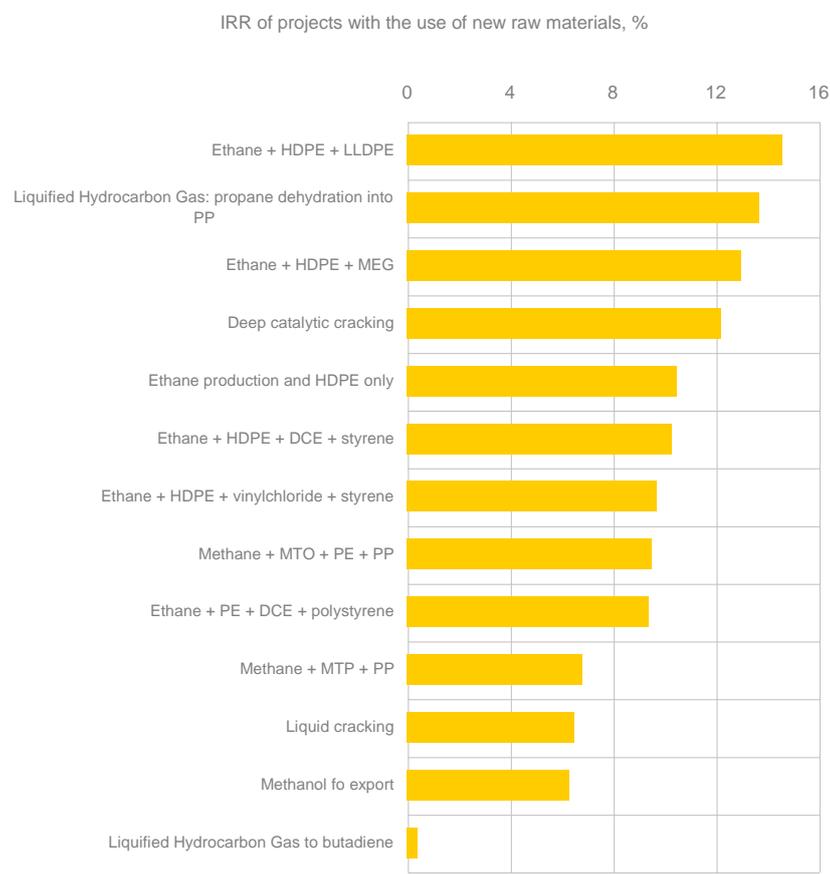
Source: MRC



Present-day construction of a new
pyrolysis furnace needs
USD 1260
of direct investments
per one ton of output capacity

World experience in construction of new plants

- A new polyolefin production unit shall be not less than **450 KTa**.
- A new production unit shall be oriented toward only the most competitive feedstock in terms of price, which can be supplied in that region.
- Cost of that feedstock must have price advantage in the long-term outlook for **20-30 years**.
- If there is no such advantage, new projects shall be principally turned down.
- The long-term model when the market is closed for the rest of the world and obsolete production capacities are maintained by high import duties shows little promise.



Source: Nexant, MRC

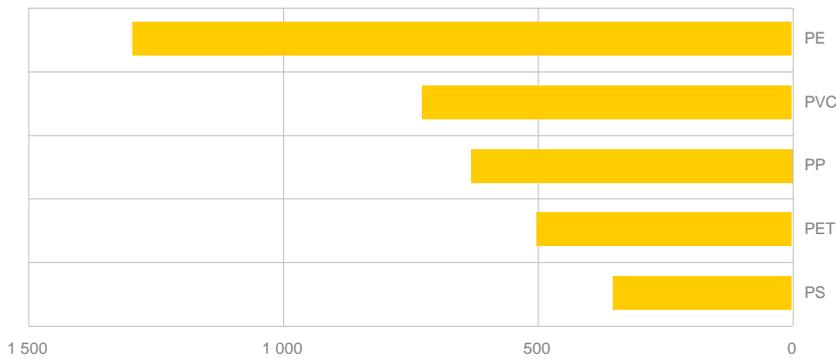


In Russia, nearly **45%** of
polymers processing
concentrated
in Moscow Region.
Consumption of PVC there is
comparable to the Polish market



Russian processing market is to be consolidated

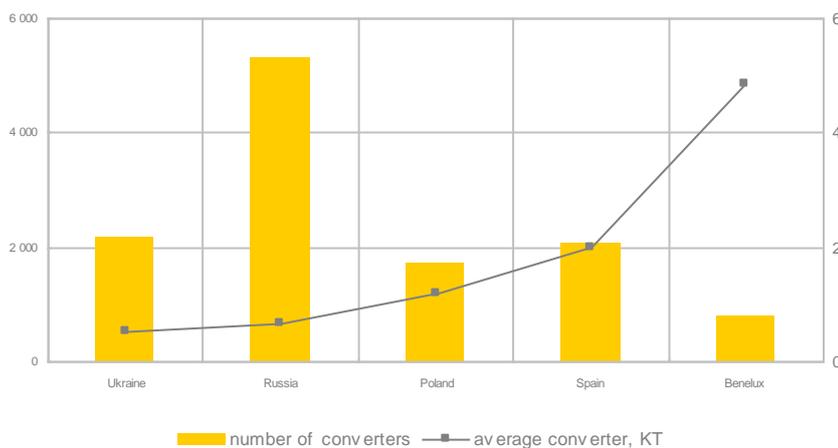
Polymers consumption in Russia, 2009, KT



Source: MRC

- By 2015, there will be about 50 Russian converters similar to the European format (processing of not less than 50 KT of polymers a year; integrated corporate purchase and sales centre; plants all over the CIS).
- There are about a dozen of such groups in Russia with Russian capital: Retal, Eurotrubplast, Europlast, Biaxplen, Penoplex, Tekhnonikol, Mega-Plast, WBD.

Polymers converters' business in some countries



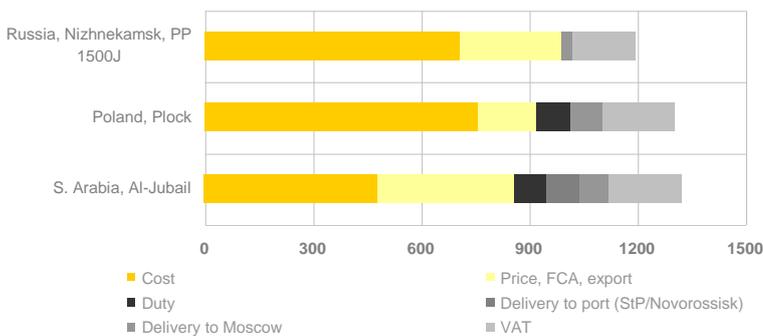
Source: MRC

- There are also European groups that operate several plants in the CIS: Coca-Cola, Pepsico, Alpla, Profine, Veka, P&G, Henkel.
- New growth factor of Russian polymers market is resource saving: by 2015, tariffs of natural monopolies will increase at least two times.



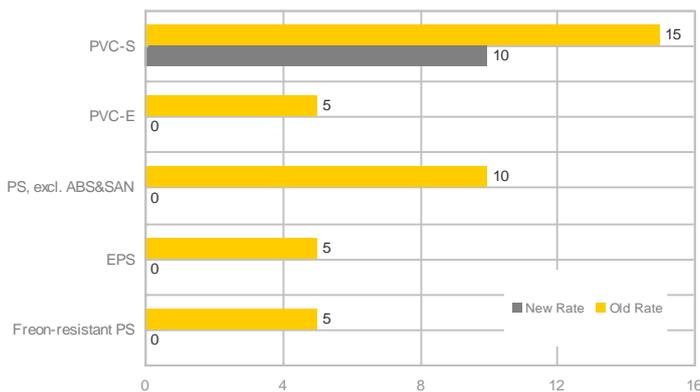
“Logistics Shield” saves petrochemical business

"Logistics shield" by the example of PP-homo price*, CPT, Moscow, RUB/MT, incl. VAT



* April, 2009

Import Duties, CTT, %



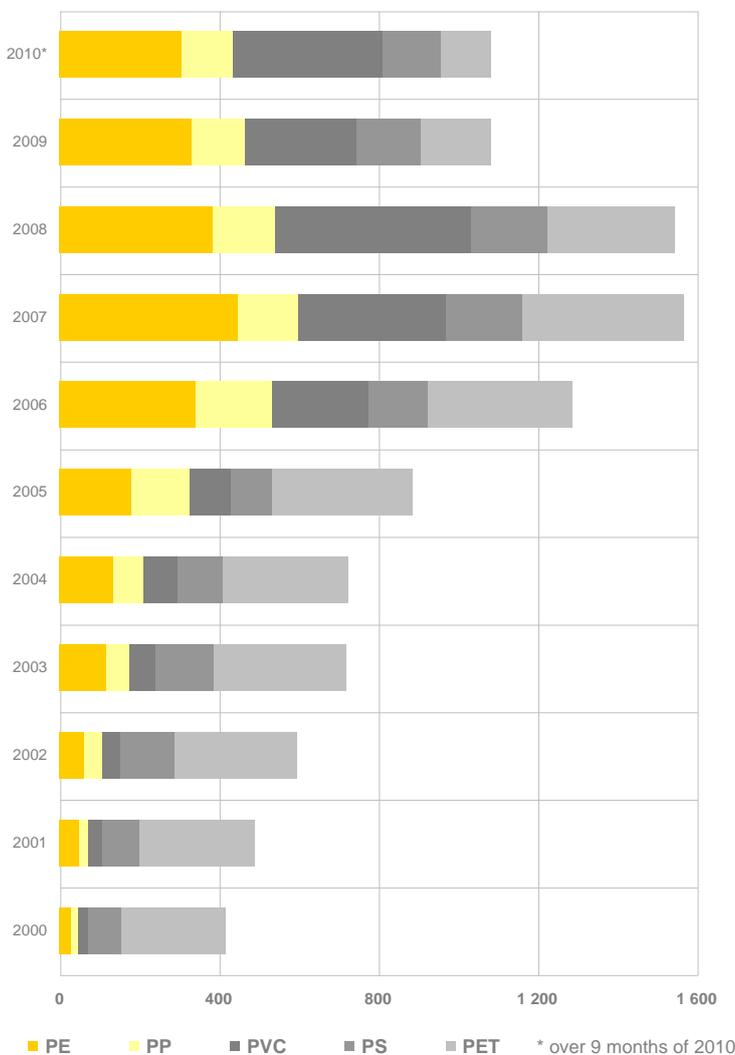
Source: MRC

- According to “Strategy of Petrochemical Industry Development till 2015” published by the Ministry of Fuel and Energy, the growth of tariffs of natural monopolies will result in a fact that out of **45** products (provided customs duties cut down to the level of WTO), there will be only **8 competitive products** in the domestic market by 2011.
- Russian producers are supported by the “logistics shield” at the level of **USD150-250/mt**, which they are going to stand for desperately.
- This contradicts to Russian converters’ interests, whose feedstock costs are 15-20% higher than in the neighbouring countries.
- The Common Customs Tariff (duties on **124** Foreign Trade Codes regarding the polymers market have changed) has only slightly leveled the imbalance between the duties for raw materials and finished goods.



Duties on raw materials and finished goods shall be balanced

Imports of bulk polymers in Russia, KT



- High duties on raw materials and pressure of customs indicatives sharply cut down efficiency of Russian converters.
- This pressure is lower in other CIS countries and that gives an opportunity to converters to export goods to Russia.
- If it is necessary to save Russian polymers production at the expense of import duties, then duties on finished goods should also be raised.
- If the duty on window profile is 10%, and 15% on feedstock used to produce it – it is more profitable to import profile than to produce it in the country.
- Protectionism policy might help for 5-7 years. In future, the market will need petrochemical complexes that may compete both in the domestic market and in the environment of the WTO.

Source: MRC

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