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ПИВОНИКА
No one knows what lies ahead. And not scientists outline our perspective. Dreamers and science fiction authors are more successful in this. They instinctively grope the most general contours of the future. Thanks to these prompts, we continue to move forward. I remember a few years ago one of our guys offered to use zeppelins to transport large loads in the Far North at a student conference. Then this idea caused ridicule. Now the use of airships for the transportation of goods is taken quite seriously. And this is hardly the only example:

CRANKS CONTROL PROGRESS.

Our interlocutor is Anatoly Borisovich Zolotukhin. A.B. Zolotukhin is the senior vice-president of the World Petroleum Council and a vice chairman of the Russian National Committee.

COUNTDOWN
ST. PETERSBURG IS READY TO GREET YOUNG LEADERS
Organizers of the Future Leaders Forum met with journalists

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YOUTH TRIBUNE
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GOLDEN LEGACY
SCHOLARSHIP RECIPIENTS OF THE WPC RUSSIAN NATIONAL COMMITTEE ARE INVITED
The World Petroleum Council strongly values the engagement of young people in our strategy and thinking and encourages activities to promote the recruitment and retention of young talent in all areas of the oil and gas sector. Since the first event in China in 2004, the WPC Youth Forums have been a wonderful platform to create enthusiasm amongst young professionals and future leaders for the global energy agenda and share their perspectives on current issues with our global membership.

The 6th WPC Youth Forum will offer a variety of professional and social opportunities to inspire and engage the next generation of our industry in a young and creative atmosphere. This is the place to meet like-minded young professionals and leaders from both national and international universities, energy companies and institutions and learn from inspirational sessions and speakers about topical international energy issues in relaxed atmosphere perfect for networking.

St. Petersburg is one world’s most beautiful cities and will provide an unforgettable experience as well as a memorable Forum for all attendees and I am certain that the Russian Organizing Committee with the full support of the Russian energy authorities, leading energy companies and sponsors will deliver an outstanding event for our local and global audience.

I am deeply grateful to the World Petroleum Council for supporting our proposal to hold another meeting of young specialists of oil and gas industry in St. Petersburg, a Russian city with a rich history, cultural and educational traditions, that plays an important role in the modern petroleum industry in Russia.

The tasks facing the world energy sector today are becoming increasingly complex and wide scale. In conditions of competition with other energy sources, the key to successful development of the industry is innovative technologies, environmental responsibility and economic efficiency. We need fundamentally new solutions, a fresh look, and non-standard approaches.

The VI Youth Forum of the World Petroleum Council in St. Petersburg will provide young experts with a large authoritative platform for communication and discussion of topical professional issues. It is very important that this Forum is an international platform, that allows to conduct a dialogue between representatives of different countries and continents, to exchange experience and to think about the future.

I am confident that this will be a landmark professional event with a rich business agenda, an interesting cultural program and fascinating informal communication.
Only few days remain until the opening of the VI Youth Forum of the World Petroleum Council — Forum of Future Leaders. The event starts on June, 23 in St. Petersburg, Russia and will feature the largest and representative event for young experts from oil and gas industry visiting from 65 countries around the world. The World Petroleum Council is a non-political organization with a purpose to provide an equal communication platform for everybody. Initially the World Petroleum Council came up with initiative to organize a Youth Forum dedicated to young people who can be potentially involved into decision-making process and to show young people’s excellence that they can contribute. The first WPC Youth Forum was initiated in China in 2004. Later Youth Forums were held in France, India, Canada, and Brazil.

Just before the event, the Forum organizers met with Russian and foreign journalists in St. Petersburg. Top officials — Ulrike von Lonski, Chief Operating Officer of the World Petroleum Council, Kirill Molodtsov, Assistant Head of the Presidential Administration, Deputy Chairman of the Organizing Committee of VI WPC Youth Forum, Vladimir Streletskaya, Director of the Russian National Committee of the World Petroleum Council, and Yevgeny Pankevich, Chairman of the St. Petersburg Committee for Tourism Development — unveiled details of the outstanding world-class Forum program, international speakers and participants.

The VI WPC Youth Forum in Saint Petersburg is expected to beat the attendance record of WPC youth forums welcoming 1,200 visitors. The event program includes 140 international speakers from 40 countries including Oil&Gas Ministers from Russia, Kazakhstan, Azerbaijan, Deputy Ministers from Saudi Arabia and Iran, official delegations from Oman and Sierra Leone.

"Oil and gas industry is changing very fast with many challenges, and it means we need new ways to address these challenges. There are major energy transitions going on and Oil&Gas industry is changing in itself. Still few years back the average age of employees was 57, and now 52% of oil and gas industry employees are aged under 35", said Ulrike von Lonski, Chief Operating Officer of the World Petroleum Council. She underlined that it is important to engage young generation into decision-making for what will be happening in Oil&Gas industry tomorrow.

"At the WPC Youth Forum we are bringing the today leaders, decision-makers, CEOs, executives, ministers together with the young leaders of tomorrow. We are very grateful to the Russian organizing committee and the country itself for putting a very strong program", said Ulrike von Lonski. She appreciated all the efforts and added that during the previous WPC Congress in Istanbul in 2017, it was suggested to host the next WPC Youth Forum in Saint Petersburg. This chance was used as actually St.Petersburg offered the perfect facilities to accommodate the forum and also because it is a great destination, which attendees could explore with their families.

According to Ulrike’s words, the Russian authorities, supported by the professional community and Oil&Gas companies, created excellent conditions for unlocking the creative potential of young experts as well as unique opportunities for the work and leisure of the Forum participants. Many famous speakers are coming to participate in the Forum due the outstanding efforts of the Russian Organizing Committee, headed by Alexander Novak, Russian Energy Minister, and the great attention of the Russian authorities and companies given to the education of young people.

"Indeed, we pay a lot of attention in Russia to educate young people, confirmed Kirill Molodtsov, Deputy Chairman of the Organizing
Committee of VI WPC Youth Forum. It applies both to professional training and development of leader qualities, teamwork skills, and respect for traditions”.

“We hope, the VI Youth Forum for students and young experts of Oil&Gas industry organized in one of the most beautiful city in the Russian Federation will show that Russia is a very hospitable and friendly to the Oil&Gas experts of today and tomorrow. Russia has a huge experience in development of unique industrial projects, our country is a recognized leader in many areas of Oil&Gas activities. We are ready to share our knowledge and experience, because international cooperation and joint activity is the most effective way to solve difficult problems. It is especially evident in our modern time. That is how the idea was born to hold the largest industrial youth forum in one of the most beautiful cities in the world”, said Kirill Molodtsov.

Based on Kirill’s words, preparation for the event is almost completed. And it is not just the result of hard work. You could feel that everyone was preparing for the reception of the Forum with enthusiasm, especially Vladimir Litvinenko, Head of St. Petersburg Mining University. Special gratitude was expressed to Alexander Beglov, acting Governor of Saint Petersburg. The main activities of the Forum will be held at Saint Petersburg Mining University.

Evgeny Pankevich, Chairman of the St. Petersburg Committee for Tourism Development, said that it is a great honor and great responsibility for the city to host this international event. The city administration took the best efforts to provide special conditions, so the Forum would be held on the highest international level. Currently St. Petersburg has the best range of facilities for large international events in the Russian Federation. The city administration schedules to promote forum and exhibition activities to get over 1,000,000 business event visitors annually. In this respect the VI WPC Youth Forum is an important event for the city as it brings 1,200 guests. An impressive free leisure program was developed for the Future Leaders Forum to allow participants to visit the most famous and valuable touristic sights of St. Petersburg, including the Culture Night in Hermitage, sightseeing bus and boat trips, etc. The opening ceremony will be held at the Mariinsky Theatre and all Forum participants will be able to enjoy Giselle, a romantic ballet in two acts.

Vlada Streletskaaya, Preparation Coordinator of the VI Youth Forum, participated in the two previous Youth Forums of the World Petroleum Council as a delegate. Sharing personal memories, she noted the unique atmosphere of international meetings, unforgettable personal impressions, energy and positivity. The experience of participating in youth forums helped Vlada to advance her career. She said that they have been preparing the Forum activities for the last 2 years.

“Many criteria prove that the upcoming forum will be the best one, said Vlada. It is the largest — we expect delegates from 65 countries, it features the best business program regarding the content and the keynote speakers. 140 speakers from 40 countries will take part at the plenary and business sessions of the Forum, which will be covered by international media, including Bloomberg, Reuters, Platts, etc. In addition, for the first time in the history of the WPC Youth Forums, the speakers of the youth sessions were selected based on the results of an open international competition — anyone could submit an application, and the best ones were chosen. Also for the first time we organized a special session for the ministers and top officials from different countries”.

The VI Youth Forum of the World Petroleum Council — Forum of Future Leaders will start on June, 23 and will run till June, 28.
The conditions in which oil and gas markets are functioning are continuously changing. This is brought up by both objective factors of the development of global energy and economy and subjective manifestations of geopolitical nature. Today we are witnessing the ever-growing influence on the energy market specifically coming from changes in geopolitics. [...] Today the key challenge for the “global energy transformation”, that implies the accelerated development of highly efficient energy conservation technologies and their adaptation to the rapidly changing market requirements (the result of which would be, for instance, the 2.6 times reduction of sulphur content in fuels by 2020 and decrease of sulphur compounds emissions by 5 million tons a year), is the geopolitical instability that increases the risks for producing countries. [...] From the fundamental point of view, for over 25 years the global economy has been demonstrating the very sustainable and high rates of growth, an average of about 3.5% per annum, and we expect them to continue rising, because they tend to drive growth of energy consumption.

Important factor defining the level of energy consumption in the world is energy intensity. Today we see the growing level of prices at $60-$70 per barrel of oil, however, the recent data in terms of the record growth of the re-

GOLDEN ERA OR ENERGY:
PROTECTIONISM, MARKET OR MANUAL CONTROL?

Chief Executive Officer of Rosneft Oil Company Igor Sechin has presented a keynote speech at the energy panel of the 23rd St. Petersburg International Economic Forum.
(Saint Petersburg, June 6, 2019)
serves in the US which led to the recent reduction of the oil ratings, demonstrate that we may expect some serious volatility, which is being brought about, among other things, by a certain market manipulation. Nevertheless, these are the data taking into account the change in the GDP structure through the advancing growth of the technology industry, the speed of the decline in the energy intensity in the foreseeable future would hardly exceed 1.5-2% per annum.

Bearing this in mind, we believe, as well as the leading sector analysts, that the demand for energy resources by 2040 will be growing by 1.5-2% annually. The demand structure will sustain some changes related to the introduction of energy-saving technology, various emission commitments, but overall these dynamics will remain quite positive, which is defined in the first place by the growing GDP and the higher quality of life of the humankind for the several decades to come.

Environmental requirements will lead to a reduction of coal in the energy mix from the current 27% to 21%. However, coal will remain an important resource in the balance of such countries as China and India, where its share even in the future will be quite a weighty one—at about 40-50%.

Of course, the alternative energy (mainly solar and wind), at the current regime of regulatory and fiscal incentives, will grow at the fastest rate—more than 2% annually. Which will be conducive by a reduction of cost of energy coming from solar generation, which is over the past 10 years has gone down two-fold and in some countries with climatic features that make it possible to reserve energy has already "caught up" in terms of efficiency with the traditional energy, but the share of such countries in the total energy balance is quite small. At the same time, for comparison in absolute values, the cost of the most efficient solar energy is still three to four times higher than the power in the Russian domestic market, which is generated primarily from traditional fossil fuels.

But nevertheless, despite the continuing reduction in the cost of alternative generation and the apparent general availability of wind and sun, it requires a still absent solution to the problem of the energy storage. As a result, the contribution of alternative energy to the global energy mix will remain relatively small, and will grow from the current 12% to 16% by 2040. Of course, if not by 2040 (and this is quite a long period of time), we don’t see in some form a breakthrough solution from fundamental physics science in the controlled "nuclear fusion" process, which can fundamentally change these expectations, although the possibility of this today, however, remains rather low, given the next postponement of the major experiments.

In the absence of such breakthrough solutions, gas, as the most environmentally friendly fossil fuel, will replace not only coal but also nuclear energy. Generally speaking, nuclear energy, like the Internet, was and, I think, in the foreseeable future will remain a part of the “double application” industry, which will compensate for the associated costs of the military-industrial complex.

The natural gas, as opposed to alternative generation, can provide stable production of power. Moreover, natural gas is the fuel of the future for oversize vehicles and marine vessels, and we expect an increase in gas demand from the transport sector 5 times by 2040. Therefore, gas demand will grow at the fastest pace among fossil fuels (at the level of about 2% per year), which will lead to an increase in its share in the energy mix from 22% to 25% by 2040.

The demand for oil will grow steadily at about 1% per year, which means growing consumption in absolute terms. By 2040, global oil consumption will increase by about 20 million barrels per day. The support for this demand for oil and the refined products will come both from an increase in the standard of living in developing countries and the mass distribution of passenger cars in them, as well as steady demand from petrochemical industry, which we see as one of the main growth points in the global energy industry.

As a result, although the share of oil in the global energy mix will decrease from 32% now to 28% by 2040, its consumption will grow in absolute terms, and its significance as the backbone of the modern energy will remain central. The demand for oil in terms of growing is inevitable.

GAS, AS THE MOST ENVIRONMENTALLY FRIENDLY FOSSIL FUEL, WILL REPLACE NOT ONLY COAL BUT ALSO NUCLEAR ENERGY

With this in mind, I consider it necessary to touch upon the numerous and popular today carbon-free development scenarios. Their main feature is that they are an example of forecasting, where the assump-
tions are decisive in this kind of outlooks, and therefore the validity of such outlooks leaves much to be desired.

The most important and, in fact, the only validity in the “green” scenarios is the topic of faster growth in the use of renewables. But these scenarios cannot be substantiated by either the dynamics in energy efficiency, available technological changes, or structural changes in the global economy. [...] There is a stereotype in the public opinion that electric cars will easily "crush" the oil industry and their mass distribution is a matter of the near future. We have repeatedly noted that the fleet of electric vehicles will, in the best case scenario, be distributed only locally in large agglomerations of Europe, the United States, and Asia-Pacific countries, as their use requires certain climatic conditions and high infrastructure costs. Even in Germany, Europe's largest car manufacturer, with significant investments being made in their production as well as in infrastructure subsidies, the number of electric cars is currently only about 200,000 (which is less than 0.5% of the total car fleet) and the plans to reach 1 million by 2020 are likely to be missed.

We should also keep in mind that the production of electricity for electric vehicles is powered by fossil fuel power plants, which means that the total carbon footprint remains high. In Germany, for example, the share of coal generation is 34%. Not to mention the fact that it’s quite difficult to recognize a transport that contains significant amounts of lithium and cobalt as an environmentally-friendly one. No one today has an answer to the question of how to build a truly closed and complete cycle of the turnover of these metals in batteries. And there is written far more than we are able to discuss today their exceptional damage to the environment (for example, fluorine compounds that are released when lithium-ion batteries are damaged are more dangerous to humans than lead).

Given that electric cars solve neither the problem of emissions reduction nor the problem of harmful industries, the share of electric cars in the global fleet will not exceed 12-15% in the foreseeable future, which will be compensated by the growth of traditional transport in developing countries in terms of absolute values.

We should also not forget that the technologies introduced in electric vehicles are not yet well developed. Accidents with unmanned vehicles (after all the number of these accidents with unmanned models per 1 km is more than 10 times higher than that of traditional cars) and other examples in the transport industry indicate that there are significant limitations in expanding the use of artificial intelligence in potentially life-threatening environments.

However, the main factor of changes in the world energy markets is still the oil production output in the USA. Ultimately, this will determine the global supply of liquid hydrocarbons, the balance of supply and demand, and the evolution of oil prices, as well as the prices of all other energy resources. [...]

On May 14, this year, US President Donald Trump announced the beginning of the “Golden Era of American Energy” and energy dominance ensuring by withdrawing from the Paris climate agreement, abandoning costly plans for clean energy, facilitating access to natural resources, stimulating oil and gas production, developing energy infrastructure, and expanding export opportunities for US energy producers.

Fundamentally, based upon its impartially-assessed position on the cost curve, the shale production could never compete against the inexpensive traditional sources of energy. But one should appreciate the work by American regulators who could develop a specific impetus to the shale development after reducing regulatory barriers, reducing taxes, and softening the gas flaring requirements and water use.
Alongside with that, one shouldn’t see as accidental that the day when Trump declared this Golden Age, the US Summit started hearing the activities to prohibit and act against the Nord Stream 2 pipeline project.

Some pundits enjoy accusing Russia of using energy as a political weapon. It’s undoubtedly that the reality of the current date is that the energy by way of political clout is being used by the United States in big time. The introduction of sanctions of the threat of their application is devastating to the global energy industry. [...]

Seemingly, 2018 should have become the year of growth, particularly since we saw the renewal of the investment activity on the part of various managers, the start of new investment projects, more than 49 major global oil and gas projects.

But simultaneously, the return to sanctions towards Iran, the introduction of sanctions against Venezuela, the country which possesses the biggest in the world oil reserves, as well as the sectoral sanctions against the Russian oil and gas companies, led to the total production of liquid hydrocarbons subject to the unilateral restrictions amounting to almost one-third of the global oil reserves! This is a kind of an anti-record that the global economy never had. Nobody should entertain any illusions: sanctional pressure from the US upon Iran and Venezuela sets the aim to disrupt the economies in these countries and have their leadership changed.

Over the past year alone, the production in Venezuela has gone down almost twofold. The sanctions introduced in January 2019 to ban the import of the Venezuelan oil and the supplies from this country of the refined products may lead us seeing a new decline in global oil production.

In parallel, additional sanctions are being taken against the oil and gas sector of the country in order to put pressure on the economy and destabilize the social and political situation in Iran. As a result, production in Iran decreased by 33% over the past year (down to 2.6 million barrels/day) and may fall by another 10-20% by the end of next year (to 2.2 million barrels/day).

Iran and Venezuela, along with Iraq, Libya and Nigeria, form the "fragile five," as Citibank calls them, and altogether account for more than 10% of world production. Instability in these countries puts pressure on the market, and various forms of pressure applied on conscientious market participants who still operate in these countries are not limited to administrative cases. [...] The US global oil market strategy is driven by one simple fact. Oil production in Texas, where the main part of the Permian and Eagle Ford basins and other shale and traditional formations lie, has already reached 5 million barrels/day this year, exceeding total production of Iran, Venezuela and Libya. This is not due to the creation of new shale projects, but rather due to the introduction of new sanctions, which saw a sharp decrease in production in Iran and Venezuela. As a result, with sanctions affecting about 1.5 million barrels/day of world production in 2018, this figure can grow to 2.5 million barrels/day this year.

Some American analysts suggest balancing the market via a significant counter-reduction (up to 3 million barrels/day) of OPEC+ production in order to improve the efficiency of American industry while increasing shale production. [...]
In such conditions, Russia is one of the most credible participants in the global energy market that opposes the misguided policy of restrictions and non-competitive environment.

Russia, along with the US and Saudi Arabia is among the three global oil leaders. Although Russia is slightly behind Saudi Arabia by the announced estimates of oil reserves (Russia: 30 bn tons or 219 bn barrels; Saudi Arabia: around 37 bn tons or 266 bn barrels), the current production cost is not the main competitive advantage of the Russian oil industry.

According to the estimates of many analysts and experts, the world best portfolio of new promising projects is precisely in Russia. The launch of new projects will accelerate, and we will see the commissioning of new fields in the next 2-3 years. The market experts, including Ed Morse, Global Head of Commodities Research, Citibank, say that new fields will increase oil production by around 1mn barrels per day by 2022.

We broadly agree with the analysts’ assessments on the potential of new Russian projects. The new projects of the Russian oil sector have a high potential in the global industry by the scale of the resource base as well as by the quality of oil and cost of production indicators. At the same time, I must state that despite these assessments are correct, our respected colleagues-analysts are not aware of all the prospects of the Russian Arctic, which is the strategic region for development. […]

The resource potential of the Russian Arctic for possible projects of Rosneft exceeds 20 billion tons of oil – this estimate includes both projects in the Kara sea, where, taking into account the upcoming drilling, I think we will exceed the reserves of 15 billion tons, and in the North of the Krasnoyarsk territory, where we are waiting for great discoveries and large-scale projects that will have a serious impact on the world oil industry. […]

To sum up, I want to mention that under these particularly harsh circumstances, it is as vital as ever to challenge the non-market tools with efficient and mutually beneficial cooperation. […]

We may speak about the Golden Age only if it concerns all market players.

Therefore, our common objective is to create conditions for crisis-free development of the oil industry and the world economy. There is a number of important aspects. In addition to mutual agreements, it is necessary to ensure absolute transparency and predictability of the market. The most important tools of sustainability are long-term contracts, mutual participation in projects and strict compliance with contractual obligations. These tools and principles have made Rosneft a world leader among public oil companies.

THE RESOURCE POTENTIAL OF THE RUSSIAN ARCTIC FOR POSSIBLE PROJECTS OF ROSNEFT EXCEEDS 20 BILLION TONS OF OIL

The Chinese authorities, in response to the economic growth slowdown, have also initiated the development of measures to stimulate the economy through targeted subsidies and tax cuts. In particular, the tax rate on the shale gas extraction was reduced from 6% to 4.2%, and measures were taken to reduce taxes on oil futures operations on the Shanghai Energy Exchange. VAT and social insurance tax rates were also decreased in 2019, which, according to the Chinese authorities, should reduce the tax burden by about US$ 300 billion this year.

A number of multidirectional trends co-exist in Russia today, where the state regulator is balancing between the tasks to pump up the budget and to boost economic growth while simultaneously searching for solutions to social problems at the expense of the market. […]
The WPC Youth Forum is first of all a platform for professional communication. This is a collective search for answers to the most important questions related to the prospects for the development of the industry, with the role that can and should be played by representatives of the new generation of global petroleum industry. New challenges, new goals, new opportunities... Much will depend on the ability of a new generation of industry leaders to adequately assess the situation, make the right decisions, and confidently achieve their goals. Leadership topic will be one of the main ones at the Youth Forum-2019 in St. Petersburg, the Future Leaders Forum.

What are the new challenges that the industry faces, how to keep it competitive? What are the qualities of a modern leader? What should he or she pay attention to in the first place?

Anticipating the discussions on the Future Leaders Forum, we offered to consider these issues to the future participants — Tamara Seres (Serbia), Euler Reyes (USA) and Elena Strakhova (Russia).

**What are the most critical challenges of the global energy agenda for the oil and gas industry?**

**How can the oil and gas sector maintain and develop its competitive advantages relative to other energy sources?**

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**Tamara Seres**

The structure of the future energy mix will and the place of oil & gas in it is continuously in the spotlight. While major forecasts see the industry with a vital role in our lifetime, it is expected to undergo transformation in many aspects.

One of the most important problems facing the industry is to reduce the harmful effects on the environment primarily through curbing its environmental footprint.

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**Euler Reyes**

The most critical challenge of the oil & gas industry is making adequate investment in a low-price environment. Lack of investment now can result in more volatility in the future.

Additionally, developing and showcasing good operations practices may help with public perception of the oil & gas industry. Oil & gas can remain competitive by integrating other energy sources into their supply chains as well as building adequate infrastructure to transport the product to customers.

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**Elena Strakhova**

There are a lot of challenges that oil & gas industry need to solve. It is a constantly changing energy world where it is difficult to maintain a “balance”. It is characterized by the political instability, transformation of technological structures; environmental problems, renewable energy sources development.

The most important goals for the modern industry are to ensure global energy security, the need to search and explore hard-to-find reserves of organic raw materials, exploration of the seas, oceans and “Space on Earth” — the Arctic.

The energy world of the future should be safe, reliable and affordable. The implementation of all chains of energy processes should not break up economic, social and political sustainability all over the world. Competent use of innovative technologies and artificial intelligence will significantly improve the competitive advantages of the oil and gas sector and strengthen its role on the global arena.
What technologies and innovative solutions of modern times played, in your opinion, the most important role in the development of the oil and gas sector?

What innovations are most expected in the future?

Tamara Seres

Digitalization in the past decades has radically changed all spheres in our life. Continuing deployment of digital tools and processes in every stage of exploration, production, sales and distribution will lead to further transformation of the oil & gas industry. In this process, it should take advantage of open innovation practices, and foster cross-sectorial partnerships with research and academic stakeholders and the diverse IT innovation ecosystem.

Euler Reyes

Improving methods of the hydraulic fracturing has played the most important role in the development of the oil & gas sector. This has unlocked previously uneconomic resources. Hydraulic fracturing has had a profound effect in creating a larger gas supply which makes it more competitive with coal for power generation. Additionally, it has had effects on the petrochemical part of the industry by providing cheaper feedstocks.

Elena Strakhova

A significant role was played by the development of LNG production — a technology that ensured mobility and flexibility of supplies, the possibility of gasification of remote facilities.

Also the exploration and production of “unconventional” oil has a great importance — shales, Bazhenov formation, bitumen. It should also be noted methods of enhanced oil recovery, breakthrough IT-technologies (for example, blockchain). Innovations that can come close to solving environmental problems and untapped resources — the result of combination and coordination of the work of the best specialists from related fields (IT, science and technology, economics, analytics).

What is the value and attractiveness of participation in the Future Leaders Forum?

Tamara Seres

The WPC and the Future Leaders Forum as its flagship event designed for students and young professionals in the industry is a unique global networking opportunity — with both peers and senior industry leaders. I always keep in mind a Dale Carnegie quote, shared with me by my Mentor in the WPC Mentoring Programme prof. Anatoly Zolotukhin “Everyone whom I met was, in a way, better than me.” I will be at the FLF to learn from all of you.

Euler Reyes

I am excited to engage with other ambitious young professionals and learn more about the markets that we operate in. Oil & gas industry is global, and it’s important for our generation to exchange thoughts and learn about each other’s challenges, priorities, and concerns.

Elena Strakhova

The vision of the future energy picture of the world from the point of view of young specialists is a fresh, brave look with the use of new technologies and the “mix” of scientific and technological solutions in related fields.

Stability in the energy world is not worth to wait for — you need to adapt, be flexible and “catch the wave” — the future is ours.
The Forum technical sessions will cover a wide range of updates on the trends and challenges in both Downsteam and Upstream segments of the oil & gas industry — there will be something for everyone. I am happy to be presenting the results WPC YPC Survey "Boosting Oil & Gas Industry — Academia Cooperation” showing views of students and young professionals on their experiences of the collaboration between the oil & gas industry and the academic sector. Fostering these collaborative partnerships will be key for developing a talent pool for the oil & gas industry of the future.

Elena Strakhova
Leading Specialist, Production and Technical Department, Gazprom International (Russia)

Young people are the engine of progress, which sometimes able to gush their crazy ideas out, and which, afterwards, can be designed, refined and presented for implementation.

What question do you consider the most important to discuss at the Future Leaders Forum? Why?

Tamara Seres

Depth of one’s knowledge in a specific field is equally important as breadth of knowledge and understanding of general geopolitical, socio-economical, technological and policy trends. We witness today in many sectors that the only constant thing is change, I would add — a fast change. Those that will be able to quickly adapt to continuous changes will be the leaders of the future.

Euler Reyes

I would formulate my question like this: «How can we best plan, develop, and manage projects for emerging unconventional plays?» This wide topic includes pipeline infrastructure, transportation, corporate social responsibility, deployment of technology.

What personal qualities, professional knowledge and skills will first of all be needed by the future leader of the oil and gas industry?

Elena Strakhova

Young people are the engine of progress, which sometimes able to gush their crazy ideas out, and which, afterwards, can be designed, refined and presented for implementation.

What are the main differences of the future leader from the leaders of previous generations?

Elena Strakhova

The main thing is to have an opportunity to speak and to be heard on the international platform.

Euler Reyes

Future leaders need to have a good grasp of what is happening in other industries and see where there is shared value. Today’s leadership, and the oil & gas industry in general, is slow to adopt new technology and practices.

What are the main differences of the future leader from the leaders of previous generations?

Elena Strakhova

The most important thing is to be brave, not to be afraid of turbulence and unpredictability, to think more broadly, to differentiate knowledge, to be able to use your intuition correctly and to direct all your energy in development.

The future leader should not be afraid to experiment, to be creative, to make mistakes and not to give up!
INTERNATIONAL OIL AND GAS EXHIBITIONS AND CONFERENCES 2019–2020

AZERBAIJAN

Caspian Oil & Gas Exhibition and Conference
26th INTERNATIONAL CASPIAN OIL & GAS EXHIBITION AND CONFERENCE CASPIAN OIL & GAS 2019
29 May – 1 June 2019 • BAKU

KAZAKHSTAN

KIOGE Oil & Gas Kazakhstan
27th KAZAKHSTAN INTERNATIONAL OIL & GAS EXHIBITION AND CONFERENCE KIOGE 2020
30 September – 2 October 2020 • ALMATY

RUSSIA

6th Future Leaders Forum of the World Petroleum Council
WPC YOUTH FORUM
23–28 June 2019 • SAINT-PETERSBURG

UNITED ARAB EMIRATES

World Energy Congress
24th WORLD ENERGY CONGRESS WEC 2019
9–12 September 2019 • ABU DHABI

UNITED STATES OF AMERICA

Gastech Exhibition & Conference
31st EXHIBITION AND CONFERENCE FOR THE GLOBAL GAS, LNG AND ENERGY INDUSTRIES GASTECH 2019
17–19 September 2019 • HOUSTON, TEXAS

UZBEKISTAN

OGU Uzbekistan
23rd UZBEKISTAN INTERNATIONAL OIL & GAS EXHIBITION AND CONFERENCE OGU 2019
15–17 May 2019 • TASHKENT

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1 000 000 participants and visitors

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Technical Programme of the VI Future Leaders Forum of WPC

An extensive and diverse technical programme is the core event of the VI Future Leaders Forum of WPC. The most topical issues of the current state and future development of the world oil and gas industry are discussed. In addition, field technical tours are planned for June 27: young participants of the Forum will be given the opportunity to visit the existing production facilities of the oil and gas industry in Russia.

The Technical Programme is divided into three blocks:

- **INNOVATIONS**
- **SUSTAINABLE DEVELOPMENT**
- **LEADERSHIP**

**PROGRAMME SESSIONS**

**PLENARY SESSIONS**

- CEO 2030: What Are We Looking for in Our Leaders in the Future?
- Innovative Solutions for the Changing Energy Industry
- Leading the Path Towards Sustainability in the Oil and Gas Industry

**PANEL SESSIONS**

- PS 1. From Business to Academia and Back: Strengthening Cooperation
- PS 2. In a Digital World: Digitalization & Artificial Intelligence in Energy Industry
- PS 3. Innovations in Enhanced Oil Recovery
- PS 4. Changing the Perception of Petroleum Industry
- PS 5. Modern Technologies for Offshore Field Development
- PS 6. The Role of the Petroleum Industry in the World’s Climate Change
- PS 7. Attracting the Best Talent — How Are We Beating the Competition

**FORUMS**

- F1. The Golden Age of Gas
- F3. Project Management in Oil and Gas Industry
- F4. Arctic’s Future
- F5. Globalization or Regionalization? Mega Projects and International Cooperation

**ROUND TABLES**

- RT 1. Unconventional Oil and Natural Gas Resources
- RT 2. Managerial Ethics — Balancing Project Delivery with Socially and Environmentally Responsible Action
- RT 3. Corporate Social Responsibility: Do We Do Enough?
- RT 5. Moved to PS3
- RT 6. Meeting with Industry Titans
- RT 8. Development of the Entrepreneurship in the Oil and Gas Sector
- RT 10. Time, Talent, Energy
- MP RT. WPC Mentoring programme «The Value of Mentoring»

**OPEN DIALOGUES**

- OD 1. Climate Change: Tackling a Global Challenge
- OD 2. Future Leaders in Energy and Sustainability: Who Are You?

**YOUTH TECHNICAL SESSIONS**

**Tekhnical Tours**

Visiting of industrial, construction and transportation objects are planned in Forum Technical Programme. Forum Participants have an ability to choose one of these tours:

- “Portovaya” Gas Compressor Station (CS)
- “Vysotsk” Distributional Transshipping Complex (RPK)
- Saint Petersburg Flood Prevention Facility Complex
- Area of the Lakhta Center
- Scientific and Technical Center “Gazprom Neft”
MAP OF THE FUTURE

23 June, Sunday

Official Gala Opening Ceremony in the Mariinsky Theatre

19.00 - 22.00

24 June, Monday

25 June, Tuesday

26 June, Wednesday

9:00
Welcoming Coffee
Welcoming Coffee
Breakfast with CEO

10:00
Opening Ceremony
Plenary Session 2:
Innovative Solutions for the Changing
Energy Industry
Plenary Session 3:
Leading the Path Towards Sustainability
in the Oil and Gas Industry

11:00
Key Panel Session:
Energy Transformation:
Map of the Future

11:30
Coffee-break
Coffee-break

12:00
Press-scrum
Lunch
Lunch

13:00
Lunch

14:30
Plenary Session 1:
CEO 2030: What Are We Looking
for in Our Leaders in the Future?

16:00
Plenary Session 3:
Leading the Path Towards Sustainability
in the Oil and Gas Industry

16:30
Closing Ceremony:
Social Responsibility and Education

26 June, Wednesday

Closing Ceremony and Award Ceremony in Konstantinovsky Palace

27 June, Thursday

10:00
Technical Tours (to 15:00)

11:00
OPEC Game (to 17:00)

11:00
Football Match (to 13:00)

15:00
Ecological Campaign (to 17:00)

Legend:
— Key Forum’s Events
— Cultural Programme
— Leadership Block
— Innovations Block
— Side Events
— Panel Session
— Sustainability Block
— Round Table
— Open Dialogue
— Forum
— Mentoring Programme
- Anatoly Borisovich let us begin with a special congratulation. 50 years ago you got a degree of a petroleum engineer. You have been working in the petroleum industry for almost half a century.

- Really?... It seems so...Actually, I haven’t thought about it. The date means a lot to me. Thanks!

For almost half a century you have been preparing young specialists. Is it a difficult job?

After the first lesson, it seemed to be very hard work. It took me a lot of time to prepare for lessons, and I felt nervous. I sadly thought that I didn’t have a very well respected job which had a bleak outlook. But it passed quickly. Troubles are nothing when you have a chance to communicate with the youth. They were and still are the source of my energy and inspiration. It’s very important to have a job you love and enjoy. It is also important to have the motivation, as you can achieve a lot. In fact, achievements give energy and make you feel confident in your abilities. I can’t imagine my life without communicating with young people.

- Is the youth of today different? How are they different from the youth of your time?

- Change happens all the time and everywhere. I have taught in many countries — Europe, Asia, America, and Africa... everywhere the new generation is different from the previous one. It’s not better or worse — young people are just adapting to the changing world.

I suppose we were quiet and still when we were young. The educational system was stricter. We were under tight control. These days, it’s considered a good thing to make work as simple and easy as possible. An in-depth study is often considered and thus, becoming of less importance.

Nowadays, students are more active. They are broad-minded and have various interests. They are able to alternate activities and manage their time. It’s really good. Today’s students set clear life goals. They know what they want, they tend to achieve the desired results. Students of my generation also used to be ambitious. But in the past, there were fewer choices. Now it’s all different.
A relatively new trend is digitalization. Computers are in all parts of our lives. Life is more comfortable, convenient, faster because of it. But computers only do what they are supposed to do. Are operators, and programmers always well educated? If not, computers are likely to produce bad results or work. This comes with great risks which we often underestimate.

It’s a shame that in the modern educational system little attention is paid to studying foreign languages as well as the mother tongue. Because of a lack of language proficiency, one can’t express a thought or set a target. As a rule, English is spoken among international teams. If you don’t have a good command of a foreign language, your colleagues may get distorted information, even if they think they understand. As a result, the work goes wrong. Hence, having a good command of a language is a must for modern professionals.

It’s necessary to be able to write well. It allows you to express yourself in a short and correct way. It’s also a sign of culture which a modern professional must have.

- In the modern educational process, much attention is paid to the international exchange: joint educational projects, foreign internships. One of the relatively new directions is international professional youth forums organized by the World Petroleum Council. Why is it important?

- The most obvious answer: large modern projects require combining forces, capitals, experience, technologies and risk sharing. International exchange is a good basis for future work in an international team. But this is not the only reason.

Russian specialists differ from Western ones. We have a wide education — pieces of knowledge across the whole industry spectrum but without deep immersion. Abroad, specialists of narrow specialization are mainly trained: they know their subject thoroughly, but adjacent areas of pieces of knowledge are almost not affected. They are too narrow in the professional term, we are often too wide. The best option is somewhere in the middle.

A modern specialist, in my opinion, needs to know very well “his” subject, as well as competently understand the issues of related areas. Work in the international team allows you to get the missing things in any individual education system in the world. People with a different mentality, their own cultural traditions, and national peculiarities while working in one team complement each other, so together they are a big force, able to solve any problem.

- Many young people dream of becoming managers, making a career in this field. A specialist is a less prestigious prospect. Why does it happen?

- Managers in mass consciousness are perceived as superiors. This is an erroneous approach — they are not the chiefs, but the organizers of teamwork. The manager should not command specialists, his mission is to assemble a team, set a goal and create conditions for effective work.

I had a chance to work for several years at «Statoil» Petroleum Company in such team — we, the specialists, were not at all distracted by the everyday trifles, there was no need for that — the manager was concerned that we had everything we needed to work. The payoff was fantastic, and our manager played a very important role in this. He was responsible for creating an atmosphere of creativity, making sure that the best qualities of a specialist were aimed at solving the target problem but not wasted.
- We are discussing not only oil and gas issues. We are talking a lot about energy in a broad sense. And this is not only technologies and markets, but above all — the human factor. We deal with issues of leadership, youth training, and education support.

There is a «Heritage» Foundation tackling educational tasks at the expense of energy companies, training, and internships for young people from countries that do not have sufficient funds for such purposes themselves. Very interesting projects about supporting education are now being implemented in India, Brazil, and other countries.

In our country, the Russian National Committee of WPC pays out scholarships to distinguished students of specialized categories from their own funds. The money is small. But the fact that you are chosen as the best, winning the competition, public rewarding — all of this is a very good incentive for the scholar and a positive example for other students.

But these are the first steps ... There are more ambitious plans. Take, for example, patronage over an entire region with limited financial resources and, enlisting the support of business, help the training of highly qualified specialists from among the gifted local youth from remote places. So that they would not leave their homes in search of a better life, but build a bright future in the place where they grew up.

One of the significant activities of the World Petroleum Council is the participation in international organizations and in various events. This is not so much lobbying for the interests of the oil and gas industry as a look at more general issues from the point of view of the industry. It is important for the opinion of the oil and gas community to be expressed and heard, taken into account.

The consolidating role of the WPC is important. It is especially sensitive for small countries. When the leaders of the WPC visit this country, show interest in the state of affairs and prospects, this is an inspiring event that helps to feel part of a large and strong community. That includes also practical contacts — joint educational, scientific, innovative projects, exchange of experience ...

The WPC prepares and publishes industry reviews. They are gaining popularity. Because it is well written. We select topics carefully and attract eminent authors who talk efficiently about complex things in a popular form.

At general meetings, we pay a lot of attention to the formation of the program and thematic accents of the World Petroleum Congresses. We argue much and ferociously. Why? The Congresses are held once every three years, they collect the cream of the industry, attract a lot of attention. Thematic accents of such a significant international event are not directive but still set the vector for the development of the industry for the next three years.

A significant role is played by the fact that representatives of almost 70 countries of the world gather in one place. At such meetings, we learn to listen, to take into account the interests of each other. There comes an understanding that we live in a very large and complex world, that we need to treat each other with care and respect. This is a school of coexistence of the interesting and creative. At such meetings, we gain new experience and new knowledge. We return home with this baggage, using it in our work, sharing it with colleagues.

A big and important task is to influence public opinion, to explain reasonably to people that the oil and gas industry is far from being “dirty and harmful” to the environment, as is often (erroneously or deliberately) spoken of.

- But are the negative environmental consequences of the oil and gas industry a fiction?
- Of course, there are consequences for nature. Any human activity influences nature, and often very negatively. But the scale of the environmental “negative” from the extraction and use of hydrocarbons is somewhat exaggerated in the public consciousness. Oilmen are far from being the main enemies of nature. There is paid a lot of attention in the industry to the reducing of the negative impact of current activities, preventing catastrophes, improving the quality of fuel and increasing the efficiency of using it. Of course, they are not “white and fluffy”, but not malicious enemies of nature. We need an objective look. Then adequate measures will be taken to improve the situation. It is our common interest.

- How do you see the future of the oil and gas industry? Does it have a future, in principle?
- These things are seriously discussed in a professional environment. But this is just an exchange of views, an interesting conversation. No one knows what lies ahead. And not scientists outline our perspective. Dreamers and science fiction authors are more successful in this. They intuitively grope the most general contours of the future. Later, by these prompts, we continue to move forward.

I remember a few years ago one of our guys offered at a student conference to use zeppelins to transport large loads in the Far North. Then this idea caused ridicule. Now the use of airships for the transportation of goods is taken quite seriously. And this is far from being the only example: cranks control progress.

Speaking about the future of the industry, I am convinced that it will be long, almost limitless. For many years I have been hearing that the “oil window” is about to close. And it is still open, the time is shifted every time. That is because new knowledge and new discoveries appear, expanding the possibilities of using hydrocarbon raw materials.

The need for energy in the world is growing. New, so-called “clean” sources are, of course, good. But they are not enough. Many estimates have confirmed that, in any case, now and in the foreseeable future there is no possibility of ultimate replacing hydrocarbon raw materials in meeting the energy needs.

THE SCALE OF THE ENVIRONMENTAL “NEGATIVE” FROM THE EXTRACTION AND USE OF HYDROCARBONS IS SOMewhat EXAGGERATED IN THE PUBLIC CONSCIOUSNESS
On the other hand, as the result of new discoveries and innovations, the possibilities of economically feasible hydrocarbon production are expanding. Everyone has on their lips the "shale revolution", gas hydrates are on the way, and the development of the Bazhenov Formation, the development of offshore fields in the Arctic are opening up enormous opportunities ...

Impressive successes — only in recent years — have been achieved in improving the environmental properties of motor fuels. Consistent work in this direction continues.

Finally, hydrocarbons should not necessarily be fuel. This is a unique raw material for the petroleum chemical industry, and the demand for its products is growing drastically.

I can talk for a long time on this topic, calling more and more arguments that support the thesis of the active longevity of the oil and gas industry. But, probably, this is enough to explain the train of thought.

- There is a lot of controversy about the development of offshore hydrocarbon fields in the Arctic: environmental risks, economic reasons, technological barriers ... You have been dealing with this issue a lot. What is your forecast?

Of course, the development of offshore Arctic fields is inevitable. A lot of attractive prospects there. The atmosphere of competition and often rivalry also plays a significant role: if not us, then others.

We need to actively prepare for the implementation of the Arctic sea projects. Conduct research, create technology, engage in logistics ... But one should not rush to practical steps — the consequences can be disastrous for the entire planet. This must always be remembered! Before you start something, you need to measure out ten times. Then stop, and think again.

Now we are not ready for the large scale resource development of the Arctic, not only technologically but also mentally. You shouldn’t even try to "conquer" the Arctic. It’s impossible! It needs to be felt, adapted to. Then you can hope that she will share her wealth.

And the Arctic is a region where it is impossible to live and work in isolation. Error in one place and the effects are felt all around. Very close international cooperation is required. Not just money and technology. First of all, common standards, common rules of conduct mandatory for everyone. It is not necessary to live in the same house, but you need to work together.

- Anatoly Borisovich, you were one of the initiators of the VI Youth Forum of the World Petroleum Council in Russia, in St. Petersburg. How is this forum important for you, for young participants?

Probably it is better to ask the delegates themselves, why it is attractive to young people. I will explain my attitude. I consider the Future Leaders Forum a very significant platform for the development of mutual understanding and cooperation between generations. Young people have ideas and passion, aspirations for the future. But not enough experience. But it is necessary not to reinvent the wheel and avoid mistakes. The older generation can help with this. We have no right to lecture, we can only advise. Sharing life experiences, drawing attention to important details.

Such interaction is useful not only for young people. It is of great importance for mentors too — it is crucial to recognize their own relevance.

Another essential point. The forum helps people to unite, reduce distances and overcome borders. Of course, it is important what questions the Forum participants discuss. But even more significant is the fact that young professionals and their more experienced colleagues, representing various countries, come together. They learn to respect each other. They get acquainted with other views, trying to understand them. Thanks to such meetings, the world does not break up into fragments. Perhaps this is the most valuable.

SPEAKING ABOUT THE FUTURE OF THE INDUSTRY, I AM CONVINCED THAT IT WILL BE LONG, ALMOST LIMITLESS
Delegates of the VI Future Leaders Forum of the World Petroleum Council in Saint Petersburg will be given an opportunity to attend a Shell NXplorers workshop. NXplorers is an innovative programme which introduces future leaders to tools to help develop and enhance their problem solving and critical thinking and skills that are needed to address complex challenges.

Such skills are in strong demand by the world today. According to a research by the World Economic Forum in 2016, an integrated approach to problem solving is essential for a recent graduate to be successful in their profession.

The NXplorers programme developed for Shell has proven its high efficiency over five years of practical use. That said, the upcoming workshop as part of the Future Leaders Forum will be an outstanding event, as it will be held for an international group where each participant brings their unique life experience, as well as personal priorities and values. The most inspiring aspect of the workshop is to see that bright personalities from different nations and continents when working together can achieve great outcomes.

Shell has developed and promoted this programme but it is not limited to just improving the skills of oil and gas professionals. The programme goes beyond that. As any other global energy player, Shell has a culture of open and future-oriented outward type of thinking. The NXplorers programme shares this thinking and addresses the ways to solve global challenges involving food, water and energy.

What connects them together? The global issues of food supply and meeting the demand for water and energy are inseparable. Water is needed to extract energy and generate power; energy is needed to treat and transport water; and both water and energy are needed to grow fo-
Each of these key issues for communities and governments cannot be resolved individually, but rather in close relation with connected components. This approach is known as Nexus.

The NXplorers programme objective is to empower young people to address the complex challenges faced by the world today or relevant for a specific location in a certain environment. Though problems differ in scale, they share fundamental approaches to finding solutions.

The programme methodology is a combination of systems thinking, scenario planning and theory of change disciplines to form a new way of thinking, known as NXthinking. NXthinking forms the basis for a set of tools that can be used to tackle issues around the food, water and energy nexus, representing real and relevant challenges across the globe.

The NXplorers workshop is divided into three stages: explore, create and change. Each stage has a series of tools which utilize elements of NXthinking.

The first stage — explore — examines the issues under discussion in context and helps to dig beneath the surface of the problem. This stage draws on system thinking ideas to uncover how different components interact and influence each other and which have the biggest impact and which can be leveraged. By doing this we look closely at ways to uncover hidden patterns and interdependencies, as they are crucial if you are to create sustainable solutions.

An important part of the explore stage is to understand people’s different experiences and viewpoints on what is happening in the world. Comparing different views shows you all sides of the matter and gives a better understanding of the bigger picture.

The second stage of the NXplorers programme is to create. This is the stage where you consider what the future would be if nothing changed. You will then start to think about the actions that could bring about the positive change in the future.

Scenario planning helps you plot a variety of possible futures, compare them and choose the preferred ones. Having a clear vision of a preferred future allows you to take steps needed to create it. Shell has been using scenario planning techniques for decades.

The third stage of the NXplorers programme is to change. It is the stage where you consider what action needs to be taken to achieve the preferred future. The success builds upon collaboration with others and critical thinking about your ideas. This stage offers tools that help you to create an action plan to track progress and see the difference you’re making.
The feasibility funnel, for instance, helps you make decisions based on expertise and time available to consider whether the change is scalable.

The NXplorers programme has been already tested and is currently running in many countries: Australia, Brazil, Brunei, Egypt, India, Kazakhstan, Qatar, China, Malaysia, Nigeria, UAE, Oman, Singapore, Trinidad and Tobago, Philippines. Russia hosted the first workshop in 2019 involving students of Gubkin Russian State University Of Oil And Gas — the nation-biggest education center for future oil and gas professionals.

The workshops discuss various subjects of great social significance. For instance, the participants of one of the first Shell-hosted workshops in Qatar thought how to turn an arid, desert landscape into productive agricultural land. Was there a cheap and effective way of collecting clean water? Which fruits and vegetables are best suited for a harsh desert climate? The story did not stop at theoretical research. Working with design engineers, the students started to implement their ideas in practice. They created a solar desalination unit, designed and manufactured a polytunnel adapted for local environment, and started to grow plants for food.

The NXplorers programme students in Kent (England) had an opportunity to work with a local farm in addressing their challenges. The farm needed to find ways to increase the size of their allotment without increasing cost or energy use. One of the proposed feasible ideas was to build upwards rather than outwards to increase production, and thus avoid increasing the allotment size.

The Future Leaders Forum delegates who signed for Shell NXplorers workshop will join for their first session on Wednesday, June 26. They will work in groups to tackle the proposed issues and find solutions. Nobody knows yet what those issues are going to be. The participants will choose them as part of the first exchange of ideas.

The organizers promise that students will select and define the issues they want to address in the workshop.

Victor Martynov,
Rector of the Gubkin Russian State University of oil and gas (Research and Development University)

We highly appreciate Shell contribution to the oil and gas specialists development and the support of talented young people. The Shell NXplorers seminar, which was held at our University this spring, is an excellent example. Shell NXplorers helps young leaders solve complex problems facing the world today with non-standard methods.

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Although the role of the Asia-Pacific region in the global energy consumption growth has been discussed for a long time, the scope of changes is not always obvious; the indicators of annual statistics are not very informative. But if we look at the statistics for 10 years, we will see how the role of the Asia-Pacific region is strengthening in the global energy system.

For example, let’s examine the oil trade data for 2008-2018. At the beginning of this period, countries of the Asia-Pacific region are accounted for 30 per cent of global oil consumption. The recently published “BP Statistical Review of World Energy 2019” states that over the last 10 years, the share of APR in the global energy consumption has increased by 6 percentage points and has reached 36%.

Of course, the region, which is home to 60% of the world’s population, is still lagging behind the level of oil used per person. And this indicates a significant potential of the APR in the further increase in oil demand.

Meanwhile, daily oil consumption in the Asia-Pacific region increased from 26 million barrels in 2008 to 36 million barrels in 2018. It is easy to calculate that oil consumption in the region rose by more than a third — by 38.5% during the period under review. The dynamics are very impressive!
However, the leading industrial countries of the region demonstrate much higher dynamics. We are talking about China and India — countries that are the 2nd and 6th largest economies in the world. They play the role of engines of economic growth in the region.

Over the past 10 years, oil consumption in China has increased by 71%, and in India — by 64%. And if in 2008 the total use of oil in these two countries amounted to 11 million barrels per day, in 2019 — already 19 million barrels per day.

Against this background, the dynamics of oil use in other countries of the region looks modest: in 10 years, daily consumption increased by 2 million barrels, that is, by about 15% for the period under review. Also, of course, a good indicator. But the growth dynamics here are several times lower than in the leading countries.

And here is another informative comparison. Between 2008 and 2018, global oil consumption increased from 87 million barrels per day to 100 million barrels per day. This is a 15% increase in 10 years. It turns out that without taking into account the contribution of China and India, the growth of oil consumption in the APR group is slightly behind the global dynamics.

But here is another observation, which is more important. 8 million barrels out of 13 million barrels of oil per day, which in 10 years increased oil consumption worldwide, are the contribution of China and India. In other words, these two countries accounted for 62% of the growth in global oil consumption. These indicators clearly demonstrate that China and India are not only the most active participants in the growth of oil demand in the Asia-Pacific region. They also play the role of market leaders in the world, defining trends and dynamics of oil demand.

In Japan, unlike many other countries in the Asia-Pacific region, there is a decline in oil consumption. At the same time, Japan has a mature economy and a developed energy market. It should be noted that the decrease in energy demand is typical for many developed countries of the world. Japan is no exception.

Japan’s primary energy consumption has decreased by 12% over the last decade. The main factors that played a decisive role in this were the success in improving energy efficiency, increasing the fleet of used electric vehicles and hybrid cars, the growth of the share of renewable energy sources in the structure of the national energy balance.

As a result, the demand for oil in Japan decreased significantly. In 2008, the capacity of the national oil market was 4.8 million barrels per day. In 2018, Japan purchased, on average, 3.9 million barrels per day for its needs. For 10 years, Japan’s demand for oil decreased by 19%. And this is a great achievement.

However, for the Asia-Pacific region, the situation in the energy market of Japan is rather an exception to the general rule. More and more oil is used in the interests of its economic development not only China and India, but also South Korea — the fourth country in the region in terms of GDP.

In South Korea, the closing “five” of the world’s largest importers, the demand for oil is not developing as actively as in China and India. Over the past 10 years, South Korea’s oil market capacity has increased by 0.5 million barrels per day, or 21%. Last year, the demand of the local market was 2.8 million barrels per day, and in 2008 it was 0.5 million barrels less — 2.3 million barrels. The demand for oil is growing steadily, but at a more moderate pace than in China and India.

In recent years, South Korea has been actively diversifying its oil supply geography. Progress is noticeable: last year, the share of Middle East oil in the structure of imports of this type of energy raw materials has decreased significantly — from 82% in 2017 to 75% in the first 10

The Global LNG market is expanding rapidly, and the share of the Asia-Pacific region in the global LNG trades, where the largest importers of LNG, have been further strengthened due to the rapid growth of consumption in China and increased demand in other countries of South-East Asia. According to estimates GIIGNL, Asia has sold 76% of the total volume of LNG in 2018. As for coal, another important fuel, which accounts for 27% of the global energy balance, only China and India consumed more than 60% of its global supply in 2018. The increase in energy consumption due to economic growth and population growth in Asia also affects other energy segments of the region.
months of 2018. However, we must admit that now the dependence of the energy market of South Korea on oil supplies from the Middle East remains very significant.

In an effort to reduce geopolitical risks and ensure stability even when oil production from traditional Asian suppliers is declining, South Korea has begun to buy more oil from reliable suppliers such as Russia, the United States, Mexico and the United Kingdom. The increase in oil imports is supported by lower prices for liquid hydrocarbon, increased fuel consumption in the transport segment, wider use of liquefied petroleum gas (LPG) and naphtha in petrochemicals.

South Korea has its own oil production. However, the volumes are insignificant, which predetermined an important role of oil imports in meeting the energy needs of the country. A curious feature: oil imports are growing faster than dictated by domestic demand. The reason is that significant volumes of imported oil are re-exported after refining.

According to official statistics, in 2018, the export of oil products and petrochemical products by South Korean oil refining companies reached a record level. Last year, Korean oil refineries shipped a record number of products for export — 493 million barrels. The most significant contribution to this achievement was made by the Korean oil refining companies SK Innovation Co., GS-Caltex Co., S-Oil Corp., Hyundai Oilbank Co.

Turning to the historical retrospective, we will find that China and India have also increased oil imports at a rate significantly ahead of domestic demand over the past 10 years. However, the reason is different. Not only that, as already noted, the demand for energy has been growing rapidly in these countries. Own production also lagged far behind in the development of the rate of increase in demand. This lag had to be compensated by imported oil — in addition to the volumes that were used to meet the growing demand for oil.

Overall, the amount of domestic oil production in China is stable. It even went down a little. If in 2008 China produced 3.81 million barrels of oil per day, in 2018 — 3.8 million barrels.

The situation was similar in India. However, in this country oil production has grown a little. During the considered 10-year period, the amount increased by 50 thousand barrels per day — from 820 to 870 thousand barrels.

Of course, this increase did not play a significant role in meeting the rapidly growing additional demand. Therefore, the dependence on oil imports of the country’s economy has become increasingly sensitive.

It is not surprising that as a result, the volume of oil imported to China for 2008-2018 increased by more than 2.4 times: from 4.5 million barrels per day to 11.0 million barrels per day.

11 million barrels per day is about 15% of global oil imports and 11% of global oil consumption. This amount is comparable to the daily oil production in Saudi Arabia or Russia.

The total share of China, India, Japan and Korea in global oil imports increased from 26% to 33% during the period under review. Accordingly, the entire Asia-Pacific region consumes more than a third of the world’s oil exports by oil-producing countries.

As you can see, over the last 10 years, the energy market of the Asia-Pacific region has been developing very actively. Will the momentum continue in the future? There is some doubt about this.

Many experts believe that China has passed the peak of active economic growth, further development will not be so rapid — the growth rate will become more moderate. On the other hand, China has formed the economic prerequisites for the transition to a more rational mode of energy consumption; the country is seriously engaged in improving energy efficiency. There is no longer a monopoly of oil products in transport: the use of gas motor fuel, the expansion of the fleet of electric vehicles, and in the future the use of hydrogen fuel will become factors constraining the growth of oil demand. The prospects for renewable energy use should not be discounted.

Dynamics of oil consumption and import growth (2008 – 2018, %)

Yes, there is a high probability that the growth rate of oil demand in the Asia-Pacific region will slow down in the foreseeable future. Nevertheless, the positive dynamics of demand will continue. Given the size of the market, we can confidently say that the importance of this region as a center of demand formation will continue — the Asia-Pacific region will remain the target market for oil exporters for a long time.

An additional factor determining the increased interest in this region was the change in the situation in the US oil market — a country that has long been the largest importer of oil, thanks to the success in the development of its own oil production, is steadily increasing its export potential, less and less in need of imports of hydrocarbon raw materials. As a result of such changes, the attractiveness of the APR market for oil exporters increases.
Work-life balance in the middle of the ocean

In the North Atlantic Ocean stands an 826,733 ton (750,000 tonnes) engineering feat: a man-made island that, day and night, plays its part in supplying the world with energy.

Welcome to Hebron, one of the world’s largest offshore oil production platforms and a truly unique place.

First, take its location in the Jeanne d’Arc Basin, a patch of ocean some 200 miles (322 kilometers) off the coast of Newfoundland and Labrador, Canada – an area where the thermometer regularly drops to 20°F (-6°C).

Then, there is the structure itself. Measuring more than 787 feet (240 meters) from top to bottom, Hebron is a skyscraper anchored to the ocean floor. Holding it in place is a gravity-based structure (GBS), a foundation made of concrete that ensures Hebron can withstand the harshest storms and sizable icebergs that float around it. More cement was poured to build the GBS than was used to build the entire Hoover Dam in the U.S.

Everything about this manufactured island, designed to produce approximately 150,000 barrels of oil per day at peak, is mammoth and remarkable. At any given time, close to 220 personnel are on the platform working, or, when they’re off-duty, simply living.
And so, within this grand structure, there are small moments of daily human life. Walk through Hebron’s living quarters and you’ll see workers breaking bread or enjoying a game of pool. Hebron is unique because it’s a place where the normal coexists with the extraordinary.

**Securing a round trip to Hebron**

The trip starts at a large training pool in St. John’s.

From Newfoundland and Labrador’s capital, St. John’s, it takes a Sikorsky S-92 helicopter about 90 minutes to transport workers to the platform. At the heliport near the St. John’s airport, the 17 passengers making the trip are strapped in, with their survival suits fully zipped up.

The truth, though, is that the journey to Hebron begins well before stepping onto the helicopter.

It all begins outside St. John’s at a high-tech training facility called Falck Safety Services. That’s where anyone visiting or working on Hebron has to attend and pass a battery of safety classes. This training, a representation of ExxonMobil’s unyielding objective that “nobody gets hurt,” is the tollgate for all who are aspiring to set foot on Hebron.

One of the more demanding sessions teaches participants to escape a helicopter submerged in water. Spread over two days, most of the class takes place in a pool large enough to fully submerge a helicopter cabin.

Wearing their survival suits fitted with a small oxygen tank (known as a Helicopter Underwater Emergency Breathing Apparatus, or HUEBA), a dozen trainees are strapped inside a replica of a helicopter cabin, waiting to be submerged. When the top-heavy cabin hits the water, it over turns a full 180 degrees. At the pool’s edge stand instructors in scuba diving equipment overseeing the simulation and ready to help at a moment’s notice.

“Emergency response training, including training for offshore travel, is an important part of working offshore, because it ensures everyone is as prepared as possible,” said Zayra Power, a safety and health specialist at ExxonMobil in St. John’s.

Passengers have roughly 30 seconds, or the amount of oxygen in their HUEBA, to unbuckle their belt and exit the shell. If they’re sitting next to a window, they must push it open and swim out.

To pass, trainees have to successfully exit the helicopter at least five times, including once on the aisle seat and another time by the window. It’s tiring, grueling work, but it’s the only way to secure a round-trip ticket to Hebron.

**“Measuring more than 787 feet (240 meters) from top to bottom, Hebron is a skyscraper anchored to the ocean floor.”**
On the platform, sights and sounds

Hebron is full of action - producing energy is just one of them.
In addition to its size, the other striking element about Hebron are the sounds – they offer a reminder of the constant activity animating the place. Announcements on the PA system cut through the hustle and bustle. And, twice a day, helicopters – weather permitting – arrive from St. John’s to shuttle workers back home or drop off replacements who are starting their 21-day shift. All the while, the rumble of the ocean surrounds daily life.

The buzz of activity remains steady both on and off the platform. Supply vessels deliver food and supplies critical to Hebron’s daily operations. Every month, 30 containers of food are shipped to serve about 25,000 meals. The Hebron platform has three pedestal cranes that manage approximately 2,700 lifts a month from the vessel or around the platform. Last year, roughly 22,000 tons of above-deck cargo was delivered to Hebron.

Drilling on Hebron is managed from the drilling control center, where operators work in relative quiet. Inside, much like pilots monitoring flight controls inside a plane’s cockpit, operators oversee multiple screens displaying things like the rotational speed and angle of the drill bit winding through the seafloor hundreds of feet below.

“As drillers, we drill wells from start to finish. Our goal throughout is to safely connect the platform to the production reservoir,” explained Hebron’s drilling superintendent, Craig Rogers. “This is a team effort. We rely on many other people to ensure our wells are successfully drilled,” added Rogers.

From Hebron’s space-age control room, technicians oversee thousands of moving parts and processes. Those include the platform’s daily production and the amount of oil accumulating in its tanks, which are capable of storing more than 1 million barrels. Technicians have a “twin” who shadows the platform’s operations from an exact replica onshore support room in St. John’s, hundreds of miles from the heart of the action.

The platform’s five production wells currently produce about 100,000 barrels of oil per day.

Hebron after hours

Some jam, while others play pool or watch a movie
Downtime on Hebron can be spent shooting the breeze over a meal or playing pool. Off-duty workers rock tunes in the jam room while others stream a movie to relax.

It all happens in the platform’s living quarters, a seven-story facility with the look and feel of a comfortable Caribbean cruise ship.
We typically discuss what we did on our previous time off, how our families and friends are and what’s new in our lives,” added Power.

Free time is an opportunity to rest, eat and recuperate from the demands of operating this giant structure. The platform sleeps up to 220 people during normal operations. Rooms are big enough to fit a bunk bed, a bathroom and a two-person sofa.

In the dining room, chefs specialize in serving hearty comfort foods like overflowing omelets, thick steaks and pork stir-fry. Eggs are a particular staple for the crew. Every year Hebron workers consume more than 100,000 eggs. “Honestly, it’s some of the best food I have ever tasted,” noted Rogers.

A few steps from the dining room, workers play pool or cards in the employee lounge. On some nights, the muffled sound of tight guitar riffs seeps out of the jam room. Music is a big deal for the Hebron community, especially for Rex Goudie, who was the 2007 “Canadian Idol” runner-up. “Thanks to my music career I was able to build the type of work ethic that led me to be out here as a mechanic with ExxonMobil,” said Goudie.

Day and night, Hebron’s living quarters are a capsule of normalcy in a place that is anything but.

For workers ending their three-week shift, departure day is filled with some excitement. By the time the helicopter lifts off to begin its 90-minute journey back to St. John’s, passengers are buckled up and their travel bags are stored. As the departing group gains altitude, the platform morphs into a tiny speck surrounded by the infinite ocean. The contrast is a stark reminder that Hebron is a single cog in a vast chain that provides the energy the world needs to grow and prosper.

The Hebron co-venturers are: ExxonMobil Canada Properties, Chevron Canada Limited, Suncor Energy Inc., Equinor Ltd., Naicor Energy – Oil and Gas Inc.

“Day and night, Hebron’s living quarters are a capsule of normalcy in a place that is anything but.”
Results of the “Gold legacy” competition were summed up. Fourteen winners will receive a scholarship from the Russian National Committee of the World Petroleum Council (Golden legacy of WPC). Scholar’s diplomas will be awarded in the solemn atmosphere: all expenses for the trip to St. Petersburg and participation in the 6th Youth Forum of the World Petroleum Council — Future Leaders Forum will be covered by the WPC Russian National Committee.

The “Gold legacy” scholarship was established by the RNC of WPC in 2015 to encourage distinguished students and postgraduates with an active life position in their studies and research work. At competitive selection of scholarship recipients takes into account criteria such as a high candidate GPA (above 4.75), the presence of academic, sporting, creative, social and other documented achievements. All applicants wrote an essay on “Why am I worthy of the scholarship” and recorded a video message in English on “My place in the oil and gas industry.”

“One of the important areas of work of the World Petroleum Council is the support of educational programs. WPC Russian National Committee actively participates in this work. In particular, from its own funds, it awards the scholarship to outstanding students of profile specialties. Money is not large. But the fact that you were chosen as the best, winning the competition, public awarding — all this is a very good incentive for the scholarship holder and a positive example for other guys”, said Senior Vice-president of the World Petroleum Council, Deputy Chairman of the RNC of WPC Anatoly Zolotukhin.

“Specialists for the oil and gas industry are trained by many universities in the country, results of the competition fully reflect this fact — as a result of the competition, scholarships were awarded to representatives of 12 universities from different regions of Russia: from St. Petersburg to Vladivostok. It is fair that the next “Gold legacy” scholarship holder will become participants of Future Leaders Forum. After all, they not only learn well, but also show an active life position”, said Vlada Streletskaya, Director of the RNC of WPC.

The 6th Youth Forum of the World Petroleum Council — Future Leaders Forum is held in St. Petersburg on June 23-28, 2019. This is the largest international platform for professional communication of young professionals in the oil and gas industry. Young people, as well as modern industry leaders and veterans from about 60 countries, will attend the Forum.

Winners of “Golden legacy of WPC” competition:

- Valentina Bliuk (Gubkin University)
- Dmitrii Ermolovich (Novosibirsk National Research State University)
- Maksim Ivanov (Ufa State Petroleum Technical University)
- Roman Inshakov (Far Eastern Federal University)
- Arslan Isaev (Dagestan State Technical University)
- Marcel Kadyrov (Tyumen Industrial University)
- Aleksandr Kormishin (MGIMO University)
- Grigorii Krivilev (Udmurt State University)
- Viktor Morev (Tomsk Polytechnic University)
- Dmitrii Nechaev (Tomsk Polytechnic University)
- Ivan Perepletkin (Tyumen Industrial University)
- Valeria Starshaia (Saint Petersburg Mining University)
- Miliausha Urazaeva (Kazan (Volga region) Federal University)
- Artur KHisamov (Bashkir State University)