Growth points of Russian chemical industry

Fares Kilzie

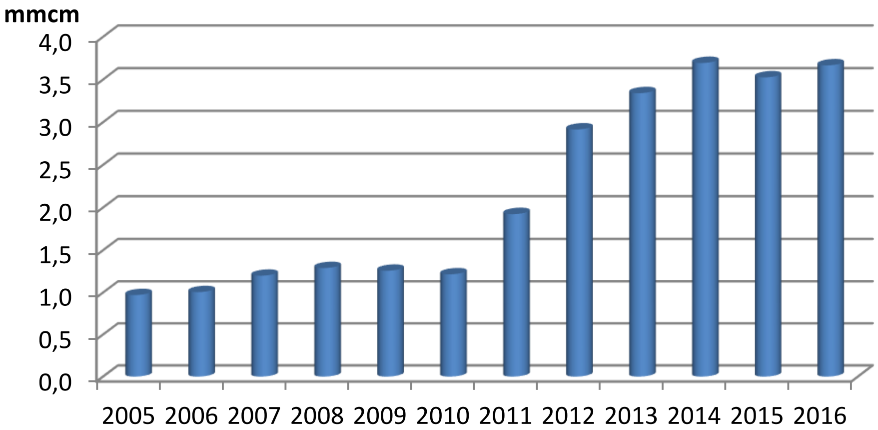
Chairman of the Board of Directors of CREON Group

Russia and CIS: joint projects with Chinese partners

19 September 2017, Beijing, China

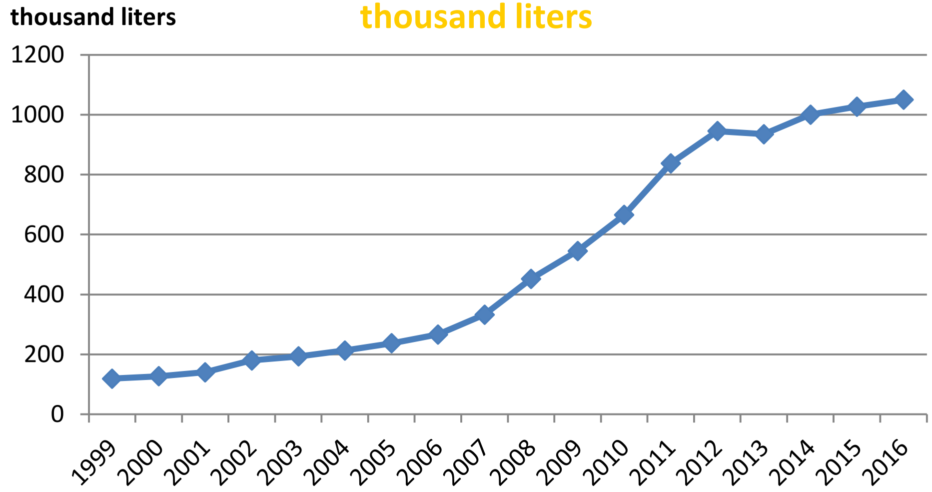
Helium

Consumption of helium in Russia, mmcm



Consumption is given inclusive of liquid helium in gaseous equivalent.

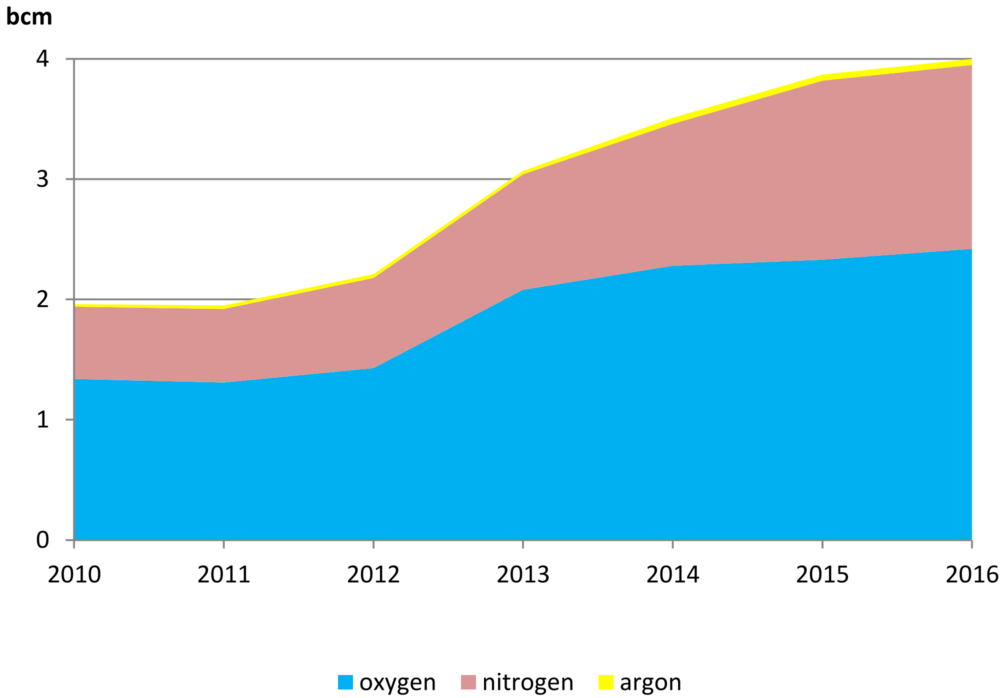
Consumption of liquid helium in Russia, thousand liters



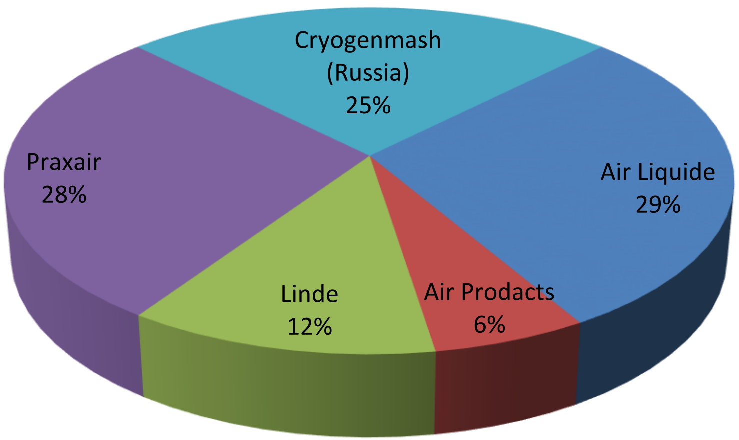
From 2000s through 2010, the helium market in Russia was developing due to the consumption of liquid helium in medicine and research and development centers.
From 2011, growth and decline in demand for helium are regulated by the consumption of gaseous helium in the entertainment industry. From 2011 through 2016, demand in this segment grew from 0,5 mmcm to 1,9 mmcm.

Commercial gases

Dynamics of market supplies of technical gases



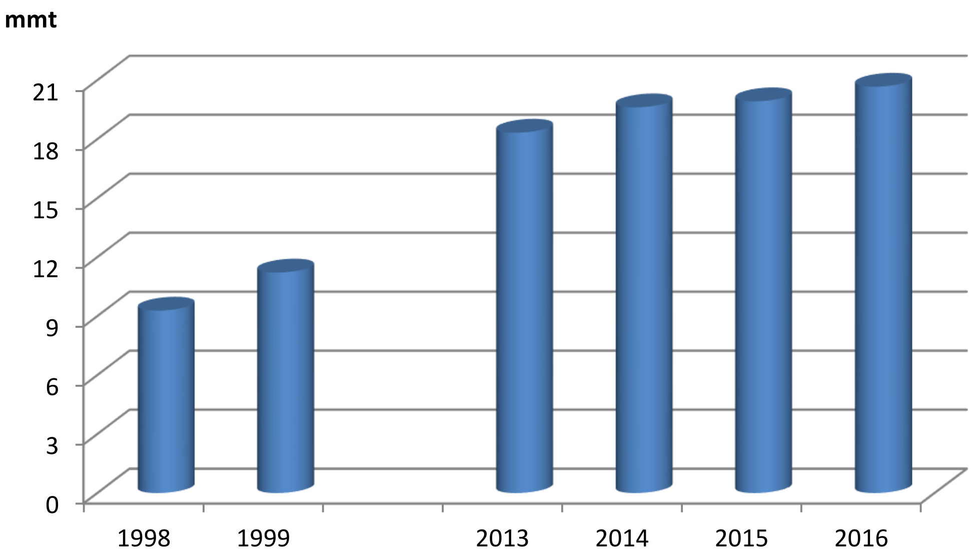
Share of on-site market companies



Almost double increase of the market of commercial technical gases (oxygen, nitrogen, argon) in 2011-2016 due to the on-site facilities put into operation by the leading global gas companies.
26 on-site projects were implemented from 2002 to 2016.
6 other projects are at the implementation stage.

Fertilizers

Dynamics of mineral fertilizers production in Russia



More than double increase in fertilizers production from 1998

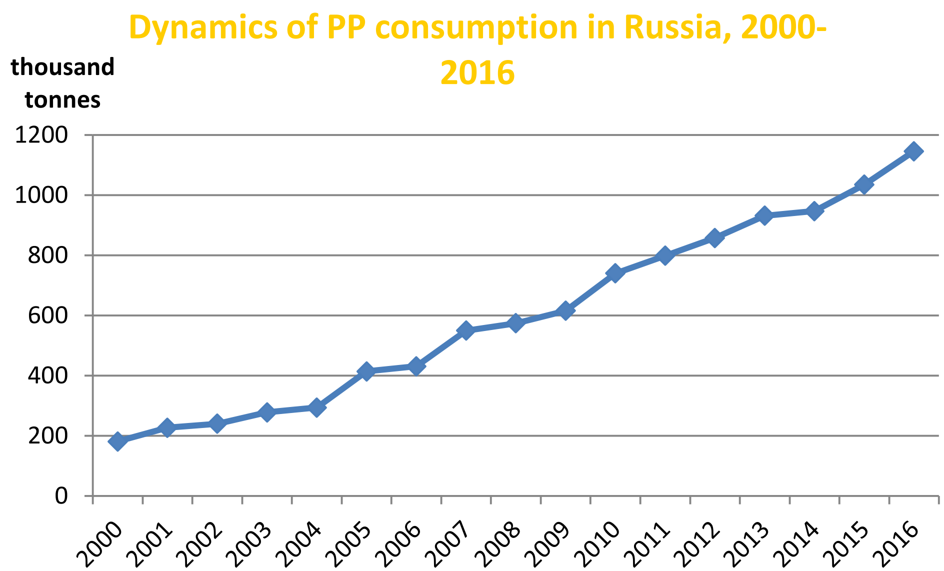
Increase in the consumption on foreign markets is the main driver of the fertilizers production growth.

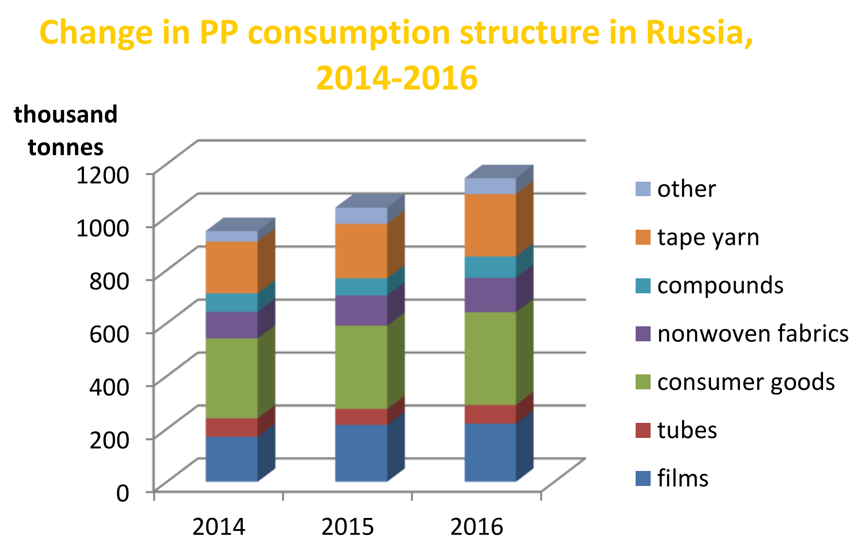
Agriculture continues expanding against the background of the Russian economic contraction in general.
At the end of 2016, growth in the volume of production of the Russian agriculture was +3%.

Investments in the “efficiency” of the agricultural production is the main factor of the development of the domestic mineral fertilizers market: improvement in the rotation of crops in favor of high-value crops (corn, soya, vegetables), work on the quality of products (sugar beet, sunflower) drive up the demand for fertilizers.

Main players in the fertilizers segment:
MCC EuroChem, Uralchem, Phosgaro and Acron.

Polypropylene processing

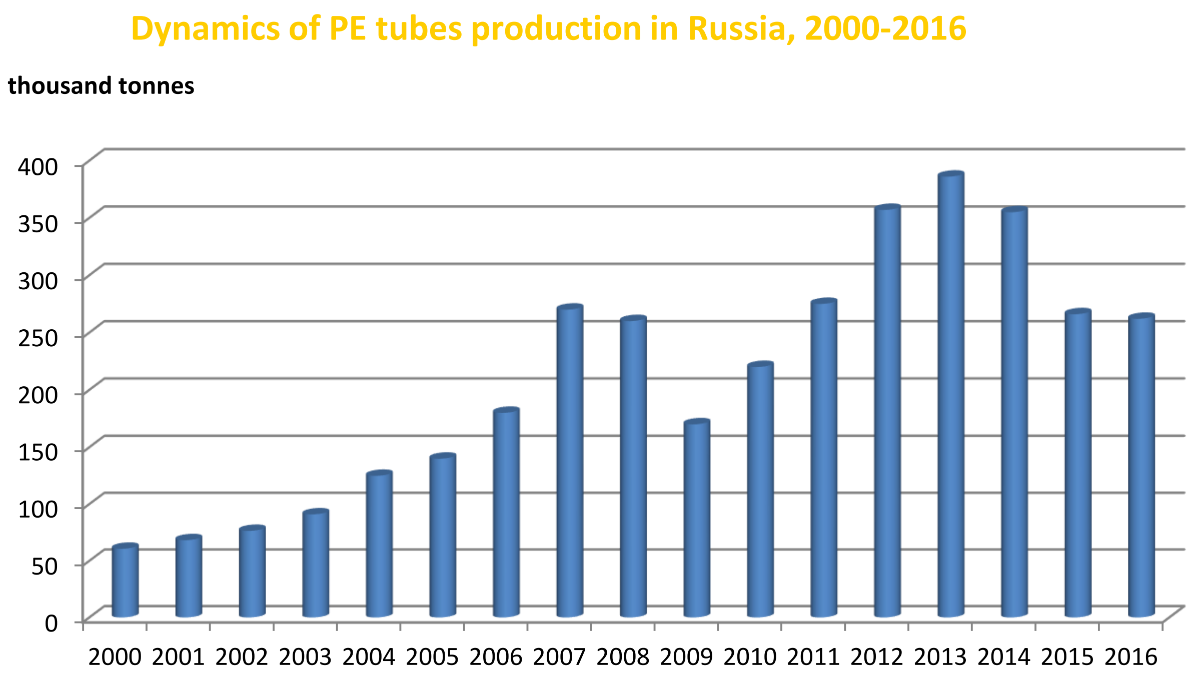




Volume of PP processing in Russia grew sixfold from 180 thou tonnes 1,145 thousand tonnes in 2000-2016.

PP does not have a main application, on which the condition of the entire market depends. This versatile consumption structure allows polypropylene to better resist the demand crises: decline in some segments is compensated by growth in others.

PE tubes

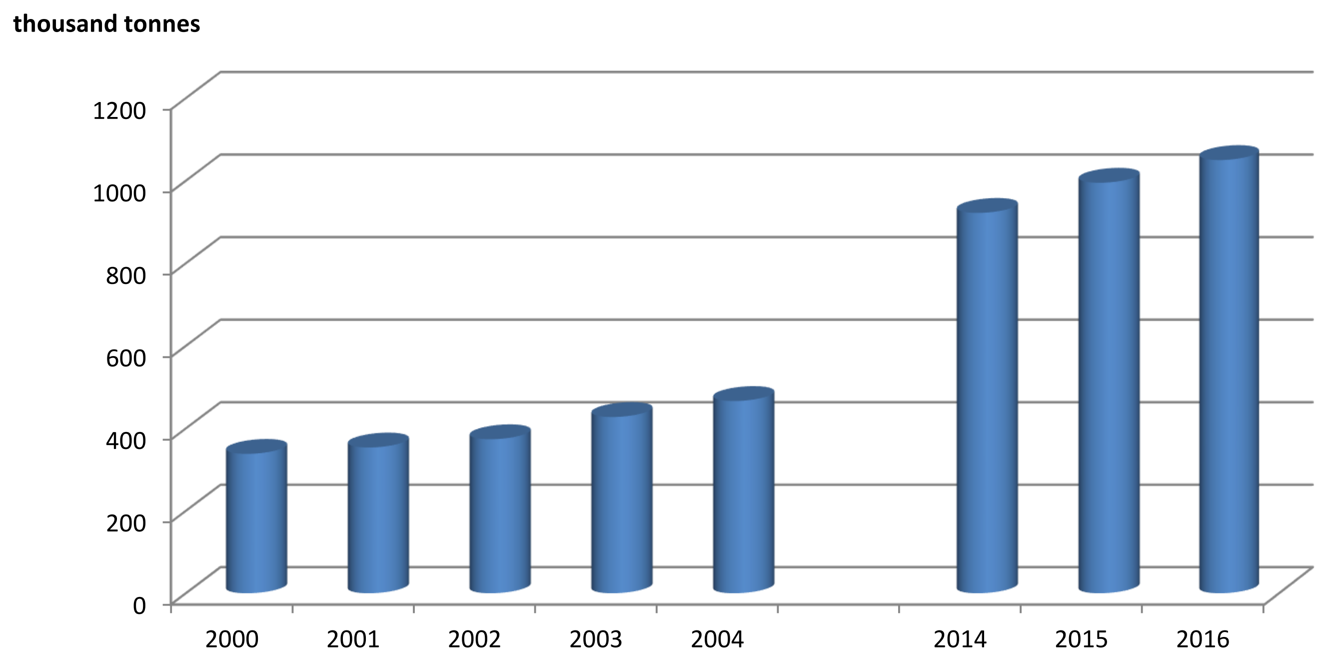


Market of PE tubes strongly depends on the condition of the Russian economy.
In total, production of tubes grew fourfold from 2000 through 2016.
Maximum volume of production was seen in 2013 – 386 thou tonnes.
Major manufacturers: Polyplastic Group – 80% of the market, Kazanorgsintez – 5%

Problem of the markets:
- Deficit in certified raw materials for tubes;
- “Metallurgical” lobby (competition with steel tubes)

PE film

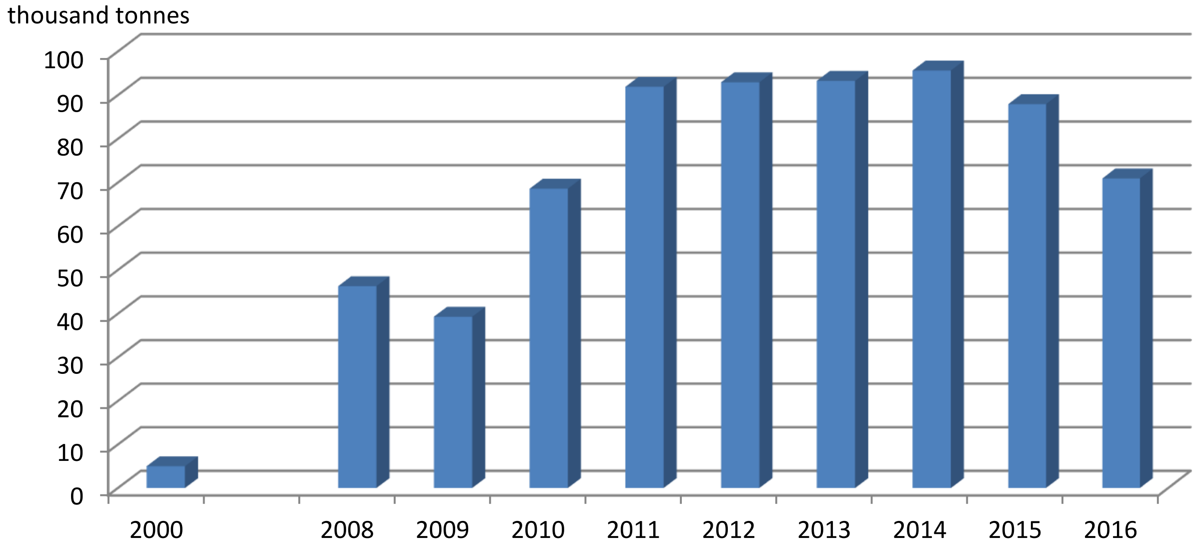
Dynamics of production of PE film and packaging in Russia, 2000-2016



Threefold growth in the PE film and packaging production from 2000 through 2016.
Major film manufacturers: Kamskie polyany (Tatarstan); Polymer (Desnogorsk); Regent Stretch (Moscow).
Deficit in the raw material - linear polyethylene is the problem of further increase in PE film production in Russia. In spite of the growth in the domestic production, Russia imports up to 200 thousand tonnes of linear low density polyethylene.

Polycarbonate

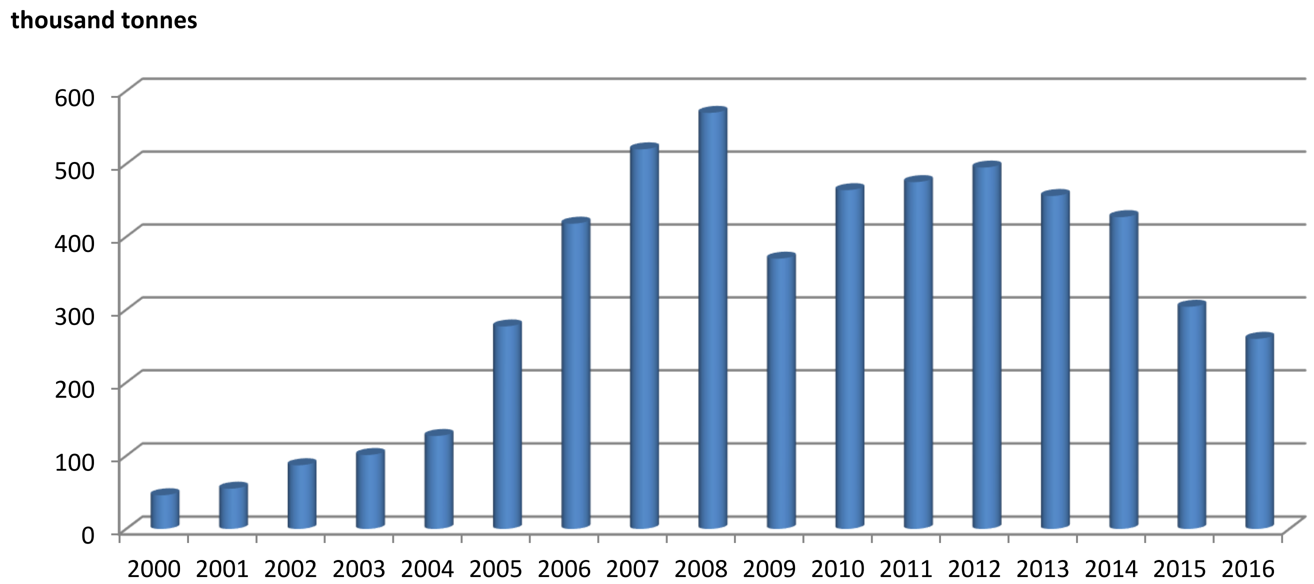
Dynamics of PC consumption in Russia, 2000-2016



Beginning of 2000s – PC processing market (casting) is in its infancy.
2003 – Start-up of the Polyalt plant – first manufacturer of PC sheets in Russia; the polycarbonate market in Russia is based exclusively on the imported raw materials.
2008 – Start-up of a PC plant at Kazanorgsintez with the capacity of 65 thousand tonnes per year boosted the market development.
2017 – Capacities for PC sheets production (cellular and solid) are 150 thousand tonnes.
Major manufacturers: Ug-Oil-Plast, KinPlast, SafPlast, CarboGlass.

Plastic Windows

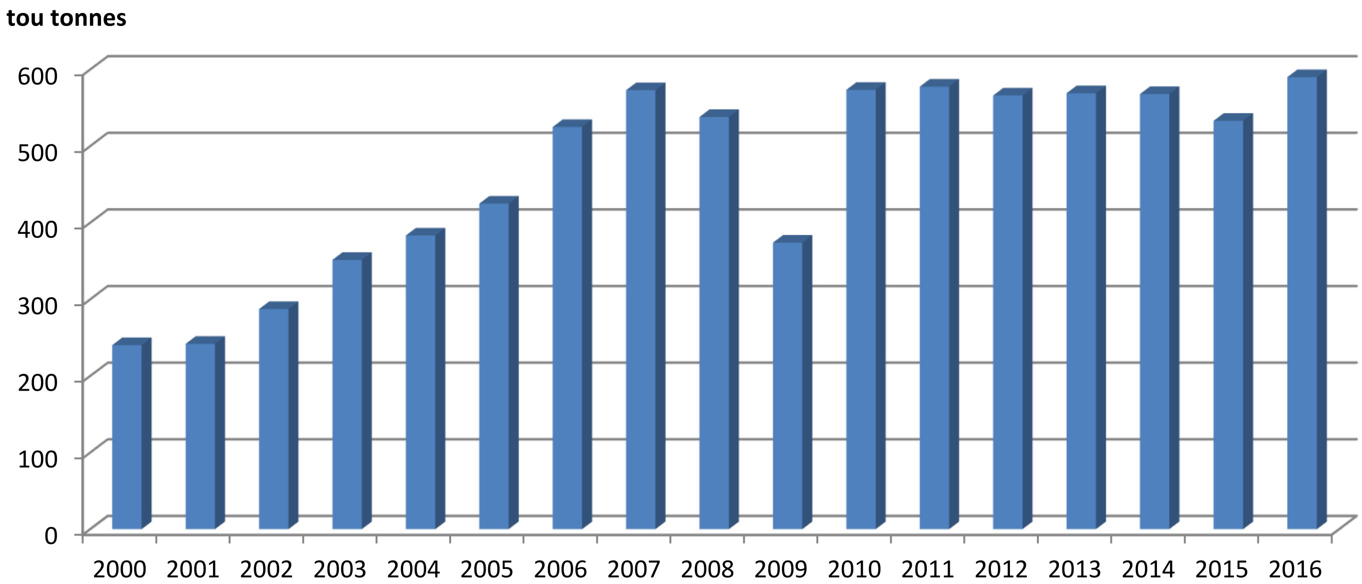
Dynamics of window profile production in Russia, 2000-2016



Production of PVC window profile is the main segment of PVC processing in Russia.
Major window profile manufacturers: profine RUS, REHAU, VEKA Rus.
Main market driver until 2008 – reconstruction.
Window profile production // consumption is cyclic: market saturation, decline, growth of consumption due to the reconstruction of old windows.
Restoration and further development of the market due to an increase in the primary construction.

PET packaging

Dynamics of PET consumption in Russia, 2000-2016 rr.

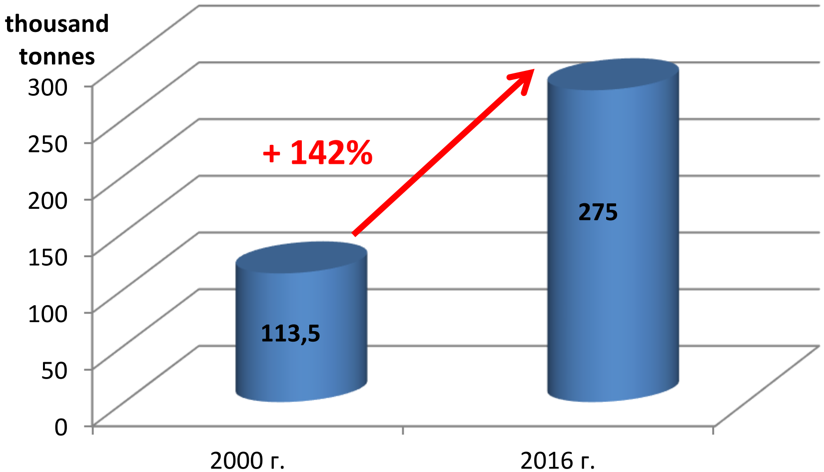


Beginning of 2000 – Domestic production of PET is at the level of 3-4 thousand tonnes per year.
Russian manufacturers use imported raw materials. Consumption volume – 240 thousand tonnes per year.
2003 – Start-up of the Sibur PET plant (Tver) with the capacity of 50 thousand tonnes per year.
2017 – Four manufacturers of PET; total capacity - 606 thousand tonnes.
All plants manufacture bottle PET.
Processing volume at the end of 2016 was 590 thousand tonnes.
Main driver of the processing market – production of PET packaging
Growth in processing in 2000-2016 by 2.5 times

Polyurethanes

Growth points of PU market – – PU foams

PU production in Russia in 2000 and 2016



PirroGroup

Start-up of the plant for production of insulation PIR boards with soft lining at the end of 2014.
Capacity - 10 mm sqm/a

TechnoNIKOL

Start-up of the plant for production of insulation materials from rigid polyisocyanurate foam (PIR) in September of 2015.
Capacity - 30 mm sqm/a

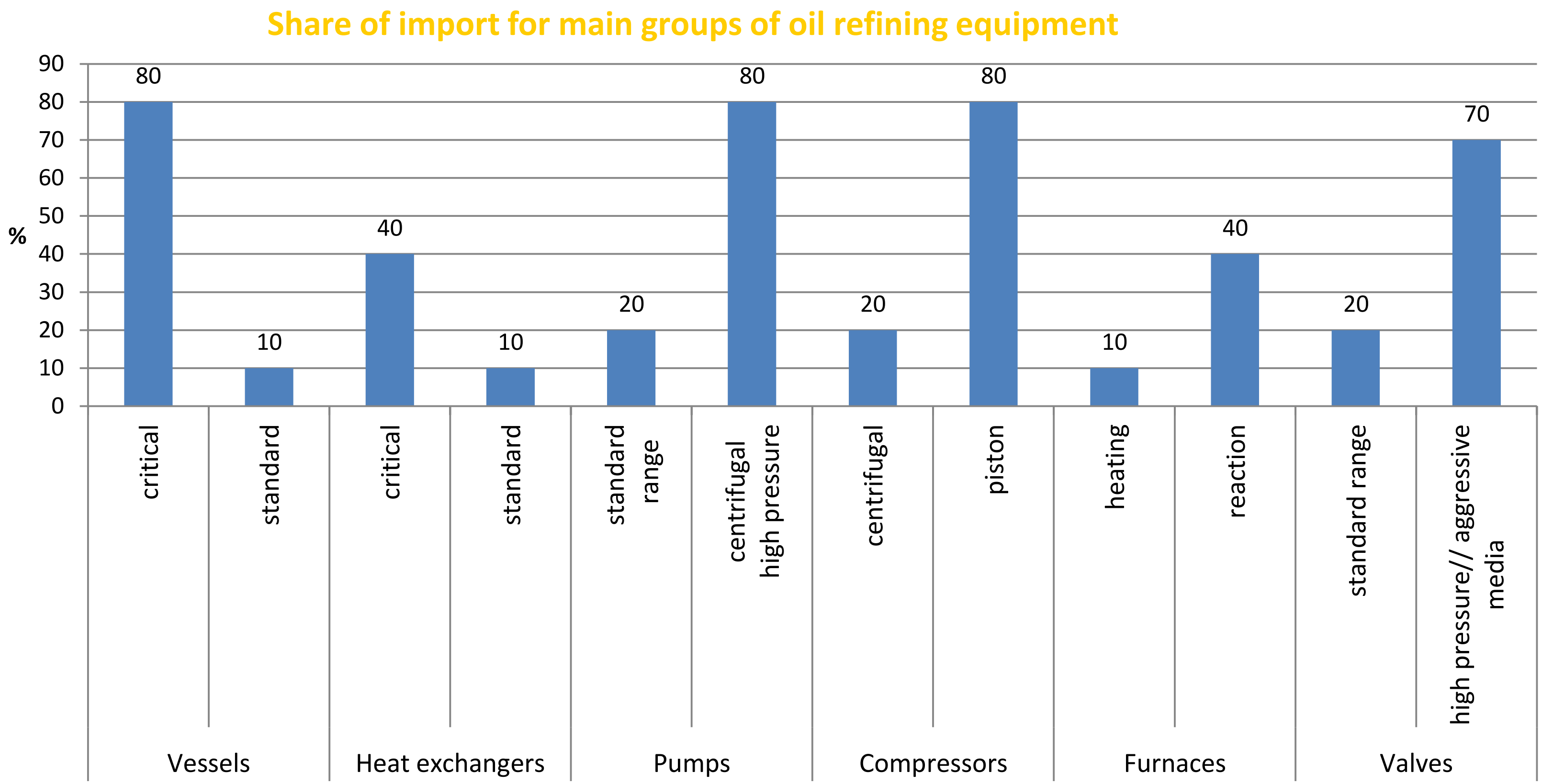
GRUPPO MANNI

Start-up of the ISOPAN RUS plant for production of wall and roof sandwich panels filled with mineral wool, PIR and PUR in September of 2015.
Capacity - 3 mm sqm/a

Contradictions in PU market development:

Absence of domestic production of raw materials – isocyanates - is braking further market expansion.
Major Russian companies consider the underdeveloped domestic market as obstacle for the in-house production of isocyantes.
To build a profitable production of isocynates in Russia, the level of their consumption must be not lower than 300 thousand tonnes per year (now it is not more than 150 thousand tonnes).

Equipment for oil refining



Share of the imported equipment in the domestic oil refining is very big.

Despite the government import substitution program, the equipment market will be import-dependent a long time.

Introduction of sanctions against Russia closed the door of the Russian market for European and American suppliers of the equipment.

Vector of supplies must change towards Asian - including Chinese – manufacturers of the equipment.