



POLYMER STRATEGY

In Russia, an increasing number of companies are looking for ways to improve margins in petrochemistry and gas processing. To make sure the polymer production industry evolves smoothly, the government needs a clear strategy.

The global petrochemical industry is among the most vibrant sectors, growing at two times the pace of the global GDP (5.4% against 2.7%, according to Statista). The growth is primarily driven by polymers. According to EY estimates, global polypropylene and polyethylene consumption exceeds 210 mt. SIBUR believes it is growing at 4% annually (ca. 8 mt). Polyethylene, polypropylene, and polyvinyl chloride account for most of the consumption (ca. 40%, 30%, and 20%, respectively).

EY ESTIMATE THE GLOBAL POLYPROPYLENE AND POLYETHYLENE CONSUMPTION AT 210 MT.

Despite having ample feedstock available, Russia is by far not a leading producer of basic petrochemical products, with just 2% and 1.5% of global polypropylene and polyethylene output, respectively. Over the last 15 years, Russian polymer production has been growing notably in excess of the global pace, adding some 7% annually. Given the planned launch of new large-scale capacities of Russian companies, experts say the trend will persist.

Major cases

SIBUR will be the first to enter the market, with 1.5 mt of ethylene, ca. 500 kt of propylene, 1.5 mt of various grades of polyethylene, and 500 kt of polypropylene. In late May, the Company completed the construction of ZapSibNeftekhim and moved on to the start-up and commissioning stage, said Dmitry Konov, Chairman of the Management Board at SIBUR Holding. The construction was completed in Q2 2019, ahead of the Q4 planned under the schedule. The facility will reach its full capacity after 2021. ZapSibNeftekhim will boost the Company's margins by processing associated petroleum gas into higher value added petrochemical products than LPG and naphtha.



General view of ZapSibNeftekhim in September 2019.

On top of that, in Q3 2019, the Company may decide to proceed with another huge project, the Amur Gas Chemical Complex (GCC), which has a capacity of 1.5 mtpa of polyethylene of various grades. Raw materials will be coming from Gazprom's gas processing plant with a capacity of 42 bcm (the first two processing lines are due to start operations in April 2021). SIBUR then plans to purchase ca. 2 mt of ethane from the Amur GPP. The parties are also negotiating potential supplies of 1.5 mt of LPG. At the same time, the petrochemical holding is expecting the government's decision on a negative excise tax for LPG, a move which will improve the plant's economics and enable SIBUR to ramp up its capacity by 50%, adding another 500 ktpa of both ethylene and propylene.

DESPITE PLENTIFUL FEEDSTOCK, RUSSIA IS STILL LAGGING BEHIND IN PRODUCING BASIC PETROCHEMICAL PRODUCTS: WITH JUST 2% AND 1.5% OF GLOBAL POLYPROPYLENE AND POLYETHYLENE OUTPUT, RESPECTIVELY.

Privileges not for everyone

Currently, it is only naphtha that is eligible for a negative excise tax in Russia, which makes it the most attractive type of feedstock for the petrochemical industry. The sector's key players and Gazprom proposed that the government introduce equal incentives for other types of feedstock, i.e. ethane, LPG, and NGL. In March, the government responded with an approved roadmap for developing the petrochemical industry up to 2025.

Before that, Russia had the Oil and Gas Chemical Development Framework through 2030 (Framework 2030) in place, discussed since 2012 and approved in 2016. The document provided for a cluster-based development model with a surge in basic feedstock (ethylene) production, and included a number of ambitious projects of Russian companies, with some of them already dropped. "With a lot of discrepancies and underpinned by outdated information, the Framework failed to do its job," Andrey Kostin, Head of RUPEC think tank and analytical agency, told RBC+.



Construction site of the Amur GPP.

While Framework 2030 has not been officially cancelled, its provisions are not binding and de facto are not being implemented.

THE GOVERNMENT INTENDS TO STIMULATE LPG CONSUMPTION BY INCREASING THE EXPORT DUTY RATE. THE ADDITIONAL RETURNS WILL BE USED TO FINANCE THE NEGATIVE EXCISE TAX FOR RUSSIAN LPG PROCESSORS.

According to Andrey Kostin, the new roadmap is more realistic since it actually “defines the government's priorities in the petrochemical industry”.

Following its approval, the agencies involved were supposed to draft a bill that would regulate the negative excise tax for companies that complete upgrades or commission new ethane recovery facilities past 1 January 2022 (when the Amur GPP is to be launched). On top of that, the benefits extended to the residents of priority development areas (PDA) and parties to special investment contracts, as well as other agreements under which the investor ensures sufficient localisation of production or covers market shortages. Amur GPP and GCC are located in a PDA.

At the same time, the government intends to stimulate LPG consumption by increasing the export duty rate. The additional returns will be used to finance the negative excise tax for Russian LPG processors. Roadmap implementation should ensure large-scale polymer production of 5.3 mt in 2019, and up to 11.1 mt by 2025 (out of which 4.4 mt will be exported).

However, the bill has not been submitted to the government yet, and companies are unsure about how long it would take the ministries to draft it. Experts say that a viable document should be based on market development trends and forecasts rather than the current state of affairs.

Potential risks

Andrey Kostin believes that Russia's advantages on the global petrochemical scene, which stem from cheap and abundant feedstock as well as quality investments, were not utilised when the time was right, so now new projects have to deal with a completely different global environment.

He explains that even if the government starts to provide subsidies for ethane feedstock in the nearest future, it will take five to six years to launch the respective capacities, and no one can guarantee that by then the demand will still be there. With ZapSibNeftekhim covering the remaining domestic needs in terms of basic polymers, all post-2021 projects in this sector will have to be export-oriented, at least until domestic processing capacities catch up and the Russian demand grows organically. The reason is that SIBUR's new facility will fully meet the domestic demand for polyethylene and polypropylene, while Russia's PVC (used in construction) and PET (primarily used to make plastic bottles) markets are stagnating with supply exceeding demand due to a slowdown in construction and low purchasing power.



The PVC market is stagnating, with supply exceeding demand due to a slowdown in construction.

The export environment can be adversely affected by a number of factors, Andrey Kostin believes, the foremost of which is the slowdown of the global economy and the economy of China, the largest global consumer. He also says that the petrochemical market has reached the recession phase of its supercycle. Another factor, according to him, is the increasingly stricter environmental standards in the developed countries that shape demand for new materials and processing technologies, which in turn limits the market for existing polymers – maybe not by type, but by grade. The head of RUPEC also notes that innovative technologies help develop new materials that could replace traditional plastics.

STRICTER ENVIRONMENTAL STANDARDS SHAPE DEMAND FOR NEW MATERIALS AND PROCESSING TECHNOLOGIES, WHICH IN TURN LIMITS THE MARKET FOR EXISTING POLYMERS.

New horizons

Despite all that, high margins give rise to new polymer projects. In late March, Gazprom and Artem Obolensky's RusGazDobycha announced potential construction of a large gas chemical complex in Ust-Luga. The facility will process 45 bcm of gas and produce 13 mt of LNG, up to 4 mt of ethane, and over 2.2 mt of LPG to be processed at Gazprom's 3 mtpa Baltic Chemical Complex. The facilities' parameters are not final.

LUKOIL is another company that sees petrochemistry and gas processing as a new area of growth. On the one hand, the company completed the upgrade of its refineries ahead of time, on the other, it has no legal access to Russia's offshore reserves and so is restricted when it comes to purchasing new assets in Russia, which steers the company's investments towards high value-added products.



LUKOIL plans to build a urea and ammonia plant at the Stavrolen site by 2023.

COMPANIES NEED TO BE SURE THAT FUTURE FACILITIES WILL HAVE SUFFICIENT ACCESS TO FEEDSTOCK AND OFFER LOW-COST, MARKETABLE PRODUCTS.

"We have a lot of high-quality feedstock for polyethylene and polypropylene production via regular petrochemical methods like pyrolysis," said Rustem Gimaletdinov, Vice President for Oil Refining, Petrochemistry, and Gas Processing at LUKOIL on 22 May. According to him, gas reserves need to be used more efficiently. By autumn, LUKOIL plans to complete its strategy in this area, with one of the projects being the construction of 1 mt of polyethylene and 500 kt of polypropylene production facilities at the company's Perm Refinery. On top of that, the company will be able to capitalise on the growing gas production volumes (up by 12% to 9 bcm in Q1 2019) by building a 1.7 mt of urea and 170 kt of ammonia production complex at the Stavrolen site (the Stavropol Territory) and engaging in ethane recovery and processing (launch planned for 2023).

According to Vygon Consulting, the margins in the petrochemical industry reach 30–50%, with propylene having a low cost due to being a by-product of oil refining.

The company's experts believe that building petrochemical complexes as part of refineries is the right way to go. In the meantime, fully-fledged petrochemical complexes with pyrolysis systems can cost up to USD 5–7 bn, so companies need to be sure the facilities will have sufficient access to feedstock and offer low-cost, marketable products.

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