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DEVELOPMENT

ENERGY PANEL
World Energy in Search of Balance

Thesis
for the speech of I. Sechin
Golden Era or Energy:
Protectionism, Market or Manual Control?

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Dear participants and guests of the Forum!

I am very happy to welcome all the guests who are participating in our meeting today and to express confidence in very fruitful nature of the forthcoming debates.

I would like to particularly acknowledge the participation of the Minister of Energy of the Russian Federation Alexander Novak, the Heads of our esteemed strategic shareholders - Robert Dudley from BP, Qatar's Finance Minister Al Emadi and the Head of Qatar Investment Authority (QIA) Mister Mansoor Ebrahim Al Mahmoud, the Heads of our partner organizations, the Head of the China National Petroleum Corporation Van Ilin, the Head of Baker Hughes Lorenzo Simonelli, the Head of Glencore Ivan Glasenberg, the Head of DeGolyer John Wallace, the Head of ExxonMobil Neil Duffin, the Head of Equinor Eldar Saetre, the Head of Trafigura Jeremy Weir, the Head of Vitol Russell Hardy, the Head of Gunvor Torbjorn Tornqvist, and the representative delegation from Venezuela, the Ministers of Oil of Angola, Iraq, the ambassadors of Portugal, India, Mozambique, Qatar and Venezuela, the Heads of the Russian regions.

I would also like to express my sincere gratitude to our moderators, Doctor Nobuo Tanaka and Evgeny Primakov and to all the dear partners and the guests of the Forum.

The discussion during the SPIEF is being held under the sustainable development agenda, but we are having it in a very difficult period of time. **There is a mass of crisis phenomenon**

which has accumulated in the global energy market in such way that the key issue is “whether we have already passed the point of no-return or not”. Because today the market principles and mutually beneficial dialogue have been relegated to the background and the strategy of regulatory pressure and unilateral sanctions are in the forefront.

Energy as one of the most global industries which play a revenue-generating role in most countries has become the first hostage of the unilateral political agenda and we see this disease in spreading into the other industries. The only **global regulator is not only unbiased but is in a very evident way servicing local interests. Therefore, rephrasing the famous President Trump slogan “Make America great again!”**, I would like to appeal to the participants of this session to make the today debate slogan, and maybe the slogan for the all subsequent work to be such slogan as “Let’s make the market great again” or, for our Latin American friends, “Vamos a volver la grandeza propia al mercado!” in Spanish.

Our discussion has been always taking place in a very productive way through an active involvement and the experience of my colleagues. I hope that this discussion will be as fruitful, interesting and important for the world energy.

I must note the limitation of liability, due to my presentation containing various statements of outlook.

1. Challenges, Threats and Uncertainties of the Global Energy Transformation

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.

The main accentuation comes from the current policy of the US administration. We see that they are trying to reform the world economic and political space, to break down the market links that have been established for decades and to eliminate the rules of competition. The sanctions and the trade restrictions are being showered not only upon various nations treated as “pariahs” but also upon the traditional partners amongst traditional American allies.

What are the reasons behind such policies? I believe they are coming from the growing awareness of the critical weakening of the role and capabilities of the United States in the global economics and politics. Of course, it didn't happen in a year or two, but in recent years it became evident that America is losing its dominant position in the world. Back in 2000 the US supremacy over China in terms of the GDP was almost threefold but today China surpasses the USA in terms of the GDP in terms of the purchasing power parity by almost 25%. According to many analytical estimates, by 2050 the Chinese economy's supremacy over that of the USA in terms of GDP estimated in terms of the purchasing power parity would be twofold. Even today the position of the PRC, including its role as the largest creditor of the American administration with over 1.1 trillion dollars of the US treasury bonds belonging to China,

makes it possible to say that it has very powerful tools to influence the US economy.

In these conditions the USA aims not just to accelerate its own economic development, but also to decelerate the quantitative and qualitative growth of its main competitors, **which increasingly leads to the loss of moral leadership by the US, since this country historically was one of the key ideologists of the open market and competition.** Examples here are the continuous expansion of the spectrum of sanctions (currently the prospect of sanctions against countries devaluing their currencies is under consideration) and blocking the development opportunities for the competing companies in other countries (companies of the Russian energy industry, including, for instance, international technological partners of the Nord Stream 2 project – Saipem and AllSys, and, finally, Huawei).

It is the oppression of competition that became the dominant feature of the economic and foreign policy of the USA, while the use of forceful approaches to solving problems has turned into a special American style of doing business, or, quoting the recent statement by the Chinese deputy foreign minister Mr Zhang Hanhui, into **a style of “naked economic terrorism and chauvinism”.**

As an eloquent example one can point to the Rusal company's case, when as a result of several iterations of sanctions the control of the company and, consequently, the aluminum industry of the Russian Federation, was effectively given up to the US Administration, and considering the majority stake in the Norilsk Nickel, not just aluminium, but nickel, copper, platinum, palladium and other industry segments

connected to production of nonferrous and precious metals as well.

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, specifically through the actions, policies, and, if you’ll excuse me, even tweets of the global regulator represented by the US leader.

These Twitter comments create nothing but short-term one-time price fluctuations for the oil and gas industry.

In other words, the policy of the global regulator creates uncertainty of the general vector of development and high volatility at the markets. That’s why we would like to focus our discussion on the issues of overcoming external threats, reducing volatility and increasing the stability of the global energy community.

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 are expecting relatively high rates of growth to continue, which is the basic driver behind the growing

energy consumption.

The second 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 reserves 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 this 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, since a number of countries consider this area as potentially dangerous. 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.**

2. Carbon-Free 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 assumptions 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.**

An illustrative example in the market becoming aware of clouded commercial prospects of landmark projects in the field of “new energy” are electric vehicles. I spoke in detail about this phenomenon of overestimation two years ago, in June 2017, when Tesla’s share price was at 340 dollars per share. Those who heard me then and divested, could earn good money, because the current price of Tesla’s shares does not exceed 200 dollars. **But those of you who hear me today will be able to earn even more.**

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.

3. USA - Golden Age of Energy or Election Campaign Pledges?

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. After all, investors perceive oil as the largest component of commodity markets, not only as just a separate asset class today. Since the mid-2000s, oil has become more reactive to financial flows in response to growth or reduction of risks, effectively assuming a central role in the intersection of financial and commodity markets.

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 undoubted 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.**

The American Golden Age for the rest of the marketplace may turn out to be the age of energy colonialism. Now, should the energy consumers in the world become hostages to this continuous electoral race in the United States?

The global energy industry has become a hostage to politics. We warned more than once about the danger of unilateral solutions and the lack of dialogue. **It is evident that this disease is spreading and encompasses more and more industries.** The United States, in order to exert pressure on the oil and gas sector, select the countries whose budgets are

primarily being maintained from the export of energy resources. In addition to this direct pressure, there is also an indirect one - for example, some of the countries turn out to be cut off from the support by IMF which this way undermines the fundamental principles of their work.

Sanctions attain new dimensions. **For example, the US Administration is intending to introduce sanctions against the countries which somehow allegedly manipulate their currencies, while at the same time we understand the complexity in understanding** the true reason behind it. The American and international companies are being called upon through President Trump's tweets, for example, like in May this year, to relocate their productions into the United States territory in order to avoid various regulatory pressures. The same regulator is vigorously using the tool of financial markets adding new competitive advantages for American companies.

A very iconic step in spreading of this sanctional disease is the situation with one of the Chinese technology leaders, the Huawei Company, which is directly being pressurised through such measures as the arrest of its CFO, and the prohibition to American technology companies, including Google and Intel, to cooperate with Huawei.

I believe that the Chinese colleagues have a sufficient number of instruments to respond, so **the discussion in the media about the possibility to prohibit the export of the rare-earth metals as their response may be well-founded. Such a mechanism of response could be quite effective -**

simply because 80% of the rare-earth metals in the world are being produced in China.

China pursues its policy in a very constructive and transparent way. For example, on June 2, China announced its **White Book which is the list of main rules of bilateral trade and investment relations with the US.** Interesting that this document contains direct accusations of the United States' lack of sincerity in various provocative measures. It becomes evident that **China in no way will compromise in terms of some principle issues** which may bring about an additional round of tariff contention.

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 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 to 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 together 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 impunity of the U.S. sanctions policy in the absence of a reaction from the world community contributes to its replication in other energy markets. **According to the US Department of Energy, its efforts to develop gas exports "allow the U.S. to export molecules of its freedom across the globe."** In early May, the US Department of Energy issued permits for LNG exports from two projects, currently under construction, with a total capacity of 60 billion cubic meters of

gas per year. This LNG is actually "intended" for Europe, since the US Administration and Congress have repeatedly made it clear they will not allow an increase in Russian gas supplies to Europe. In this regard, the US Secretary of Energy Rick Perry's comparison that "it is better to buy an expensive Mercedes or BMW than a cheap car, and it is better to buy expensive American gas than cheap Russian one" is rather peculiar.

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.

Further growth of Texas production may require a "new sanctions prey". This "prey" country may be subject to US sanctions in order to supply Texas oil to the market instead of this country's oil. Any production country can become such a prey.

Increasing US pressure on the world oil market would have been impossible without changing the US status as an oil exporter. Since the 40-year U.S. export ban was lifted at the end of 2015, the USA. has been increasing oil exports at an extremely fast pace: compared to 2015, its oil export has grown 6 times and has already reached 2.7 million barrels/day which is comparable to production level of such countries as Brazil, Kuwait, the UAE.

Sales geography is also expanding. Before, American oil was exclusively purchased by the nearest neighbors. Today, more than 40 countries are importing American oil.

Active construction of pipeline and port export infrastructure will allow to almost double the oil export volume from the US – up to 5 million barrels/day in the coming years, as well as to create "reserve capacities" for further production growth. In particular, according to current estimates, the surplus of pipeline infrastructure will amount to around 1 million barrels/day by the end of 2020. In 2020, the United States will become a net oil exporter, with US oil and petroleum products exporting capacities reaching 9 million barrels/day by 2024.

Shale oil investors, including major ones, are primarily attracted by the **expected high profitability** of these projects, with expected profitability of largest companies exceeding 30-40%. This largely explains continuous high activity level of financial investors and private investment funds in this market. **The phenomenon of the "second generation shale**

revolution" does not consist of just an increase in production. It is also the creation of an interconnected system of production, infrastructure and service companies, scientific and technical organizations as production growth is unthinkable without new technologies. Taking into account the large-scale entry into the shale market, majors create their own integrated service units to consolidate technical and specialized commercial skills in the field of exploration and production, allocating competence centers of new technologies and innovations, as well as to mobilize resources to work with American shale production.

At the same time, the shale revolution will almost triple the emissions of the American oil and gas industry due to gas combustion. Meanwhile, data collected from satellites and official state data on gas combustion differ significantly, which once again emphasizes the real environmental risks of shale production.

The second stage of shale revolution allowed to postpone the onset of shale production peak from mid-2020s to early/mid-2030s. However, it is not clear whether it will be able to provide long-term supply growth. I invite the participants of today's panel to discuss these issues.

4. The response of global industry – countries and international companies

Taking into account external challenges and volatility, we see the effect of increased competition for investment, primarily

in terms of reducing the tax burden and creating a variety of incentives. Let's call it a **phenomenon of "competition between tax regimes"**. At the same time, I would like to draw your attention to the changes in tax regimes in regulatory countries or, as my friend and colleague Ed Morse calls them, the “triumvirate of the Eagle, the Camel and the Bear”.

Unprecedented measures have been taken in the US in recent years to support the industry by reducing tax burden and regulatory barriers. The flexibility, speed and determination of the US regulatory body in solving the fiscal problem for the industry deserves general recognition.

In the USA, unprecedented measures have been taken recently to support the industry through the reduction of the tax burden and regulatory barriers. **The flexibility, speed and decisiveness of the American regulatory bodies in addressing the fiscal challenge facing the industry deserve general recognition.** In particular, the income tax reduction (from 35% to 21%) allowed shale companies to significantly increase their investments. Due to all tax breaks and better pricing environment, the industry was able to demonstrate in 2018 a small but still positive free cash flow. Low costs of dollar financing, control of interest rate growth and high availability of both private and public funding are important components of accelerated investment growth.

As a result of tax burden reduction in Saudi Arabia since

2017 (with profit tax rate dropping from 85% to 50% and lower royalty rates), the national oil and gas company SAUDI ARAMCO was able to reach by the end of 2018 a world's record in net profit, exceeding 100 billion US dollars. Here I would like to note separately that SAUDI ARAMCO also receives **additional nontax incentives, including compensations for low domestic prices, which amounted to US\$ 41 billion over the last year.** It is worth noting that the decision on such incentives was really difficult and fateful for the country, considering that its budget is balanced at a level above US\$ 85.

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. Here we would like to express hope for the restitution of market-based regulation and pricing principles allowing elimination of imbalances in the oil products market.

The world's largest energy companies, for their part, responding in many instances to the policies of fiscal regulators, adapt differently to long-term changes in the energy market and requirements of the climate agenda. While in the past their priorities were more common, now different companies are betting on different businesses.

American companies such as EXXON MOBIL and CHEVRON are increasing their investments in shale extraction and link their future with such projects. EXXON MOBIL, for example, plans a nearly 6-fold increase in shale hydrocarbon production from the current approximately 200 thousand barrels of oil equivalent per day to levels above 1.1 million barrels of oil equivalent per day by 2025. CHEVRON's plans, despite the failed deal with ANADARKO, are no less ambitious. The company anticipates a threefold increase in shale oil and gas

production from the current 300 to 900 thousand barrels of oil equivalent per day by 2023.

To achieve these goals, both companies integrate their assets in the Permian basin throughout the value chain. EXXON MOBIL also created a dedicated technology and internal service centre in the form of EXXON MOBIL Integrated Solutions company. All of the above allows to realize additional synergies and to fulfil the stated tasks.

Other companies, such as ENI and TOTAL, by contrast, focus on “traditional” extraction.

Another business direction, which became a priority for a number of companies including SHELL, BP and TOTAL, is represented by the deep-water shelf development.

At the same time, EXXON MOBIL, SHELL, TOTAL and ENI put a special focus on LNG business development. Do not forget that in the USA the companies are facing excessive gas volumes, which, in fact, is a **by-product** of shale oil extraction, and such focussing represents for them a least-evil solution mainly. As a result, LNG projects to be commissioned at the Mexican Gulf Coast potentially will allow these companies to apply dumping prices, thus squeezing the competitors from traditional markets.

A number of companies including TOTAL, EQUINOR and BP, place their stakes on the **development of renewable energy**. EQUINOR for example plans to direct 15-20% of its capital investments in renewable energy by 2030 against the current 5%. TOTAL aims to increase the share of low-carbon businesses in its portfolio to 20% in twenty years and become a leader in the field of solar energy. BP intends to invest up to half a billion dollars annually in "**green**" energy.

Even more ambitious targets related to the reduction of greenhouse gas emissions are set by SHELL, who is planning to cut emissions by at least a third by 2070 via increased gas production and alternative energy development.

SAUDI ARAMCO, in its turn, focuses on the development of **refining and petrochemical businesses** (as part of the capital investment program of up to US\$ 500 billion over the next 10 years). American companies have been selected as one of the key partners in these projects. At the same time, in the absence of any transparent data disclosure that was expected as part of the company's IPO, which never did take place, objective market information on the volume of recoverable reserves of Saudi Arabia is not yet available.

A separate phenomenon that needs to be noted consists in

the growing importance and the beginning of penetration into the oil and gas industry of such technology leaders as GOOGLE, APPLE, AMAZON and FACEBOOK, the companies who are mainly of the American origin. We can see their significant investments in the development of all-purpose technological solutions for processing large data arrays, creation of alternative transportation means, including unmanned vehicles and “sharing economy” ecosystems, as well as in the sphere of financial and currency instruments, and these investments are being made at the earlier unheard of speed and on a really global scale.

It may appear **that all of us will soon pay for oil barrels with Facebook’s cryptocurrency “Global Coin”, which is at the very minimum proof of the fact that some of the present here are involved not in the right business.** At the same time, one may get an illusion that technological giants will make the energy market fundamentally more transparent and efficient, having become a panacea in addressing today’s most complicated challenges. Greater flexibility often means higher volatility, and digitalization causes risks for commercial confidentiality and leads to the need for creating new mechanisms of regulation, new reservation. **Today tech companies do not have quality solutions for these crucial issues.**

Besides, I would warn our colleagues and ask them to realize the incredible power of tech corporations, while **the opportunity to use their global status and the access to**

information are too tempting for various authorities from one big country. Hence, I tend to think that regulatory, sanctions, and customs-tariffs imbalances are most likely to strengthen as American tech companies enter the energy market.

4.1. Industry response: Russian companies

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.

This priority is indicated, first of all, by the instructions of the President of the Russian Federation on the development of the Northern sea route, formulated with a deep understanding of the resource potential of the region and its Central role in terms of access to both Asian and European markets.

As traders say – with a good opportunity of arbitration in the directions of delivery.

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.

As you already know, my colleagues from BP, with whom we have joint projects in the area of the Taimyr Peninsula, mining companies in the region, in particular, Payakhskaya group of fields, recently received outstanding results in terms of productivity of **exploration drilling**, bordering with the highest rates that have ever been registered in Russia, and in the same Saudi Arabia – 720 tons per day with 3-mm fitting on the flow controller at the wellhead. I specifically mentioned the cross-section of the nozzle, because at a five-millimeter this inflow could be more.

According to conservative estimates, the dry land north of Krasnoyarsk Krai contains about 5 billion tons of oil resources.

We have already reported the results to the senior officials and received support for the realization of the project. The project in question is an integrated project that would include the resource base and the infrastructure of the active oil fields of

Vankor, Suzun, and Tagul as well as of a number of new big oil fields located to the north of Vankor, namely the Payakhsky and the Zapadno-Irkinsky oil group in the Russian Arctic.

We are currently working with the Russian government concerning the legislation of a complex of investment incentives allowing to ensure the efficiency and global competitiveness of the new Arctic cluster which would become the main supply stream for the Northern Sea Route and would loudly announce itself on the world stage.

The development of the new regions would be supported by the continual technological modernization of the Russian oil industry. Exploratory drilling is steadily increasing in Russia, with the technology upgrading and the rate of horizontal drilling has already reached 50%. As noticed by some analysts, the increase in horizontal drilling in Russia corresponds roughly to the American figures with a backlog of around ten years. It should be noted that the same analysts admit that in Russia there is no need of widespread application of technologically sophisticated and expensive drilling equipment at the traditional oil fields, as the structure of Russian resource base is already one of the best in the world.

Russia is also the world's largest gas exporter, being for more than 50 years a reliable and favorable oil supplier to Europe. At the same time, if you let me be a bit ironic here – **in spite of complete identity between molecules of our methane and molecules of American methane, Russian gas is 30 percent cheaper than the American LNG.**

5. New company's horizons

Let me say a few words about Rosneft. Our first and unconditional priorities lie in care for the environment, safe working conditions, and preservation of life. Thus, the first point of the strategy “Rosneft-2022” is the development of safe and environmentally conscious business. By 2022 the strategy aims at entering the first quartile of international oil and gas companies in the field of industrial safety, labor protection, and protection of the environment.

Recently we intensified our commitment to these aims and shared the goals of sustainable development of the UN. Two days ago, we also joined the initiative of two leading

international oil and gas companies and signed the “Guiding principles for reducing methane emissions.”

In terms of financial and production performance, the Company has come a long way and today ranks among the world’s energy leaders. I want to cite several figures characterizing the dynamic of the development of Rosneft within the last 20 years:

- The hydrocarbon extraction has increased 17-fold, reaching 286 million tons in 2018. The share of the Company in the world oil extraction has increased from 0,4 to 6 percent.

- The revenue increased more than 240-fold, and the investments increased 160-fold. Today Rosneft’s investments are in every twelfth rouble in Russia. The share of Rosneft in the GDP of the Russian production sector exceeds 15 percent.

- **Tax payments of Rosneft play an important social role, and for this reason, the development of the Company and the growth of new investment-related revenues are such a priority. Today annual Rosneft’s rent extraction payments only are about 15 thousand roubles per one inhabitant of Russia (or around 50 thousand roubles per year per one Russian pensioner).**

An important factor of sustainable the competitiveness of Rosneft is undoubtedly the technological development. The realization of advanced technology allows the Company to achieve great success in geological exploration and unprecedented stock increase. Following the 2018 results, the replacement ratio of proved reserves reached 173%. Wireless seismic technology is now in the final stage of development. It has shown the potential of increasing the speed of the seismic survey by 2-4 times, the increase in quality, and a reduction in the production cost.

Technological extraction opens to us new horizons in terms of tight and highly viscous oil, the volumes of production of which increased by 16% in 2018 in comparison with the rate of 2017 and reached 19 million tons. This is an important step towards achieving the aim within the strategy “Rosneft-2022” which concerns the extraction of 33 million tons of highly viscous oil in 2022, which represents a more than fourfold increase over the 2014 rate. The highest possible rate of extraction can be reached after 2025, with the estimated life of such reserves of more than 60 years.

As an example, Rosneft has elaborated its own highly technological base for drilling fluids “Rosneft Drilltec B2,”

which would increase the efficiency of drilling complicated horizontal holes and reduce the environmental impact. The new product is characterized by lower viscosity and excels its analogs in technical and operational parameters.

Putting into practice the horizontal drain holes, especially those that use multi-stage hydraulic fracturing treatment, is among leading technologies when producing such reserves. In 2018 approximately 100 drain holes with an increased amount of hydraulic fracturing stages were placed in operation having a length not exceeding 1 km. A multi-stage HFT developed by our team allows to increase production from elaborate geologic beds, and not a single HFT technology had succeeded in this endeavor earlier.

The fishbone multi-branch well construction technology allowing for up to 7 branches and with a total length exceeding 6 km has been picked up and applied successfully with 81 such wells drilled in 2018.

Last year I mentioned a splendid opportunity to improve B2G interaction drawing from a telling example of economic changes and prolonged production of a significant Samotlorskoe field. Within only one year period, one can already see the

results of the provided incentives. Thanks to the production increase in 2018 due to the said incentives the extra 20 billion roubles went to the federal budget not mentioning the increasing shareholders' returns the controlling shareholder being the Russian Government itself. The tendency of production rate falling 5% each year has been reversed.

It is under these particular circumstances that we are ending our cooperation with the Russian Ministry of Finance in the domain of creating incentives for major signature Rosneft projects both in the Western Siberia and new strategic regions that will allow for perspective production and stable position of our country on the global market for the decades to come. We are working in this direction, and I am confident that the Russian Government will find a response that suits the new phase of fiscal modes competition.

I want to further inform you about an important event for the development of the oil products supply in the Far East. Our company has reached an agreement with the Transneft company on delivering up to 8 million tons of oil each year to the Komsomolsky refinery, which will increase the capitalized refinement efficiency of this object by more than a billion dollars.

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.

I am sure that many among us will be touching upon the market tools disruption phenomenon during the panel discussion to come, but one must not take these discussions as the industry's tombstone. **The companies that have prepared well and taken care of their resource base and those that have made an emphasis on products of demand for customers and that guaranteed themselves the consumer markets will keep on achieving positive results.**

I also do not exclude the possibility that global industry image may change amid possible market exit of the companies that do not possess the features I've mentioned before. As for Rosneft, I am confident that "everything that does not kill us makes us stronger". So, I'm asking you to show some respect to the great progress the leaders of the industry have made despite tactical challenges, geopolitical and price volatility.

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. I am sure that the completion of the projects I have told you about will give impetus to further rapid development of the Company.**

We invite all interested partners to participate in our projects. We have repeatedly proven how effective our projects are.

Thank you for your attention!

I wish you peace and prosperity!