



REW 2019: THE INDUSTRY'S CHALLENGES

SIBUR shares insights into new projects, products and technologies at the Russian Energy Week.

In early October, Moscow hosted Russian Energy Week, one of the top events on the global energy scene, traditionally attended by relevant ministers from dozens of countries and executives representing major international companies. The forum revolves around such topics as the global energy agenda, the main growth areas of separate energy sub-sectors, and major challenges facing the energy industry.

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This year's forum gathered a record number of participants, as was emphasised by Russian President Vladimir Putin at the Energy for Global Growth plenary session. "This means that the forum is gaining in popularity. It has attracted 10,500 participants, over 200 companies from 80 countries", he said. The President talked about the challenges lying ahead of the energy and related sectors in the years to come. Experts believe that energy consumption will grow by 30% in as soon as 20 years' time, while hydrocarbons will continue to play the dominant role, especially given restrictions on nuclear generation in some countries. Trends such as lower energy intensity of economy driven by advanced technology, digitalisation, improved energy infrastructure and, going forward, lower cost of energy resources, will also remain important.



View over SIBUR's Tobolsk site.

ENERGY CONSUMPTION WILL GROW BY 30% IN AS SOON AS 20 YEARS' TIME. HYDROCARBONS WILL CONTINUE TO PLAY THE DOMINANT ROLE.

Petrochemical sector outlook was also extensively discussed in this context at the panel sessions, three of which were attended by SIBUR representatives. One of them, titled Key Factors in the Competitiveness of the Global Petrochemical Industry: A Paradigm Shift? was directly supported by SIBUR. At this panel session, SIBUR was represented by Mikhail Karisalov, Chairman of the Management Board and CEO of SIBUR.

Russian petrochemical industry has a huge development potential, but does need effective incentives and regulations, intelligent investment and R&D.

Mikhail Karisalov emphasised that SIBUR is a strong supporter of initiatives covered by Russia's roadmap for developing the petrochemical industry. "With the new forms of government support, the industry is set to become more competitive globally and able to fully unlock its resource potential by building new world-class capacities," he said. "On a global scale, petrochemical production is most effective when developed as part of large integrated clusters."

In accordance with Russia's sectoral strategy developed by the Ministry of Energy and Ministry of Industry and Trade, SIBUR is developing the West Siberian petrochemical cluster. Mikhail Karisalov named processing (including APG) capacities, which grew by more than 1.2x in the past ten years, the 'feedstock heart' of the cluster. "Along with the gas processing capacities, fractionation capacity saw a 1.8x growth. In October 2013, Russia's largest 500 kt polypropylene production facility was launched here. And now there is a 45 kt maleic anhydride production facility being built at the Tobolsk site planned to be launched in 2021."



Mikhail Karisalov and Sergei Donskoi, Head of the Ministry of Natural Resources and Environment of Russia. Photo: Roscongress photo bank

RUSSIAN PETROCHEMICAL INDUSTRY HAS A HUGE DEVELOPMENT POTENTIAL, BUT DOES NEED EFFECTIVE INCENTIVES AND REGULATIONS, INTELLIGENT INVESTMENT AND R&D.

When asked about ZapSibNeftekhim's impact on the industry, Mikhail Karisalov said that the facility is already among the Top 5 polymer capacities worldwide and does change the balance of power in a notable way. "With the ZapSib's 2 mt of polymer products, the country jumped up from being ranked 12th to 8th in terms of polyethylene and rose from being 14th to 9th in terms of polypropylene," he noted. "Besides, albeit a modest one, the plant is an example of ethane-based petrochemical production. From the overall feedstock volume of 3 mt, we are already feeding from 350 to 400 kt of ethane to cracking furnaces. This is the first example of a full-scale use of ethane in West Siberia." Another important point is that ca. 60% of the plant's capacity is geared towards import substitution.

On the whole, according to Mikhail Karisalov, the chemical industry has a strong multiplier effect where each dollar spent in the industry generates value worth 4.20 dollars. He also talked about some possible development milestones, in particular, projects implemented jointly with Gazprom in the Amur Region and monetisation of the West Siberian feedstock.



Participants of the Global Energy: New Alliances session discussed the strategic alliance of Russia and Middle Eastern countries.

WITH A SIGNIFICANT NUMBER OF NEW CAPACITIES ADDED, COMPETITION BETWEEN DIFFERENT REGIONS IS GROWING.

Dmitry Konov, Chairman of the Management Board at SIBUR Holding, took part in the Global Energy: New Alliances session held with support of the Russian Direct Investment Fund. Its key focus was on strategic alliance between Russia and Middle Eastern countries that largely shapes the world energy market. The participants discussed the future of this energy union, Russia's relations with its Western partners and the main challenges facing the energy and production sectors, both in Russia and globally.

Dmitry Konov talked about development models of the Russian petrochemical industry in the global context. "Russia accounts for around 2% of the global petrochemical production, which is roughly commensurate with the country's population and consumption level. This model designed to supply petrochemicals to the domestic market has been shaping the industry over the recent decade. It is a consequence of a fairly low base as we inherited a well-developed oil and gas industry from the Soviet Union, but not so well developed petrochemical industry," he explained. "Today, the Russian Government sets a new mission to compete in the global markets selling a domestic product made of hydrocarbons available in the country."



Dmitry Konov at REW 2019. Photo: Roscongress photo bank.

THE CHEMICAL INDUSTRY HAS A STRONG MULTIPLIER EFFECT: EACH DOLLAR SPENT IN THE INDUSTRY GENERATES VALUE WORTH 4.20 DOLLARS.

According to him, Russia is not unique here and is not the first to embark on this journey. Dmitry Konov took Saudi Arabia as an example. In this country, it took just 25 years for the petrochemical industry to develop thanks to the creation of domestic production facilities using oil and gas by-products as feedstock. Now, Saudi Arabia focuses on entering integrated oil refining and petrochemical projects on target markets and increasing the share of hydrocarbon procession operations.

“We have just completed construction of ZapSibNeftekhim operating by exactly the same model. Tobolsk is wh ere all by-products of the West Siberian oil and gas production operations concentrate and this is wh ere we have built our world-class production facility. The products will be partially exported and will compete with counterparts from the USA, China, and Europe,” continued Dmitry Konov. “Our next step potentially is to build a production facility in partnership with Gazprom in very close proximity to the target market of Southeast Asia. I am talking about Gazprom’s projects on the Chayandinskoye and Kovyktinskoye fields and the launch of Amur Gas Processing Plant. Gas processing facilities give plenty of hydrocarbon feedstock for the petrochemical segment. Today, all major global companies register a fairly low growth in demand for motor fuels (about 1%) and a growing potential for petrochemical demand. The industry will continue to grow and competition will be tough.”

In addition, he mentioned growing competition between different regions driven by the addition of a significant number of new capacities.



Production of eco-friendly plasticiser DOTP at SIBUR-Khimprom, SIBUR's Perm site.

IN SOME SECTORS, ESPECIALLY CATALYSTS, RUSSIAN COMPANIES ARE STILL HEAVILY DEPENDENT ON FOREIGN SUPPLIERS.

At the same time, the working group on reduction of the oil refining and petrochemical industries' dependence on the import of equipment and equipment components, technologies and services discussed the importance of Russian R&D initiatives. In some sectors, especially catalysts, Russian companies are still heavily dependent on foreign suppliers. The participants agreed that accelerated implementation of domestic technologies and innovations is one of the top nationwide priorities.

Vladimir Razumov, Deputy Chairman of the Management Board of SIBUR Holding, talked about the Company's R&D initiatives and the launch of import substitution projects, such as, in particular, [dioctyl terephthalate plasticiser \(DOTP\)](#) (/en/12/article/news/dotp-an-important-start/) and [maleic anhydride \(MAN\)](#) (/en/11/article/focus/eyes-on-man-production/) production. On a separate note, he mentioned that 71% of equipment used at the newly launched DOTP production facility is Russian-made.

"We have learnt to handle mega projects and nurtured a whole lot of engineers involved in these projects. It was not easy, but it starts to work out well," believes Vladimir Razumov. "We must develop science. Until recently, we had two R&D centres: one in Tomsk for polyolefins and one in Voronezh for rubbers. This year, we opened [SIBUR PolyLab in Skolkovo](#) (/en/12/article/cover-story/sibur-polylab-meeting-customer-demand/). The launch of ZapSibNeftekhim identified the need to have a venue for consumer-to-consumer dialogue and product development. Today, this site can also become a great R&D base for industry-related universities."



Vladimir Razumov speaks about SIBUR's R&D initiatives. Photo: Roscongress photo bank.

ACCELERATED IMPLEMENTATION OF DOMESTIC TECHNOLOGIES AND INNOVATION IS ONE OF THE TOP NATIONWIDE PRIORITIES.

SIBUR is already taking active steps as a partner of various educational and academic institutions. For instance, in his speech, Vladimir Razumov mentioned Enikolopov Institute of Synthetic Polymeric Materials of the Russian Academy of Sciences and Mendeleev University of Chemical Technology of Russia. Jointly with the first one, SIBUR is developing thermoplastics with outstanding high-temperature resistance – up to 500°C, capable of replacing metals, and stimuli-responsive polymers, or the so-called artificial muscles. Mendeleev University is involved in SIBUR's work on the polyurethane production technology.

The government is committed to supporting such developments. This is exactly what Minister of Science and Higher Education Mikhail Kotyukov said underlining that the focus is on “workable projects underpinned by in-depth understanding of the industry and relevant technology set to deliver specific results tomorrow.”