

IGOR SECHIN'S SPEECH
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Special session:
SYSTEMIC CHALLENGES OF THE GLOBAL ENERGY

Speech topic:
PRICING THE TURBULENCE

Dear participants and guests of the Forum!

I am very happy to have a chance to speak at another Eurasian Economic Forum. I welcome the guests and the participants of our discussion: Romano Prodi, who made an invaluable contribution in development of Europe as the Chairman of European Commission and twice Prime Minister of Italy; Michael Harms, the Executive Director of the German Committee on Eastern European Economic Relations; Robert Dudley, the CEO of BP; Emma Marchegaglia, the Chairwoman of the Board of Eni; Tim Dodson, the Executive Vice President for Exploration and Production of Equinor; Ivan Glasenberg, the CEO of Glencore; and Andrey Kostin, the Head of VTB bank.

I want to thank Chairman of the Board of Directors of Banca Intesa, President of the Conoscere Eurasia Association Antonio Fallico for our work organization and hospitality in particular.

Today the moderators of the discussion are Rair Simonyan, the well-known financier who was the head of Morgan Stanley's and UBS Bank's Russian branches for years, and Alessandro Cassieri, the Parisian Bureau Chief of RAI TV Company.

The Forum in Verona is traditionally a place that unites outstanding political and public figures, the heads of the largest companies, who are committed to the Eurasian partnership.

This year the main forum topic is the systemic challenges the global energy industry faces. **A trade tariff and sanctions contention is growing in the world, the long-standing economic ties are breaking. The key thesis of my speech today is an underestimate of the risks of global instability by all**

market players.

I hope that our discussion will be fruitful and useful, will help in searching for sustainable, long-term solutions.

Before the start, of course, I must mention the liability limits because of value and forecast judgments in the speech.

Let's start with fundamental factors. Long-term oil demand prospects are sustainable. Although it is expected that the share of oil in the global energy mix will decrease from 34% now to 30% by 2040, **its demand will increase in at least 10% taking into account the consumption volumes growth in global energy markets.**

Taking into account the further technologies development, different organizations forecast rather high average annual rates of primary energy resources consumption growth for 2040 – at the level from 0.8% (ExxonMobil) to 1.2% (BP, OPEC). By 2040, the global primary resource consumption will reach 340-400 million boe in a day.

To meet the oil demand, according to the current estimates, it is necessary to put more than 1.5 million tonnes of new output on commercial operation before 2030 (that is about 30 million bpd). Traditional onshore oil will be about 36% of new output; offshore oil will be 15% and the remaining 49% - hard to recover oil.

The gas demand will also grow by 1.1-1.8% per year in average. At the same time, China plans to double gas consumption by 2030. At least until 2030, China will also continue to increase liquid hydrocarbon consumption by up to

700 million tonnes per year compared to 623 million tonnes in 2018.

According to our estimates, the important role of coal in global energy consumption will remain, and its share in the energy mix will be around 20% by 2040.

The key driver of energy resource consumption growth will become the countries of the Asia-Pacific Region. An increase in the standard of the living and middle-class population will aid the mass distribution of passenger cars that will lead to oil demand growth by 20% or 300 million tonnes by 2040 in Asia. More than half of this volume [159 million tonnes] will fall on India. The consumption will increase significantly in other Asia-Pacific countries – China, Indonesia, and Vietnam.

The Asia-Pacific Region is the largest energy resource consumer: over the past decade alone the oil consumption here grew by a quarter and reached 1.25 billion tonnes. At the same time, countries of the region already face the fuel shortage occasionally. The existing infrastructure and oil refining capacities allow covering only the basic market needs and requiring significant efforts to meet the growing appetites. In India alone, the oil demand is expected to increase 1.6-fold compared to the current level, 2.5-fold in Vietnam by 2040 – and it is an indicative dynamics for the whole region.

In the International Energy Agency's long-term scenarios, the share of India in global consumption of primary resources will continually increase and reach 10-11% by 2040. Already in the next years, India may become the world leader in absolute energy consumption addition, being ahead of China on this

indicator. At the same time, the main part of this consuming (more than 73%) will still fall on coal and oil.

I am very happy that there are the representatives of our Indian partners, the administration of ONGC Videsh, Bharat Petroresources, Indian Oil, Oil India companies here today.

Today with sustainable long-term demand prospects, a number of factors affect the global balance of supply and demand, the most important of which is the “second shale revolution” in the United States.

Despite a 20% reduction in the number of active drilling rigs in the country since the beginning of the year, US shale oil production is showing steady growth due to the coordinated actions of production, infrastructure, and service companies, as well as research and development organizations. In the past five years, the indicators of well initial flow rate and accumulated output per well have been growing. In the Perm shale oil basin, the largest in America, the initial flow rate doubled ever more [Rystad data]. **The commercial drilling speed also increased, resulting in growth in the number of drilled wells per rig by one third. The number of drilled but incomplete wells is 7,700.**

Oil and condensate production in the United States has increased by more than 40% since the beginning of 2017 alone. The state of Texas, where the Perm Basin and other shale basins are located, is already ahead of Iran, Venezuela, and Libya in terms of oil production combined!

The geography of shipments is expanding as well. If earlier

the USA oil was mainly acquired by Canada [97% of the USA oil export fell on it in 2001-2014], now after the export restrictions lifting in late 2015 **more than 40 countries buy American oil. More than a quarter of deliveries in January-July 2019 fell on Europe.**

The United States build pipelines and export terminals intensively, which allows not only meeting the growing internal demand but expanding **the export flows.**

In the past three years, **the export oil volume of the USA has grown six-fold** and already reached 2.8 million bpd, which is comparable with output of Saudi Arabia, Brazil, Kuwait, and the United Arab Emirates.

At the same time, the question arises on **how justified those US investments are and whether the resource base is sufficient for ensuring long-term supplies?** The resource base of shale oil is not yet sufficiently explored and the expected slowdown in shale production growth rates may be related particularly to the downward revaluation of the shale resource potential by companies.

There are also serious political risks. I can mention the senator, the USA presidential race participant Elizabeth Warren's statement, as she promised to introduce the restrictions on using hydraulic fracking technologies. "On day one of the presidency," she said, "I will sign an executive order that puts a total moratorium on all new fossil fuel leases for drilling."

Today the increase in the share of the US oil on the

global market is often achieved not so much via economic as via political methods — by ousting key players and foisting products.

As I already mentioned, about a third of world oil reserves and a fifth of global output (Iran, Venezuela, and Russia) is now under American sanctions!

At that, the United States virtually extends its jurisdiction over other countries, including the European Union, which is forced to comply with the US sanctions policy.

In 2018, oil imports from Iran to the EU decreased by a third [by 32.3%, from about 27.3 million tonnes to approximately 18.5 million tonnea] and continue to decline in 2019.

At the same time, the United States increased its oil supplies to the EU 2.5 times [from approximately 9 million tonnes to about 23 million tonnes] in 2018. **It was they who became the main beneficiary of sanctions on the European market.**

We emphasize that breaking the deal with Iran is a serious blow to the security of supplies from the Middle East countries, and we are yet to assess the losses of the global energy market due to this decision.

Technology development, tax, and financial incentives are key factors for the growth of shale production. The environmental nihilism of the US administration, which refuses to take part in global green initiatives, is by no means the smallest factor in “the shale revolution”. The American regulator, in fact, ignores the sharp rise in the volume of

emissions from the associated gas burning. The volume of associated gas burning in the Permian shale basin in January-September 2019 increased by over 20 times compared to 2011. In the BAKKEN basin (this is the third largest shale oil basin after Perm and Eagle Ford) 23% of the produced gas is burned, that is 2 times higher than the level allowed by regulatory acts [Rystad data]. What the US Department of Energy does not say is that the appearance of the **“molecules of US freedom”, i.e. additional volumes of American hydrocarbons on the market, is accompanied by an unbalanced growth of greenhouse gas emissions.** A logical step to comply with the environmental commitments might be to include **obligations on the associated gas utilization into the terms of supply.**

While at the previous forums in Verona we named three “regulators” on the global oil market, Russia, Saudi Arabia, and the USA, now we have only one market regulator - the USA, and we have to accept it.

At the same time, other market players have no choice but to protect their own interests in competition, working with the existing market structure.

Recent events have shown that **now so-called “fragile” suppliers include not only the traditional five countries** (Iran, Venezuela, Libya, Iraq, Nigeria), but Saudi Arabia as well.

The success of the Russian Federation in Syria forced some terrorists to change their deployment, forcing them into neighbouring countries, including Iraq. It is supposed that they initiated a recent attack on oil and gas facilities in Saudi Arabia. Following the attack on oil infrastructure facilities of Saudi

Arabia, at least half of the country's oil production was blocked, which gives us a reason to **re-evaluate Saudi Arabia's role as an unconditionally reliable oil supplier**. It is important to destroy ISIS (the organization is prohibited in the territory of the Russian Federation) not only in Syria in order to restore stability in the region.

Recent trends demonstrate that today oil sector investments are increasingly shifting towards projects with a shorter investment cycle and a possibility to get a faster return on investments.

Redistribution of investment expenditures in favour of shale oil production will continue as long as production directly depends on oil prices, i.e. until the "shale switch" stops working. The difference in the rate of return of shale oil fields is too great compared to traditional reserves; the temptation to get a quick return of invested funds is too large.

At the same time, the shale industry is faced with geological constraints associated with the productivity of infill wells and the distance between them. **Production decline of the main and infill wells becomes almost inevitable as shale basins develop.** As a result, operators are forced to make a less dense drilling scheme, that is, to launch fewer wells. Companies are faced with the need to replace increasing volumes of declining production in existing wells.

At the same time, there is a change in the structure of hydrocarbon production, primarily in the Permian Basin. It is caused by associated gas production growth and its combustion because of infrastructure restrictions not allowing supplying it to

the market.

Although shale oil companies **succeeded in increasing the drilling efficiency (the commercial drilling) due to technologies, the process of drilling and preparing to operation became more complicated in past years.** While several years ago the shale oil well began to provide returns in 2-3 months after drilling started, now it happens only in 5-6 months (the length of horizontal sections of a well and fracking operations duration increased that made drilling longer).

As a result, production growth is slowing down and may reach 1.1 million barrels per day this year, 30% less than in 2018. According to a number of estimates, further production gain may fall close to zero due to a decrease in incremental capacity.

Shale oil production volumes are getting more and more difficult to control depending on the market conditions. Thus, the ability of shale oil production to be a balancing factor that allows for fast production increase in times of shortage is greatly exaggerated.

U.S. policy is **a serious obstacle to the sustainable development** of the global economy and energy.

Over the past years, the American **administration tries to dictate its rules and conditions to other states of the world through the trade, tariff and sanctions pressure.**

The USA withdraw from the Paris climate agreement, they overruled the free trade agreement with Mexico and Canada for their own benefit, they are ready to leave WTO if their conditions are not accepted, they overrule any agreements which do not

serve their interests on a unilateral basis.

The new rules are established by the U.S. using a wide range of tools, primarily tariff barriers and sanctions restrictions, which the United States Administration considers to be the best means of solving all problems. Americans also use a policy of threats and blackmailing. Among the most striking examples of such a policy are the seizure of an Iranian tanker in Gibraltar, a ban on working with the Chinese company Huawei, possible sanctions against the European business involved in the Nord Stream 2 project, and the inclusion a number of Chinese companies that own oil tankers carrying Iranian oil, as well as vessels of the Chinese Cosco company, a largest global ship-owner, in a sanctions list.

The U.S. jurisdiction expansion to other countries (arising from the extraterritoriality of sanctions) leaves these countries with the choice of either supporting sanctions or becoming the object of sanctions themselves. **Recently, the media reported that a joint Canadian-Chinese logistics company, Yamal LNG project tankers owner and operator, has been exempted from US sanctions.** The official release of OFAC has not been published, but the exception is likely to be related to a change in ownership structure and a Chinese partner's share drop to less than 50%.

US unilateral actions have a serious negative impact on the global economy and lead to a loss of mutual trust, which was also announced recently by the new IMF managing director Kristalina Georgieva.

In the year since our last meeting, **the forecasts for global**

trade and economy growth have been revised downwards by 0.2-0.4%.

For the first time in history, the world economy faced the threat of **three shock factors** that could provoke a global recession: **(1) the economic and technological confrontation between the United States and China, (2) trade-tariff and currency wars, (3) and U.S. sanctions against major oil producers.**

All these factors are being noted as central banks of the world's largest economies weaken monetary policy and lower their rates.

A number of countries are forced to weaken their currencies or reduce interest rates, including India, Thailand, New Zealand, and **China, which is accused of currency manipulation by the US Administration.** The European Central Bank has also lowered its deposit rate, which has been negative since mid-2014 [from minus 0.4% to minus 0.5%].

Further moves on weakening national currencies are increasing the likelihood of a global currency war with highly unpredictable consequences.

In anticipation of the upcoming elections in a year's time, **the U.S. Administration can take new actions to “make America great again”.** For example, the U.S. Federal Reserve announced plans to channel up to \$60 billion a month to the purchase of U.S. government debt to finance the budget about two weeks ago. **This will lead to an excessive infusion of dollars into the global economy.**

The European economy is in a difficult position today.

Negative interest rates introduced by the ECB five years ago had a **significant impact on the profitability of European financial markets and the efficiency of the European banking system. If we talk about the five largest European and American banks, the following trend can be observed: ten years ago, European banks [HSBC, RBS, BNP Paribas, Barclays, and Deutsche Bank] posted 30% higher profits than their American rivals [JPMorgan, Bank of America, Citigroup, Morgan Stanley, and Goldman Sachs]. Now the situation has changed radically, and European banks are noticeably inferior to American banks, whose profits are three times higher. Moreover, the capitalization of the U.S. bank JPMorgan alone [399 billion dollars] exceeded the total capitalization of the five largest European banks.**

The upcoming Brexit will lead to a rupture in the integrity of the European banking system and a further decline in the profitability and value of European banks.

In mid-2019, half of all European government bonds and about 20% of investment-grade debt securities had negative yields. The lack of necessary investment instruments has already led to a significant drop in the capitalization of European banks: over five years, the Euro Stoxx banking index has halved.

This also has an impact on the real sector of the economy: Europeans are forced to relocate production capacities to countries with a more competitive cost component. Take the energy industry, for example. In January 2019, Drillmec and Petreven, well-known Italian drilling companies, were acquired

by the Meil Group of India. Already in May this conglomerate won a major contract for the supply of drilling rigs for the Indian ONGC. The market sees a “new old” player with great ambition.

I hope that Italian companies will maintain their innovative approach and continue to provide high-quality services.

Given that negative rates are in effect in Europe, the only reliable market in which European banks can earn is the US financial market. Ten-year U.S. Treasuries with a yield of 1.5% per annum are a better alternative to investing than European bonds, for which investors even have to pay extra money.

Unfortunately, the euro has not been able to compete fully with the dollar in twenty years of its existence. The euro now accounts for **about 20%** of the world’s central bank reserves, down 8% compared to 10 years ago.

The dominance of the U.S. dollar appears a striking contrast against this picture. Now, as it was ten years ago, its **share in the world’s central banks’ reserves is 62%**. At the same time, the US share in the world economy both now and ten years ago is 24%.

With comparable sizes of the US and the EU economies, the share of the dollar in world reserves surpasses the share of the euro thrice. As a result, any changes in rates in the U.S., statements by Donald Trump and the Fed instantly affect the entire world economy, while statements by European regulators affect only Europe.

The share of the dollar in world trade exceeds 60%, and in trade in oil and petroleum products exceeds 90%.

However, examples from the not-so-distant past show that financial monopolies can and should be resisted. For example, in 1965, French President Charles de Gaulle challenged the dollar system of the time and legally demanded that cash dollars be exchanged for gold. He barely managed to get 3,000 tonnes of gold out of the US. As a result, the United States had to devalue the currency and untie it from gold.

Therefore, in 10 years' time, we can see a very different picture, as the role of the Chinese economy grows, the share of the yuan can increase from the current 2-5% to more significant values.

The increasing influence of the United States on the functioning of the European banking system leads not only to a decrease in its effectiveness, but also **the loss of opportunity of establishing the euro as the world's reserve currency**. U.S. regulators, including the Federal Reserve, the Department of Justice, and the Treasury's Office of Foreign Assets Control, are increasingly using fines as an instrument of pressure on European banks.

Over the 10 years from 2008 to 2018, the US regulators imposed about \$18 billion in fines on European banks. US regulators, taking advantage of the extraterritoriality of their legislation, accuse European banks of violating US sanctions against Iran and other countries or of alleged money laundering. Under the threat of fines and exclusions from the dollar payments system, European banks are forced to terminate contacts with

countries that do not please the United States, ignoring their own business interests.

The policy of the International Monetary Fund, which was established to facilitate the balanced expansion of international trade and the development of productive resources of all member countries, also raises questions. In recent years, its work has been increasingly correlated with the interests of the United States, and the effectiveness of its recommendations for overcoming crisis situations has declined.

Given the growing contribution of the European Union, the BRICS, and developing countries to the world economy, the future of the IMF and other international financial institutions are clearly linked to the need of finding a new balance between their participants. Perhaps the principles of their work need to be adjusted.

Concluding, I would like to note that **the imposition of the American agenda on the global markets leads to negative consequences for end-users, including in Europe.**

I will illustrate the point with a few numbers.

One billion dollars per day is the price of stopping shipments through the Strait of Hormuz, through which oil from Saudi Arabia, Iran, Iraq, Kuwait, Qatar, and the United Arab Emirates is delivered to the world markets [deliveries of 15-16 million barrels per day according to Bloomberg data in the H1 of 2019 multiplying by \$60 per barrel equals \$960 million]. At its narrowest point, it is less than 40 kilometres wide, but these 40 kilometres supply about 15% of the world's oil.

300 million dollars per day is the cost of oil not produced in Saudi Arabia as a result of the drone attack [5.7 million barrels per day of production decline multiplying \$60 per barrel equals \$342 million]. And although Saudi Arabia was able to restore production in about a week, this week cost the country almost \$2 billion.

120 million dollars is the approximate cost of oil transported by an Iranian tanker, recently arrested in Gibraltar at the request of the United States [VLCC capacity is about 2 million barrels; the current oil price is about \$60 per barrel]. To demonstrate the inadmissibility of such US actions, I note that the capacity of the VLCC is equivalent to about two days of oil imports by Italy.

In a situation where **the United States is manipulating interest rates and abusing the position in the global economy**, we must once again ask ourselves, **should the dollar be the world's reserve and trading currency?**

Is it possible in the current conditions to rely on the United States as a source of stability for the global economy and energy? The question is rhetorical.

Environmental protection issues play an important role in the global energy industry. Scientists are unanimous in the fact that **besides the anthropogenic factor, natural factors**, such as changes in the activity of the Sun, parameters of the orbit and reflectivity of the Earth, volcanic activity, the amount of heat in the ocean and others, also influence climate change.

Volcanic activity and forest fires have a significant impact

on the concentration of greenhouse gases in the atmosphere. For example, volcanic emissions amount to 645 million tonnes of CO₂, which is comparable to the annual emissions of all European cars, and fires in the Amazon this year produced 228 million tonnes of emissions every week!

However, the global biosphere is a self-regulating system and therefore can compensate for changes in external factors in a fairly wide range.

Nevertheless, it cannot be denied that the problem of environmental protection is becoming more acute and requires a solution.

Energy transformation poses the challenge of meeting growing energy demands with simultaneous emission reduction. Emission reduction has become a political and populist tool, and many see this as a transition to renewable energy alone.

If in 2000 renewable generation projects [wind, solar, geothermal, tidal, ocean wave energy] were active in only 44 countries [data from Wood Mackenzie], then in 2018 the number of such countries doubled [up 2.1 times to 91 countries]. Renewable generation capacity has increased 37-fold over the past 20 years, and renewable energy production has increased 22-fold.

Against this dynamic renewable energy sources are often unreasonably idealized, while advantages of traditional energy are rejected.

Such statements are based on “self-fulfilling” forecasts, the meaning of which is that the authors’ objectives determine

the conclusions. For example, it is proposed to reduce emissions by completely eliminating oil and gas and replacing them with renewable resources. However, **it is unlikely that humanity is ready to build a row of wind stations and wrap the Earth in several layers of solar panels.**

The forced “greening” of energy might be costly for global economics. If we look beyond the surface (with comprehensive consideration of all factors), the new renewables produce energy at production cost exceeding the traditional generation. The experts of the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (OECD) note that **the forecasts for the development of renewable energy do not take into account the growth of system-wide costs associated with the complexity of the system with an increase in the share of renewable generation.**

Additional costs are associated with the need to reserve (or secure) other resources since wind and solar energy do not provide continuous generation.

As a result, even successful examples of alternative wind or solar energy generation present in the EU are yet unable to provide durable and continuous energy supply.

Lack of back-up by traditional generation leads to additional spending on renewable generation and the volume of this input will rise significantly with the growth of its share in the total volume of generation.

Speaking about the prospects of electric vehicles and their impact on oil demand, I would like to point out that, despite some

successes achieved by electric vehicle manufacturers, **problems such as reducing the cost of batteries and its disposal, especially its environmental aspects**, taking into account toxicity of compounds released during battery damage and recycling.

The distribution of charging infrastructure is still local and develops only in a few countries of the world. The leaders are China, USA, and Norway. In the European Union, electric cars are distributed only in large agglomerations.

But even the subsidies don't guarantee success to supporters of abandoning traditional engines. Thus, the plans to expand the German car fleet to one million electric cars by 2020 are unlikely to be implemented. In Denmark, the government has set a course for the gradual abolition of tax breaks for electric cars since 2016, and sales have been falling for the second year in a row. In China, after cutting subsidies by 67%, sales in July 2019 fell by 47% (month-on-month).

Thus, the viability of electric vehicles is in question if the subsidy ceases.

At the same time, **traditional internal combustion engines are becoming increasingly efficient** and oil companies are moving towards **cleaner fuels, making them more attractive.** All this makes this type of engine more attractive.

A shortage of lithium, cobalt, and rare-earth metals may become one of the obstacles in the development of electric cars. Although the multiplicity of lithium reserves at the current level of its consumption exceeds 200 years, and of rare-earth metals -

as much as 700 years [BP's data as of the end of 2018], **the exponential growth in sales of electric vehicles forecasted by many analysts will lead to the same exponential decrease in the stock availability.**

Metal production occurs only in a few countries around the world. In particular, more than 50% of reserves and more than 70% of cobalt production are located in the Democratic Republic of the Congo. Almost 60% of reserves and over 25% of lithium production are in Chile. China leads in reserves (37% of the world's reserves) and extraction (70% of the world's reserves) of rare-earth metals. **Dependence on a single supplier of key metals may have a negative impact on the stability of the electric car industry.**

With much of the world's electricity produced by coaling stations, **the total carbon footprint of electric vehicles is only marginally reduced and** has no significant impact on climate goals.

The carbon footprint of electric car manufacturing exceeds that of the gasoline peers by 20%-60%. After all, battery production is extremely energy-intensive. Residents of those countries where batteries will be produced and then disposed, where lithium and cobalt are mined, where coal is used to generate electricity, will pay for clean air in large cities with their health.

Full transition to electric cars **will increase global demand for electricity by at least 30%.** Renewable energy is unlikely to deliver this growth.

In the face of rising environmental problems and the likely scarcity of metals, humanity **may need to pay attention to hydrogen fuel**, as hydrogen is the most common element in nature that produces pure water vapour when burned, rather than harmful emissions. At the same time, the widespread use of this type of fuel requires significant improvements in technology.

One source of financing renewable energy is, surprisingly enough, taxation of traditional motor fuels, which makes a significant contribution to the economy and budget of the European Union. The European Commission itself recognized in its report to the European Parliament in January this year.

Taxes comprise over 50% of the motor fuel price in Europe. They provided the EU budget with almost 300 billion euro, or about 2% of the region's GDP and approximately 5% of the budget revenue. Thus, the reduction in consumption of petroleum products may have a negative impact on the economy due to the reduction of tax revenues.

The high tax burden in Europe is not unique to motor fuels. According to the International Energy Agency report the share of taxes in the price of electricity for households is 54% in Germany, while about a quarter of the electricity is produced using renewable sources, and Denmark leads both in the share of renewable generation (it accounts for 49.5%) and the share of taxes in the price of energy - here they exceed 60%. It turns out that **consumers have to pay a higher price for alternative energy, and the state distributes the profits in the form of non-market subsidies.**

This could have been understood at an early stage of

development of solar and wind power generation in the 1990s and 2000s. But now these technologies are positioned as mature and competitive ones. And the subsidies remain.

Subsidies for renewable energy in the European Union have more than tripled in the last 10 years from 25 billion to 76 billion euros!

The International Energy Agency forecasts that by 2035 global subsidies for renewable energy will double to \$300 billion a year. **By 2040, about 5 trillion euros will have been allocated to subsidize renewable energy in the world!**

The replacement of conventional generation with renewable energy sources in excess of the natural withdrawal of conventional generation capacity will lead to a loss of accumulated capital and slowdown of economic growth.

The world economy as a whole is not experiencing energy shortages and is striving to increase the efficiency of their use. However, it should not be forgotten that, according to the World Bank, **more than 800 million people in the world do not have access to electricity at all.**

We face the demanding challenge of meeting energy demand while reducing greenhouse gas emissions and implementing energy-efficient technologies.

In order to provide the world with affordable and clean energy, there is no need to abandon oil and gas, we have to move from dirty coal to cleaner gas generation and introduce energy-efficient technologies that reduce emissions.

In order to fundamentally change the global energy

paradigm and shift to renewable energy only, we need super-efficient solutions and technologies that are not yet available. One of these solutions could be thermo-nuclear energy. Work in this direction which is at the crossroads of different disciplines, requires the cooperation of the state, business and scientific community, international cooperation.

A reasonable balance between traditional and renewable energy is vital. We should take into account economic, technological, and environmental aspects, and not seek to switch to alternative generation at any cost. This is where we see great potential for work.

Despite the expected significant growth in renewable energy consumption over the next twenty years, **it is impossible to switch to renewable energy alone quickly and without significant costs.** This fact is also implicitly recognized by the European Union, **which plans to achieve tangible emission reductions only by 2050.**

To summarise I want to note, **that renewable energy is a local solution that is also very costly and it will take decades to make a significant contribution.**

Renewable energy, along with the development of shale oil production and the pressure exerted by the United States on the oil market, is another **factor of instability in the global energy sector.** It still needs subsidies and cannot ensure the stability of supplies.

Over the next few decades, we will see the coexistence of conventional and renewable energy.

We face the challenge of eliminating energy inequality, which does not mean abandoning oil and gas, but rather the **balanced development of conventional and renewable energy**, environmental protection and the introduction of energy-efficient technologies.

The predecessor of the European Union was the European Coal and Steel Association, established in 1952. And while neither the coal reserves and production nor the steel production make Europe a global leader, **both past industrial transformation and future energy transformation are factors in the long-term development of the European Union.**

Russia's strategy to develop energy bridges in Eurasia is helping to strengthen Eurasian ties and stability. For instance, in comparison to 2015, the supplies of crude and oil products from Russia to Europe have increased by 7%, to China by 60%, to India by 13 times.

For Europe, the long-term process of the energy transition will be accompanied by a reduction in its own oil production, hence **the challenge of ensuring uninterrupted supplies must be met.**

Back in the 1960s, the US made efforts to prevent Russian gas supplies to Europe and the development of energy cooperation between the USSR and European countries. At that time, Europe showed firmness and ensured its energy security for decades. **Russia has been and is the largest and most reliable supplier of energy resources to Europe and has all the market capacities to maintain this status.**

Russia is the most advantageous country behind the Middle East on the cost curve, and Rosneft is the world's leading public company in terms of unit capital and operating costs of oil production.

The instability of supplies from a number of countries that are the largest oil producers is aggravated by pressure from the U.S. seeking to remove reliable partners and stable suppliers from the market. The pool of such suppliers is shrinking, and their "premium" and value to consumers is increasing dramatically.

Isolating **Russia, the largest oil and gas supplier to Europe, and limiting supplies under false pretexts** is a serious mistake. As we can see, the price of this mistake is extremely high. With the European economy slowing down, the rising oil price significantly reduces the prospects for recovery.

Rosneft's joint projects with our European and Asian partners, as well as partners from other states and regions, involve the huge resource potential, large-scale investments, and sophisticated technology. **But the main thing that our partners appreciate highly is the environment of trust and respect for mutual interests.**

One of our joint investment projects is the development of the Zohr gas field offshore Egypt together with Italian company Eni and British BP. Together with ExxonMobil, we're exploring promising sites in Mozambique.

Together with a number of international partners, Rosneft manages Nayara Energy in India. In Indonesia, the Company

together with Pertamina implements the Tuban refining and petrochemical project.

In Germany, in partnership with companies such as BP, Eni, and Shell, the Company owns stakes in three refineries, occupying the third place in terms of oil refining volumes in Germany [refining up to 12.5 million tonnes of oil per year].

A number of foreign partners also participate in our joint production projects in Russia.

Our projects contribute to the development of economies in all countries where we operate and are implemented with the utmost respect for the environment. We demonstrate in practice that **the oil and gas industry can be environmentally and socially sustainable.**

We also offer our partners to join new projects. One of them, we think the largest in the global sector, is Vostok Oil in Taimyr, the implementation of which we are discussing, among others, with our partners from the Asia-Pacific region, Middle East, and Western countries present at the Forum.

By implementing its projects, Rosneft expands access to environmentally friendly energy resources and reduces greenhouse gas emissions.

As part of the fulfilment of 17 UN Sustainable Development Goals, **Rosneft consistently increases energy efficiency in all areas of its activities**, provides access to high-quality and affordable energy, including that in remote regions, and implements measures for the rational use of associated petroleum

gas.

Over the past five years, more than 125 billion roubles (over \$2 billion) have been invested in associated gas utilization technologies. Our efforts will help prevent eight million tonnes of greenhouse gas emissions by 2022.

Rosneft is **increasing its natural gas production**, which helps to significantly reduce greenhouse gas emissions by replacing less environmentally friendly fuels.

We are engaged in a biodiversity conservation programme in one of the world's most valuable natural regions, the Arctic. The accumulated volume of Rosneft's green investments has amounted to 240 billion roubles (over \$4 billion) in the past five years.

We are committed to the development of environmentally friendly technologies throughout the entire production chain, and one of our key priorities is to create a network of filling stations for NGVs.

The use of gas as a motor fuel provides for increasing the efficiency of vehicles and significantly reducing the negative impact on the environment. As part of this initiative, Rosneft plans to expand its gas filling network in Russia to 170 facilities in cooperation with China's Beijing Gas--another example of successful work with Asian partners, by the way. The first gas-powered tanker with 114 thousand tonnes deadweight will be launched at the Zvezda shipyard by the end of the year.

Target Health, Safety & Environment indicators are a priority of the Rosneft-2022 Strategy.

Concluding I will note that despite the difficulties, the global **energy industry has great potential for further development.**

It is vital to handle the challenge of meeting the growing demand for energy while reducing emissions at the same time.

Clearly, **oil and gas will remain the key resources for achieving this in the long-term.**

Despite a number of advantages, **the green energy will not be able to meet the growing energy needs of society.** It is impossible due to low profitability, huge subsidies, and unstable supplies. And while humanity is searching for a reasonable balance between meeting the growing demand for energy and environmental protection, **the green energy can only be used as a reserve for traditional generation,** which itself is becoming cleaner through the elimination of coal, increasing the share of natural gas, technical and innovative development.

In today's volatile environment, defined by trade wars, sanctions, US withdrawal from international agreements, and market manipulation, **the Eurasian Partnership should play the role of soft power, a pillar of stability, and a global integrator.**