XXIV ST. PETERSBURG INTERNATIONAL ECONOMIC FORUM

ENERGY PANEL "TRANSFORMATION OF GLOBAL ENERGY"

THE SPEECH OF I.I. SECHIN

GLOBAL ENERGY AT THE CROSSROADS

Saint Petersburg
5 June 2021

CONTENTS

Dear participants and guests of the Forum,

I am happy to welcome all guests participating in our today's meeting and to express my confidence in the productive nature of the upcoming joint work.

I would like to specially note that today with us are Bernard Looney, Chief Executive Officer of BP; Neil Chapman, Senior Vice President of EXXONMOBIL; Dai Houliang, Chairman of CNPC and Chairman of PETROCHINA; Robert Dudley, Chairman of Oil and Gas Climate Initiative OGCI; Alok Kumar Gupta, Managing Director and Chief Executive Officer of ONGC VIDESH; Lorenzo Simonelli, Chairman of the Board of Directors and Chief Executive Officer of BAKER HUGHES; Russel Hardy, Chief Executive Officer of VITOL; Jeremy Weir, Chairman of the Board of Directors and Chief Executive Officer of TRAFIGURA; Ivan Glasenberg, Chief Executive Officer of GLENCORE; Rovnag Abdullaev, President of the STATE OIL COMPANY OF AZERBAIJAN REPUBLIC; Jay Prior, Vice President for Business Development of CHEVRON, Karin Kneissl, a new independent member of our Board of Directors.

I would also like to thank the moderators of our discussions Dr. Nobuo Tanaka and Mr. Evgeniy Primakov and all respected participants of the Forum.

On behalf of all participants of our Energy Panel I would like to extend special gratitude to the authorities of St.Petersburg and to Forum organizers for the opportunity to get together again at this wonderful place for collaborative work.

Before we start the discussion, I should of course mention liabilities limitation, as my report has estimates and forward-looking judgments.

This year, we are still working in the challenging conditions of pandemic. Because of this, we have to use a mixed format of communication at the Forum, so some of our collegues have joined us by videoconference.

Slide 1. The scope of the pandemic was understated

We have, on numerous occasions, discussed with you the issue of instability risks' influence on the global markets, but such "black swan" was not concievable, including its swiftness, origination and implications. **If previously we considered the overproduction, imperfect regulation and unilateral sanctions to be the main risks, now these factors turned out to be of lower priority in comparison with the universal disaster.**

The pandemic left no choice to anyone. All countries had to impose the quarantine restrictions, social distancing measures and to curb business activity. At the same time, the quarantine severity and duration, as well as the nature of support to economy considerably varied from country to country. Combined with cultural differences, communication traditions, level of population mobility and medicine development, these factors predetermined the nature and depth of the pandemic-induced crisis.

The creation of vaccines raised hope for the occurrence of herd immunity and created an illusion of a rapid recovery from the crisis. However, the scale of the pandemic, the virus's capacity for mutation and the occurrence of new virus strains were understated by everybody, so the expectations of pandemic fast localization did not materialize. This year, all continents saw new "waves" of the disease and new virus strains. Furthermore, a number of developing countries may actually have a considerably higher virus infection level than statistically reported, due to different approaches to testing and methods of diseases statistical recording.

Now it is hard to say how long the pandemic will last and how much time will be required for economies to recover. Besides, many more uncertainties remain globally, and **it is difficult to make any forecasts, as the set of scenarios is too large even in our energy industry.** Take, for instance, the anticipated lifting of sanctions imposed on Iran. Can we be sure that these constraints are not going to be shoved on other market participants under some pretext?

In addition to the persisting risks, we see some new risks: deteriorating traditional economic relations and closing domestic markets; judicial interference; regulatory policy focused on green energy subsidizing, and something that is very important - a dramatic change of the role of minority institutional investors, which are now influencing the development vector of entire industries.

The new pandemic-triggered risks to be highlighted include **an unprecedented reduction in consumption and business activity,** which entails rapid deterioration of markets stability and creates, among other things, great challenges to the energy industry.

1. Old challenges are supplemented by new ones

The global economy issues have been accumulating over the past 20 years. These include debt, unemployment, widening social inequality and many others. The pandemic made these issues even worse. **One of the outcomes of the pandemic is the regionalization of the markets, which appears to replace the globalism. Each country seeks its own ways, including ways out of the pandemic.** This translates in how borders and markets and opened and closed, how vaccine production and distribution is arranged globally, along with the vaccination itself.

As a result, an additional framework is being created for developing the multipolar world, establishing powerful regional hubs, enhancing the role of national currencies.

The longer the pandemic lasts, the stronger regionalization sings

we will see.

Meanwhile, it is important to avoid confrontation, ensure a constructive dialog, and refrain from huge unproductive expenditures associated with something that results in producing "guns before butter".

Slide 2. Unprecedented economic collapse 2020

Affected by the pandemic, the **global economy saw a record collapse in** 2020– after a decade of growth by almost 4% per annum, the global GDP dropped by 3.3%, or by 3 trillion dollars, which is equivalent to the GDP of France of Great Britain.

The Global **Economy is suffering losses, and unprecedented measures are required to restart the growth**.

Thus, over 16 trillion dollars have already been directed to support the global economy, or more than 15% of the global GDP.

To date, the vaccination covered about 5% of the world population. Even not counting revaccination, **12-14 months will be required to vaccinate 70% of the world population at such pace. Entire regions have no access to vaccines, and the outlook is clouded so far.** Thus, **the occurrence of the herd immunity and the recovery from the crisis will require much longer time.**

Besides, addressing the current challenges **is impossible without additional support and incentives of governments. Without it, the recovery from the crisis would be extremely difficult and result to a no-win situation.**

The pandemic became the key element that affects the life style and policy, making adjustments to the political agenda. It is the pandemic and the progress in countering it that ultimately predetermined the results of elections in USA. In the near future, we'll be able to see its contribution to the shift of the policy elites in other countries as well.

Slide 3. Long-term Growth Not Impacted by COVID

The global economy is on a strong rebound trend, the business activity is reviving. Thus, according to IEA and OPEC, **the demand for oil may recover as soon as over the next 12 month,** and some deficit may be seen in the second half of this year.

The success achieved in countering the pandemic along with the mitigation of economic implications turn out to be competitive advantages of the countries that effectively respond to the changing external environment.

An example of a country dynamically recovering from the crisis is China with their focus on the recovery of the real economy. China succeeded in countering the pandemic because of the high degree of mobilization of all resources, timely-started quarantine measures, prompt-targeted support to the worst-affected industries provided by the government.

Chinese economy demonstrates robust recovery because of the set of actions aimed at minimizing the implications of the pandemic and the support to real production. **Based on 2020 results, the country's GDP grew by 2.3% and may recover to the pre-crisis level as soon as in 2021.**

At the same time, countries that were relatively less successful in fighting the coronavirus had to take additional actions to support their economies, which, along with certain positive effect, may have some long-term negative consequences.

Slide 4. USA: rapid monetary growth resulted in the growth of the share market

This is exemplified by the **monetary growth in USA** . Actions taken by the US Administration resulted in a 25% monetary growth in 2020, which will continue over the next year. These programs for supporting the economy, along with the quantitative easing policy of the Federal Reserve System, make only a limited contribution to the recovery of the real sector.

Slide 5. US stock market: signs of "financial bubble"?

As we see, the US, unlike China, are **stimulating the stock market rather than the real production.** Inrush of funds to the stock market, which capitalization is already more than doubled the US GDP, may entail - as was the case more than once- a considerable correction comparable with a crash of dotcoms [first Internet companies] in early 2000s. Capitalization of a number of sectors is growing without the support of fundamental factors, **thus creating risks to the global economy because of the "bubbles" occurrence in the financial markets**.

Slide 6. India will be making a considerable influence on the shape of the global energy

Along with China, India will become another locomotive of the global demand recovery. A consumption growth in India, which will be seen once the pandemic is over, is going to mean a fundamental systemic consolidation of the country's consumer market.

According to IMF's forecast, India will see a 7.7% GDP growth per annum over the next 5 years, while China's GDP will grow by 5.8% per annum. Demand for energy resources will be growing at outstripping rates in both countries.

The plans of Honorable Prime Minister Shri Narendra Modi to improve energy availability to every citizen of the country will make India the key growth driver of the global demand for energy resources. At that, the Energy Concept of India rather than placing focus on one or two priority areas provides for well-balanced development of all energy sources - renewable energy, biofuels, gas, cleaner use of oil and coal, as well as the transition to new energy sources, including hydrogen. **Such a well-balanced approach promotes long-term stability of the energy sector and the country in general.**

Referring to the image of India as a heavenward Sun god's chariot mentioned by Mr. Narendra, we could safely state that the development of Indian economy will make considerable influence on

the image of global energy.

2. New challenges to the energy industry

Slide 7. (photo)

With growing scale of vaccination and reducing impact of the pandemic on the global economy, the demand for oil will recover and we have to be prepared for that. The demand for energy will keep growing, and new waves of virus disease can only slow down this process, but these cannot stop it.

According to the available estimates, sustaining the current production level until 2040 will require about 17 trillion dollars of investments in the global oil and gas industry, which is about one third of all global investments in the energy industry.

Slide 8. Underinvestment risk: by 2040, more than 45% of the supply shall be ensured by the new production sources

Nevertheless, **the long-term stability of oil supplies is at risk due to underinvestment.** This is due to both requirements of various stakeholders to completely cease investments in the petroleum sector and the aspirations of majors to increase **shareholder value and shareholder returns through stronger dividend payout and shares buyback.** Companies fall under the sway of opportunistic interests of investors. Some companies are forced to implement only those projects that are going to yield short-term returns, and cancel exploration and appraisal of new resources. As a result, oil and gas reserves additions have been at their historical minimum over the past years, **so that certain deficit of resources can already be forecast**. **This trend may become a "new norm" for global majors and result in the resource base depletion. The world runs the risk of facing an acute deficit of oil and gas.**

And this is by no means a hypothetical scenario. **The current situation on the metals market is a result of the previously made decisions.** The major producers of iron ore [BHP and Rio Tinto]

understated the demand, and **the resulted underinvestment in the industry caused the deficit that is now making a global effect.** The iron ore prices started growing in 2020 and have actually doubled by now.

Slide 9. Oil supply deficit threat (perspectives of majors)

Deinvestment in the conventional petroleum business has already entailed a chain of implications: a reduction in profit or losses suffered by some market players, the divestment of tail assets and stronger pressure of shareholders.

It seems that companies shall adjust the format of their interaction with the outer world, considering that investors are placing a stronger focus today on such aspects as environmental programs, investments in carbon neutrality, green rebranding and share buyback costs, rather than paying attention to fundamental financial and operating performance indicators, which enable assessing the current and future perspectives of business in a realistic manner.

Slide 10. The bulk of oil and gas global majors reported losses as a result of performance in 2020.

Energy industry was among the first to suffer from the crisis and became **one of the most seriously affected industries of the global economy** last year, as it was hit by a one-two punch from a reduction of both demand and prices.

Based on the last year's performance results, the overall loss of 20 global public petroleum majors was 33 billion dollars, as compared to 242 billion dollars of profit they generated in 2019.

In order to support the socioeconomic and budget stability, Saudi Arabia has to spend its forex reserves and is considering an option of privatization of another 1% stake in their national company. Besides, ARAMCO itself is taking actions to invite investments, including the sale of stakes in their producing assets.

Slide 11. Shale industry: consolidation of players

Major shale companies of US suffered no smaller losses, which exceeded 60 billion dollars in 2020. Regardless of the started oil prices reflation, the industry failed to recover from losses. Highly competitive environment composed of hundreds of public and private operators competing for access to the best areas, along with the need to compensate the accumulated losses, objectively **result in the aggregation and consolidation across the industry**: major operators acquire smaller companies and launch a more balanced policy aimed at achieveing cost reductions rather than production growth.

A number of European majors are setting goals for transformation from petroleum companies to diversified energy companies. The intention is to achieve the above goals particularly by reducing the hydrocarbon production, which will help them achieve the carbon neutrality. A reduction in oil and gas production by majors, along with the inability to supply sufficient scopes of solar and wind energy to the market may **lead to a new wave of mergers**. **Consolidation of majors would enable increasing investments in energy transformation, enhancing their competitive positions and improving their bankability.**

Russian oil and gas industry is also undergoing reformation. For instance, **Rosneft is optimizing its portfolio** through divesting tail assets**, placing a stronger focus on efficiency and launching new major projects.**

In this context, we are definitely going to see new players and new coalitions in place.

3. Green Agenda and interfuel competition

Slide 12. (photo)

The world is <u>at the crossroads</u> because of the strategic issue of the interfuel competition. However, we shall move very carefully.

Green energy became especially visible during the period of oil markets volatility last year, when **the large-scale inrush of funds to the U.S. stock market enabled accelerating the capitalization of certain sectors. As a result, the capitalization profile of** green companies considerably outpaced performance of both petroleum majors and the market in general.

Slide 13. APR - the main growth point of renewable energy sources

The Asia-Pasific Region becomes a development locomotive of renewable energy, given that its renewable energy capacity gains have been several folds higher than that of Europe and USA over the past 10 years. According to analysts, this trend is going to remain over the next 10 years, so that the scope of commissioning of renewable energy capacities in China, India and other APR countries will exceed that in Europe by more than 2.5 times. This is going to be a well-balanced growth that will take place at the same time with the development of conventional energy.

Slide 14. Outstripping growth of subsidizing of renewable energy sources vs. its capacities.

It is important that the continued motivation of the green energy industry does not substitute its actual economic efficiency. The distortion primarily occurrs due to large-scale **subsidizing of wind and solar energy generation, which saw a 5-fold incraease in EU over the 10-year period and actually reached 50 billion Euros per annum, while its scope of generation increased only 3.6 times over the same period. At the same time, despite considerable investments, the renewable energy sector has not became a meaningful reserve of the global economic development.**

Slide 15. High cost and unrealistic implementation timeline of new technologies for achieving net zero emissions.

Technologies are the key to the energy transformation and low-carbon future. Are they sufficiently developed? There are many challenges in this area: according to IEA, about half of the low carbon energy

technologies that currently unergo development, will only reach the stage of prototypes or pilot projects by 2050. Even by 2070, 30% of such technologies will still require fine-tuning, hence, investments, prior to launching their commercial operation.

Although a number of technologies are already successfully implemented and rolled out, including electric passenger vehicles, solar and wind power generation, certain sectors will require breakthrough solutions for achieving a dramatic increase in energy efficiency and a reduction in emissions. Obvious examples include commercial motor transport, marine and avia transportation, metallurgy, cement production and other energy intensive industries. Despite the fact that the first steps in these areas have already been made, it **will take decades to develop commercial cost-effective technologies. At the same time, the above means a strong demand for investments:** according to IEA, it is about 4 trillion dollas per annum, which is equivalent to 4% of the global GDP.

Slide 16. The need for achieving a several-fold increase in production of certain metals

It is important to understand the need for achieving a many-fold increase in production of certain metals. In May this year, IEA assessed the growth of the global demand for metals required for the growing EV production and power storage: **the demand for lithium will see a more than 40-fold increase, the demand for cobalt and nickel will increase about 20-fold by 2040.**

Such a considerable growth invites doubts about the sufficiency of the current resources, or investments in exploration and production of these metals. In this context, prices skyrocketing is very likely to happen. At this, IEA notes that if the prices for nickel and lithium double in size, this will work off the anticipated reduction in unit cost of battery production associated with the doubled production scope.

We remember that production of about 80% of ore minerals required for the above metals is either monopolized or located in

unstable regions. For instance, about 70% of cobalt is produced in the Democratic Republic of Congo. **It is also important to remember that the processing capacities are concentrated in a very limited number of countries.**

Besides, we already see that the interrupted supply of resources is an important factor: for instance, the prices for solar modules that used to follow a multi-year cost reduction trend made a U-turn and increased in price by 18% in 2021. This may be one of first signs of future deficit of materials for accomplishing the energy transition.

Do not forget about the need to utilize the batteries. According to IHS, the demand for the most popular lithium-ion batteries will see a more than 7-fold increase by 2030. Therefore, the capacity for utilization of such batteries will have to increase several folds as well. So far, the cost of it is too high and comparable with the cost of lithium feedstock. This issue has not been addressed globally, as only 5% of the batteries are being utilized, so the rest of used batteries are being accumulated, making future generations deal with the burden of sorting out the huge scopes of this hazardous industrial waste.

Likely, the **issue of utilizing nuclear fuel for NPS has not been fully addressed over many decades,** although 90% of nuclear fuel can be preserved and reused. Besides, the issue that shall be addressed separately is the one about **burying the most radioactive waste, for which utilization technologies are currently lacking, while the half-life periods of their radionuclides reach tens or even thousands of years**.

Slide 17. (photo)

Hydrogen is another alternative source of energy. However, **using hydrogen to cover 15-20% of the overall demand for energy** will require, according to a specialized company ENERGY TRANSITIONS COMMISSION, **about 15 trillion dollars of investments by 2050** , which, on an annual basis, is comparable with the costs of the entire petroleum sector. **At the same time, hydrogen energy may become**

economically advisable only if it supported by relevant scopes of green generation, and 85% of this amazing amount will have to be particularly directed there. Besides, the generated **green energy will have to be quite cheap,** to avoid creating an additional burden on the customer. So far, in the real life, **higher share of renewable energy sources means higher tariffs, while their preferential taxation ultimately results in a budget deficit.**

As a result, low **efficiency of low-carbon solutions puts an additional strain on consumers.** Carmakers already confess that the price of electric vehicles will be considerably higher for consumers that the price of conventional cars in the middle term. Thus, Carlos Tavares, Head of Stellantis [formed in 2021 by the merger of FIAT-Chrysler and Peugeot-Citroen, a carmaker ranked 4th globally], said recently that the transition to electric vehicles may become an issue for European middle class, given that until the second half of 2020s the price of such vehicles will be considerably - almost twice - higher than that of conventional cars.

Similar issues can be seen in the alternative energy - having received a preferential access to the power grids, generating companies are shoving the burden of their high costs, particularly associated with redundancy, to ordinary consumers, by way of increasing the tariffs. Green tariffs are quite often overstated unreasonably due to the need for repaying the growing debt of the the companies generating so called "green" energy. For instance, **American NEXT ERA, world's largest generator of wind and solar energy, saw a 50% increase in their debt burdent over the past 3 years [2018 – 1Q 2021], to 53 billion dollars.**

The speedy energy transition proclaimed by some environmentalists and politicians firstly requires the implementation of renewable energy sources at such high pace that is unrealistic, and secondly, brings up the issues of storage, and assurance of generation reliability and stability.

We all saw how the alternative energy's instability affected Texas, **where the ambient temperature in the main oil producing regions**

dropped to -20°C in mid-February this year, and where the impeller blades were failing, the solar panels being snow-bound, and the gas prices skyrocketing. Generating companies suffered huge losses, as they had to by electric energy from gas- and coal-driven power stations at exremely high prices, to honor their power supply obligations.

This example yet again proves the **point that we have tried to communicate on numerous occasions, about the need for developing the energy industry in a balanced manner, avoiding placing focus only on the alternative generation, and about extremely high costs associated with ensuring stable supplies of wind and solar energy.**

According to some assessments, American consumers have already overpaid 125 billion dollars for electric energy because of the state policy promoting the renewable energy sources.

The service life of a wind power station is assessed at 20 years on average - it is about 2-3 times shorter than the service life of a gas or nuclear power station, respectively. It means that the installation of wind generation facilities is not a one-time investment; it will require growing investments with the time to support the capacity. According to some assessments, about one third of wind and solar power stations commissioned by 2050 will be intended to replace the obsolete capacities.

A dramatic shift of the American energy policy towards the renewable energy sources triggered criticism from the Congress. Senators addressed President Biden and Special Presidential Envoy for Climate John Kerry several times over the past months, expressing their disagreement with the actions taken towards the traditional energy sources, the infrastructure, American energy companies and financial institutions.

A number of senators expressed their concern in the letter to the US Treasury **about the US Administration's plans to request the cancellation by American banks and international financial institutions of financing of the coal and petroleum projects around the globe.**

Senators noted that by introducing the new requirements to information disclosure by companies, as related to their climate footprint, **the US Administration is abusing its powers and being guided by rather coersive than legal principles** in their attempts to **"hinder energy companies' access to financial resources".** These actions **distort the tasks of financial regulators and** harm investors by **casting doubt on the quality and reliability of** the reporting standards and the information disclosing system under SEC Standards.

It was also stated that although consumers may switch over to alternative fuels, fossil **fuels still account for 80% of energy resources consumption in the US**.

To summarize the risks and opportunities of alternative generation, we have to answer the main question - **whether or not the green energy is capable of becoming the basis for the development of the global economy.** In the meanwhile, this sector still requires subsidizing, creates an additional tax burden, has higher overall costs and provides no guarantees of supply stability. Regardless of that, we see that the regulatory pressure, as well as environmentalists' pressure on the conventional energy industry keeps growing, while the support to the green energy keeps increasing.

In their attempts to put pressure on major hydrocarbon producers, some radical activist investors choose somewhat unconventional methods.

For instance, at the initiative of a minority shareholder of EXXONMOBIL holding 0.02% of the Company's shares, 3 independent directors were included in the Board of Directors, and represent 25% of its members, and they're about to request that the oil and gas production of the company be reduced.

In this respect, one of EXXONMOBIL shareholders made a statement, that minority shareholder may obtain an important leverage in the Company, if they secure support of at least one major investors.

For instance, investments of BLACK ROCK fund in the leading

companies of green energy and in TESLA company reached about 60 billion dollars, which is comparable with their investments in oil and gas majors. In other words, we see that new **tools emerge and behavioral models are are created that enable manipulating the price of shares.**

The question remains open, as to which interests are such investors guided by. Do they have a hidden agenda of making money on the shares market volatility by creating a negative publicity? May they ultimately aim at forcing management of the companies to buy shares from them at a higher price, to avoid the counteraction and pressure from so-called greenmailers?

Another implication of such pressure is majors' exit from a number of petroleum projects; over the past 3 years, they divested assets for the amount in excess of 70 billion dollars. This affected almost all large companies, both European and American.

SHELL launched a large-scale program in 2019 to sell assets for 30 billion dollars, EXXONMOBIL withdrew from a number of projects in the North Sea worth 15 billion dollars.

TOTAL has also been selling their low-priority assets, even though they quite recently, in 2016-2019, invested 15 billion dollars in acquisitions.

However, such optimization does not address the main objective of reducing global emissions and achieving the carbon neutrality, as the least efficient and environmentally unfriendly assets are sold to smaller, oftentimes private companies, which continue developing them **often without disclosing their emissions or committing to any obligations for preventing climate changes.**

Besides, a wrong precedent occurred several days ago, when the **Court of Netherland ruled that SHELL neglected their human rights observance obligations, as related to climate change, and ordered the company to take stronger obligations for reducing the greenhouse gas emissions**, and to accelerate the execution thereof. Such attitude will force

the company to dramatically reduce the scope of its traditional business.

The event that I mentioned cannot be ignored, as **the court actually made a corporate decision for management, and that is a new form of risk for majors.** Furthermore, the activity of green lobbists is going to **increase the burden on the budgets of individual countries,** as accelerated decarbonization will require susidizing and tax incentives.

Following these events, CITIBANK made a statement in their report that **humankind understates the importance and value of oil and gas for the global economy.** According to the Bank, the current contribution of petroleum companies to the global GDP for the first time exceeded their share in the overall capitalization of the global market. In other words, **the value the petroleum industry creates for the world exceeds the scope of investments it receives.** The world consumes oil, but is not ready to invest in it.

Slide 18. Transformation of the oil and gas industry

The public status of the global majors puts them into a position where they have no mandate not only for development but also for sustain. This increases the probability of supply deficit on the energy markets.

At the same time, this plays into the hands of unregulated market players and **provides new impetus to national companies**, which will be able to fill the niche.

National companies are more **insistent in achieving the strategic goals and ensuring the market stability.**

Objectively, the **state-run companies and nonpublic companies are less dependent today from the stock market's volatile mood.**

Slide 19. Consumption of energy resources will increase in the long run

The growth of population and global economy will ensure growing demand for energy in the long run. The main contribution

will come from developing countries, which see a rapid growth of middle class, but have a critically low level of energy supply.

Oil consumption will grow despite of the relative decrease of its share in global energy balance.

4. The crisis provides an opportunity for making right decisions

Slide 20. (Photo)

A crisis provides an opportunity to the companies to revisit their prioirties and to place a stronger focus on important matters, so that they recover from the crisis with a stronger business. **The crisis of 2020 is no exception.**

There are different approaches globally to regulating the oil sector. Thus, there are no gas flaring standards for the Permian Shale Basin, the key oil-producing region in the US. **A shale well, which has the highest productivity during its firs year of operation, may obtain a permit for unlimited gas flaring for up to six months.**

At the same time, there is a requirement for 95% utilization in Russia. Russian environmental legislation applicable to the petroleum industry is much more stringent, thus ensuring high quality of Russian projects.

The amount of hydraulic fracturing operations performed in **the US to maximize production is 4-5-fold greater than that in Russia**. Although this is definitely a high-tech method of enhancing production effectiveness, it does not prevail in Russia, as it accounts only for 20-25 mln tons of Russia's annual oil production.

At the same time, shale production in the US cannot avoid using fracs. In 2020, shale production was about 350 mmt, or 2/3 of the country's entire production. Don't forget to add to this large volumes of water and chemicals that require utilization, as well as considerable scopes of associated gas that are flared due to the deficit of infrastructure and quite

mild regulation.

There is one question to be asked in this respect - which country is producing cleaner oil? May be it is time to alter the statement of the question regarding oil's future. It shall not be about walking away from oil as such; it shall be about walking away from oil produced at environmentally unfriendly projects!

Slide 21. Not all industries demonstrate such commitment to sustainable development as oil industry does.

While the global oil industry becomes more and more environmentally responsible, activist environmentalists continue paying **other industries unproportionally less attention.**

Thus, the global textile industry with its overall proceeds of 3 trillion dollars is already comparable with the oil industry with its 2019 proceeds of 2.5 trillion dollars. At that, **the textile industry saw a multi-fold increase in turnover over the past 20 years, which was accompanied by a relevant increase in greenhouse gas emissions, and this trend is believed to continue. The emissions of the global textile industry already exeed the overall emissions of the European Union.** At that, the industry experiences a much lesser pressure concerning the Green Agenda than the oil industry, which, given its level of consolidation and transparency, becomes the target of aggressive pressure. The consolidation level in the textile industry is 4 times lower than that in the petroleum industry, which enables small companies not to worry about the climate aspects of their operations at all for now.

Besides, some industries are considered "green" and "responsible" by default, while consumers and general public are not aware of the environmental harm inflicted over the full cycle of their production and consumption.

It would be advisable to have the calls for completely walking away from hydrocarbons or for introducing protectionist measures replaced by a global transparent system for goods/services assessment

and certification, which should be adopted by the entire global community and not imposed by individual large players. This would enable avoiding the risk of transferring the existing environmentally harmful production facilities to developing economies or constructing new such production facilities there. It would also enable communicating to consumers information regarding the conditions in which rear minerals required for batteries manufacturing are produced in such countries, as well as information on non-addressed issues that most of the countries have with utilizing even ordinary domestic waste, not to mention the EV components.

Slide 22. Rosneft has been implementing a set of actions to reduce its carbon footprint

Rosneft from its side has been implementing a set of actions for reducing its carbon footprint. The Company set a number of ambitious goals in 2020 for reducing emissions as part of the Carbon Management Plan 2035. These goals include a 30% reduction in emissions intensity across Upstream, prevention of emission of 20 mmt of greenhouse gases, ensuring zero routine APG flaring and reducing the methane emissions intensity.

The Company has also been increasing its production of gas, the cleanest fossil fuel. It is our intention to bring its share in our production to over 25%.

We also cooperate with BP in the area of carbon management and sustainable development and intend to jointly assess perspectives of a wide range of projects, including use of renewable energy sources, deployment of CO2 recovery, utilization and storage technologies and hydrogen business development.

Besides, we discuss with our partners opportunities of establishing a special fund with a view to implement projects aimed at reducing the carbon footprint across the industry.

International rating agencies rate high Rosneft's achievements in the

area of sustainable development - **the Company takes the leading positions** in a number of specialized ratings **and continues to achieve rating improvements**.

We are confident that **oil and gas producers have to take a balanced and professional approach to energy transition, and to improve their environmental performance.**

Slide 23. Such projects ad Vostok Oil will play an important role in satisfying the demand for "environmentally friendly" oil.

One of the projects that will contribute to our Company's environmental performance is Rosneft's project Vostok Oil. Oil from this project has a uniquely low sulphur content of 0.01-0.04%, which is comparable with the requirements to diesel fuel set by Euro-3 Standard. In other words, the feedstock incoming the processing facilities has better quality than the outcoming marketable product is required to have. Such oil may essentially reduce or even cancel the demand for certain process plants at refineries, thus making a considerable contribution to a reduction in greenhouse gas emissions.

The deployment of advanced environment protection technologies is envisaged already at the design stage of Vostok Oil - from well drilling to special design of oil pipelines and tankers, which will be used for exporting oil. Design solutions envisage complete utilization of associated petroleum gas, which will ensure a 75% lower carbon footprint of the project, as compared to other new major oil projects in the world. **Therefore, we have every reason to state that this project will yield "green barrels" of oil.**

Slide 24. Rosneft is open to cooperation

Rosneft's portfolio includes a number of prime oil and gas projects characterized by low unit production costs of about $2.6/boe. All our projects are implemented according to most stringent environmental standards. Investment community gave a high appraisal to the Vostok Oil Project, the program for selling "tail" assets, and jointly with other

initiatives of the Company comprising maintenance of a high dividend level, this Project has contributed to the growth in Rosneft's investment attractiveness and capitalization.

We are ready to share the story of success and welcome western and eastern partners, equipment vendors and service providers and their know-how and best practices.

Slide 25. (picture)

The key objective of the global energy industry lies in ensuring reliable and efficient energy supplies to consumers to underpin their well-being and economic growth.

Sustainable energy development must rely upon a sound market competition of all types of energy generation, which guarantees supply of clean and affordable energy to consumers and a minimal environmental footprint.

Raising environmental responsibility is a prerequisite for the development of the global energy sector.

Rosneft, which executes petroleum projects aimed to unlock the gigantic energy potential of Russia in exact accordance with the UN sustainability principles and which concurrently ensures the best shareholder return, meets these criteria in full.

Thank you for your attention!