### THE 28<sup>TH</sup> ST. PETERBURG INTERNATIONAL ECONOMIC FORUM

### SPEECH BY IGOR SECHIN Chief Executive Officer Rosneft Oil Company

### ODYSSEY OF THE GLOBAL ECONOMY IN SEARCH OF THE GOLDEN FLEECE. THE NEW LANDSCAPE OF GLOBAL ENERGY

Russia, Saint Petersburg 21 June 2025

#### **SLIDE:** Title

#### 1. INTRODUCTION

I am happy to welcome the participants of the Forum and our discussion today!

I would like to express my special thanks to the moderator of our discussion, the star of American journalism **Rick Sanchez**, and express my hope for a fruitful discussion.

I would also like to thank our guests – the esteemed Chairman of the Board of Directors of Rosneft Oil Company **Mohammed Bin Saleh Al-Sada**, Ambassador of the State of Qatar His Excellency **Ahmed bin Nasser bin Jassim Al Thani**, **Simon Aloysius Mantiri**, President Director and Chief Executive Officer of Pertamina, Vice President of China National Petroleum Corporation **Zhang Daowei**, Head of Trading, Refining and Marketing at Reliance Industries **Jayaraman Rajaraman**, President of Schlumberger in Asia **Sherif Shohdy**, Academician of the Russian Academy of Sciences and President of IMEMO RAS **Alexander Dynkin**, Minister of Energy of the Republic of Uzbekistan **Jurabek Mirzamakhmudov**, representative delegations from the People's Republic of China, Japan, Venezuela, and Indonesia.

**Delcy Rodríguez,** Executive Vice President, Minister of the Popular Power for Hydrocarbons of the Bolivarian Republic of Venezuela, **P.M.S. Prasad**, Executive Director of Reliance Industries, **Nobuo Tanaka**, longtime head of the International Energy Agency and a recognized global expert in the field of energy, will join our discussion via video conference.

[I extend greetings to the esteemed representatives of the Russian government and governors of Russian regions].

#### **SLIDE: Limitation of liability**

Before beginning the discussion, I shall, of course, mention the limitation of liability due to the presence of evaluative and predictive judgements in my speech.

### **SLIDE:** Fossil fuels account for about 80% of energy consumption.

### 2. ENERGY AS A UNIVERSAL CURRENCY

I would like to begin today's speech with a quote from one of the distinguished scientists of our time, a proponent of a realistic approach to the transition to new energy sources, **Vaclav Smil**: "Energy is the **universal currency**. One of its many forms must be transformed to get anything done"<sup>1</sup>.

This is why modern **societies with high energy consumption** prefer to use resources with **the highest useful energy yield**, primarily **fossil fuels**.

**Energy and progress are inseparable.** Throughout history, the higher humans climbed the ladder of progress, the more energy they needed.

# **SLIDE:** China's electricity consumption is a multiple of that of the United States

The global energy sector is currently at the stage of **creating a new landscape due to** a **multiple increase in electricity consumption.** Electricity will be generated using both fossil fuels and renewables. The main factors that drive changes in this landscape include the following:

- 1. The need for ensuring energy security and commercial efficiency of energy sources.
- 2. Budget deficit and a galloping increase in the level of government debt.
- 3. **Demographics of developing countries** also has a very significant effect on the new global energy landscape. In the next 25 years, the population of **Africa and Asia-Pacific Region** will increase by **1.4 billion people<sup>2</sup>**.

<sup>&</sup>lt;sup>1</sup> Vaclav Smil, Energy and Civilization: A History

<sup>&</sup>lt;sup>2</sup> IEA, World Energy Outlook 2024, Oct. 2024

4. Another factor that affects both energy production and consumption growth is the **digital revolution** using **artificial intelligence** and **big data work**.

A special role is being played by the **electric power industry**, which has to **handle the risk of deficit** due to the consumption surge in **China**, **India**, **developing countries**, and the gigantic demand for electric power to **support data centers and heavy industry**.

Consumption growth will be accompanied by a new **qualitative increase** in **labor productivity** based on new technologies. The process has started. Even today China's electric power generation is more than twice as high as USA's, while 20 years ago it was the other way around.

Those who can actually take part in shaping **the new energy landscape** will have the opportunity to achieve **advanced economic and technological growth**. This brings to mind the legend of the search for the **Golden Fleece** by the Argonauts who overcame enormous hurdles and troubles on the way to achieving **happiness and prosperity**.

### **SLIDE: Opening lines of the Odyssey**

### 3. ODYSSEY OF THE GLOBAL ECONOMY

Major disasters and problems **do not arise overnight**; they originate and develop over a certain period of time, and then just one push is enough.

By 1971, the United States had reached a **government budget deficit**<sup>3</sup>, but instead of tightening the belt, they broke the Bretton Woods Agreement and practically declared default. As a result of abandoning the gold backing of the dollar, the United States was able to finance, as it seemed to them endlessly, growing budget and trade deficits due to **unsecured issuance and debt build-up.** 

The dollar monopoly-based global financial system **needs** additional stability, as Belgian-American economist Robert Triffin

<sup>&</sup>lt;sup>3</sup> The federal budget deficit in 1970 was \$2.8 billion (Federal Reserve Bank of St. Louis).

stated back in 1960. In the **dilemma** named after him, Triffin proved that functioning of the dollar as an international reserve currency creates a **constant US current-account deficit**. Its increase, in turn, leads to an excess of dollars in the world, thus accumulating contradictions in the global financial system. The ill-advised use of the dollar as a **sanctions weapon undermines its position and** lays the groundwork for deploying **alternative tools**, such as gold, cryptocurrencies, and national currencies of other countries.

#### SLIDE. The role of gold in the world is growing

The downgrade of the credit rating and the uncertainty of the U.S. budget stability cause American Treasury bonds to gradually lose their status as a **"safe haven"**. **This role is being taken by gold**, the price of which typically rises ahead of global crises. According to the World Gold Council, over the past three years alone, the **share of gold in global foreign exchange reserves** has increased by **7 percentage points**, exceeding **20%**<sup>4</sup>. According to the recent poll of the World Gold Council, **95% of the world's central banks** intend to **increase their gold reserves** over the next 12 months.

A clear indication of the significant increase in demand for gold is the rise in its relative value. Today, one ounce of gold can purchase approximately **four times more oil, nine times more steel, and thirtyfive times more wheat** than it could in 1950.

By the way, the governor of **Florida** signed a law in May to recognize **gold** and **silver** as legal tender in the State<sup>5</sup>.

### **SLIDE:** The use of cryptocurrencies has increased ten-fold in five years

The volume of **cryptocurrency** trading has increased ten-fold to **18.5 trillion dollars** over the last five years<sup>6</sup>. Meanwhile, in **New York** 

<sup>&</sup>lt;sup>4</sup> World Gold Council

<sup>&</sup>lt;sup>5</sup> FOX 13 Tampa Bay, <u>Gov. DeSantis signs bill to make gold, silver legal tender in Florida</u>, May 2025

<sup>&</sup>lt;sup>6</sup> The Bloc

**State**, a bill is being considered that would allow government institutions to accept payments in **cryptocurrency**<sup>7</sup>.

The use of national currencies, such as the yuan, the dirhams and the Indian rupees, in international trade is growing. The **yuan's** share in international settlements has already exceeded 6%, catching up with the euro<sup>8</sup>.

SLIDE: Global debt surge spirals out of control

#### 4. DISCOURAGING OUTCOMES

As a result of the 2008 mortgage crisis, the financial sector was on the verge of collapse. To save it, an equivalent of **\$35 trillion**<sup>9</sup> was printed globally. Because of this Western policy, most of the world is now **trapped on a debt treadmill**. The total debt level of industrialized countries, including non-government debt,<sup>10</sup> is at a **sky-high**, approaching **300% of GDP**<sup>11</sup>.

#### SLIDE: US financial assets are five times larger than its GDP

As a result of **the disproportionate growth of the financial sector** today in the United States, **financial assets are worth more than five times the GDP**<sup>12</sup>. This trend is typical for most of the world's economies. Even in **Russia**, the size of financial assets is already approaching 100% GDP.

### SLIDE: The tariff war has had a greater impact on the US than on China so far

**Odyssey of the global economy** involves various attempts to find a solution to the accumulated issues. Amongst other things **trade restrictions** have lately became one of the tools to address the issue of the

<sup>&</sup>lt;sup>7</sup> New York State Senate, <u>NY State Assembly Bill 2025-A7788</u>, Apr 2025

<sup>&</sup>lt;sup>8</sup> SWIFT

<sup>&</sup>lt;sup>9</sup> OECD, Global Debt Report 2025, Mar 2025

<sup>&</sup>lt;sup>10</sup> Total public and private sector debt

<sup>&</sup>lt;sup>11</sup> McKinsey Global Institute, On the cusp of a new era?, Oct 2022

<sup>&</sup>lt;sup>12</sup> Bank of America, Stay BIG, sell rips, Apr 2025

US budget deficit. However, a sharp increase in import duties leads to a break in supply chains, creating deficit, inflation.

**China** has hardly noticed the restrictions imposed this year. In its latest report, the World Bank lowered its forecast for US GDP growth this year to 1.4% – the worst average since the 2008 financial crisis. The forecast for China remains unchanged: its economy is expected to grow by 4.5% this year.<sup>13</sup>

### SLIDE: The fiscal situation in Western countries has deteriorated since 2019

# 5. DEBT BUILDUP AND MILITARIZATION MEANS THE DESTRUCTION OF THE MARKET ECONOMY PRINCIPLES

The difficult situation faced by developed countries is already reflected in assessments of their creditworthiness. In May, **Moody's** became the last of the three major international credit rating agencies to **downgrade the United States from its highest credit rating**<sup>14</sup>.

With a growing deficit, interest payments **divert significant budgetary resources** from the social and defense sectors. Last year, net interest payments on the national debt reached **a trillion dollars**, which accounted for **14%** of all state budget expenditures, exceeded defense spending and is already approaching the amount of healthcare spending.

#### SLIDE: Increase in national debt leads to decline

There are plenty of examples in history of how **great powers decline** due to excessively high levels of public debt.

The fate of **Habsburg Spain** in the seventeenth century, monarchical France in the eighteenth, and the **Ottoman and British Empires** in the last century fully supports this theory<sup>15</sup>.

By the late 18th century, French rulers had experienced firsthand how a **fiscal guillotine** could swiftly transform into a **literal one**. At that time, **France** had accumulated such a substantial volume of debt that

<sup>&</sup>lt;sup>13</sup> World Bank, <u>Global Economic Prospects</u>, June 2025

<sup>&</sup>lt;sup>14</sup> RBC, <u>Moody's downgraded the U.S. credit rating</u>, May 2025

<sup>&</sup>lt;sup>15</sup> Niall Ferguson, <u>Ferguson's Law: Debt Service</u>, <u>Military Spending</u>, and the Fiscal Limits of Power, Hoover Institution, Feb 21, 2025

**more than half of all government expenditures** were devoted to debt servicing<sup>16</sup>, which led to a sharp increase in taxation. This became one of the primary causes of the **French Revolution**, which ultimately marked the transition from monarchy to a bourgeois parliamentary republic.

### SLIDE: NATO plans to double defence spending to 5% of GDP

This year, **NATO member countries** began drafting an agreement aimed at significantly **increasing military spending to 5% of GDP** by 2032<sup>17</sup>. This unfunded increase will exacerbate the already **challenging fiscal positions** of these countries.

The United States is suggesting its European allies to guarantee an increase in defense spending. The **beneficiary** of this increase is the Americans **military and industrial complex.** This country alone accounts for almost half of the global arms trade.

### SLIDE: USA is the major beneficiary of Europe's militarization

The United States does not advertise that the militarization of NATO "partners" for them means shifting their own defense spending to their allies, increasing the tax base and reducing the trade deficit. As **Machiavelli once said, "il potere dell'autorità risiede nel suo segreto. The power of authority lies in its secrecy".** 

The expansion of the Western military-industrial complex is diverting enormous resources away from productive sectors. For example, the production of a single **F-35 fighter jet** requires **417 kilograms of rare earth metals**<sup>18</sup>. It is not surprising that a real hunt for these resources has been launched in recent years. Ukraine alone signed three agreements in this respect with European Union, Great Britain and USA over four years.

<sup>&</sup>lt;sup>16</sup> Niall Ferguson, <u>Ferguson's Law: Debt Service, Military Spending, and the Fiscal Limits of Power</u>, Hoover Institution, Feb 21, 2025

<sup>&</sup>lt;sup>17</sup> Bloomberg, <u>NATO Is Sketching Out Plan to Meet Trump Call for 5% of GDP on Defense</u>, May 2025

<sup>&</sup>lt;sup>18</sup> The Institute for the History of Science (USA), <u>Manufacturers Case Study</u>

But all these actions will hardly become a panacea for all problems for **Europe**, as well as for **USA**. There is always an **asymmetrical answer**.

#### **SLIDE:** The pace of innovation is accelerating

# 6. THE DIGITAL REVOLUTION WILL REQUIRE A SIGNIFICANT AMOUNT OF ELECTRICITY

The **digital revolution** with the use of artificial intelligence and big data work shall become the **basis for labor productivity growth**.

According to estimates by the investment bank Goldman Sachs, the widespread adoption of advanced technologies could increase labour productivity by **one and a half percentage points** in developed countries and by **one percentage point** in developing countries over the course of ten years.<sup>19</sup>

However, the development of advanced technologies requires substantial **natural resources**, as well as large-scale investments in **infrastructure** and **human capital**. This, in turn, means a **multiple increase in energy consumption**.

### **SLIDE:** The expansion of data centre capacity leads to an increase in electricity consumption

Undoubtedly, one of the main driving forces of the new technological revolution is the **energy sector**. Deploying artificial intelligence based on large **data centres** is a **highly energy-intensive** process. According to the International Energy Agency, the electricity demand of a single 100 megawatt data centre today is comparable to the consumption of **100,000 households**. In the future, this demand could **increase by several tens of times**<sup>20</sup>.

### **SLIDE: Data centres rank among the top five in terms of energy consumption growth**

<sup>&</sup>lt;sup>19</sup> Goldman Sachs, AI is showing "very positive" signs of eventually boosting GDP and productivity, May 2024

<sup>&</sup>lt;sup>20</sup> IEA, Energy and AI, Apr 2025

Such centres will contribute more to the growth of global electricity demand than **heavy industry** or **heating supply**. According to forecasts<sup>21</sup>, by 2030 their electricity consumption will more than double, reaching **one thousand terawatt-hours**<sup>22</sup>, which is comparable to **Japan**'s current consumption.

The impact of digitalisation on the global energy system is clearly illustrated by the example of **cryptocurrencies**. In less than ten years, they have evolved into an **independent sector** that now **consumes resources on a scale comparable to entire countries**. For instance, **Bitcoin**'s energy consumption has already surpassed that of **Poland**.

The digital revolution is opening a **new era** in the development of the oil and gas industry, including the impact on oil exploration, production, refining, data storage and cybersecurity of the industry. According to expert estimates, the market for artificial intelligence technologies in the oil and gas industry will grow by **83%** by 2030. Currently, **49%** of this market is in the **refining** segment. The adoption of artificial intelligence in the **exploration and production** segment is expected to grow by **14%** per year over the next five years<sup>23</sup>.

**SLIDE:** Urbanisation will lead to an increase in energy consumption by the populations of Africa, India, and Southeast Asia

# 7. DEVELOPING COUNTRIES ARE A KEY FACTOR IN GROWING ENERGY CONSUMPTION

**Developing countries** are becoming another key driver of energy consumption. One of the main reasons for this is **demographics**. It is expected that over the next 25 years, the populations of **African** and **Asia-Pacific** countries will collectively increase by **1.4 billion people**, accounting for nearly all of the world's population growth<sup>24</sup>.

**Urbanisation** is another important factor driving the growth in energy demand. The primary changes in this regard are also occurring in

<sup>&</sup>lt;sup>21</sup> Forecasts of leading global agencies and international banks

<sup>&</sup>lt;sup>22</sup> The IEA forecast anticipates growth to 945 TWh, while Goldman Sachs expects it to exceed 1,000 TWh

<sup>&</sup>lt;sup>23</sup> Mordor Intelligence, «<u>AI in Oil and Gas Market Analysis | Industry Report, Size & Forecast»</u>

<sup>&</sup>lt;sup>24</sup> IEA, World Energy Outlook 2024, Oct. 2024

# Asian and African countries. According to IEA estimates, over the next 25 years, the urban population in these regions will increase by more than 1.6 billion people<sup>25</sup>.

By 2050, with energy consumption in Africa, India, and Southeast Asia at the level of China's population today, the combined additional consumption will amount to about **50 million barrels of oil equivalent per day**. This represents a **quarter** of the current global energy demand<sup>26</sup>.

### **SLIDE:** The share of electricity in the energy mix is expected to nearly double by 2050

The growth of **electricity** consumption in the global energy system is the key challenge. Investments in this sector are expected to exceed those in fossil fuels by **50%** already this year<sup>27</sup>. Indeed, over the past 15 years, electricity consumption has grown at a **faster pace**, and according to IEA projections, electricity generation is set to nearly **double** over the next 25 years. The **Asia-Pacific region** will contribute the most to this growth, accounting for **60%** of the increase in consumption<sup>28</sup>.

This trend is particularly evident in **India**, where **peak demand on the power system** has risen by nearly **70%** over the past decade.

### **SLIDE:** The cost of hydrogen production prevents it from competing with fossil fuels

# 8. THE NEW ENERGY– A SYNTHESIS OF CONVENTIONAL AND ALTERNATIVE SOURCES

#### The search for new energy sources never stopped.

For many years, great hopes have been placed on the **use of hydrogen**. However, low-carbon hydrogen still accounts for **less than** 1% of all production volumes. According to the **Deloitte** consulting

<sup>&</sup>lt;sup>25</sup> IEA, World Energy Outlook 2024, Oct. 2024

<sup>&</sup>lt;sup>26</sup> This means the final energy consumption

<sup>&</sup>lt;sup>27</sup> IEA, <u>World Energy Investment 2025</u>, fossil fuels mean oil, gas and coal

<sup>&</sup>lt;sup>28</sup> IEA, World Energy Outlook 2024, Oct. 2024

company, the introduction of "green" hydrogen fuel will cost almost **10** trillion dollars by 2050<sup>29</sup>.

Meanwhile, its production cost ranges from **200 to 400 dollars per barrel of oil equivalent<sup>30</sup>**. Clearly, under such conditions, hydrogen cannot compete with oil and gas.

I want to emphasise that producing hydrogen by cheaper methods **does not reduce the carbon footprint**. According to the IEA, emissions from the production of so-called **grey hydrogen** exceed those generated during the full lifecycle of producing and using **petrol**.

Today, **space-based solar power** is also being discussed. This involves converting solar energy into electricity in space using a **satellite equipped with solar panels** and then transmitting it to Earth. The problem is that, according to consulting firm **Roland Berger**, the cost of just one such satellite exceeds **30 billion euros**. There is still **no technology capable of transmitting large amounts of energy from space to Earth<sup>31</sup>**.

Active work is also underway in the field of **energy storage**. **Alternative types of batteries** are emerging that already offer certain advantages but are not yet ready for widespread adoption. For example, **sodium-ion batteries** reduce charging time by **75%** and perform better in low-temperature conditions, but they lag **significantly behind existing lithium-ion counterparts** in terms of energy density and lifespan.

As we can see, full-scale implementation of all these technologies is still a long way off. Therefore, today the optimal solution is a **synthesis of conventional and alternative energy sources**.

### **SLIDE:** The price of uranium has more than tripled over the past seven years

As early as in the 1930s, the idea of **nuclear fusion** was formulated. Many renowned scientists, including Nobel laureates **Hans Bethe, Pyotr** 

<sup>&</sup>lt;sup>29</sup> Deloitte, Green hydrogen – Energizing the path to net zero

<sup>&</sup>lt;sup>30</sup> IEA, Global Hydrogen Review, 2024

<sup>&</sup>lt;sup>31</sup> RBC, <u>Expensive and hard: why Europe needs a solar battery in space</u>, Sep. 2022

**Kapitsa, Igor Tamm, and later, Andrey Sakharov**, sought to replicate and control this process. In theory, nuclear fusion can generate nearly **four million times** more energy than burning oil or coal<sup>32</sup>. However, to maintain the controlled thermonuclear reaction and obtain sustainable energy, it is still necessary to **improve the methods of plasma confinement, ensuring its stability**, and increasing the **efficiency**.

However, against the backdrop of growing consumption, all types of generation, including **nuclear**, are experiencing a **rebirth**. This is clearly illustrated by the price of **uranium fuel**, which has **more than tripled** over the past seven years.

Just a few years ago, nuclear energy was in **deep crisis**: due to a decline in activity in the industry, major companies like **Westinghouse** and **Areva** had to undergo **restructuring and multiple changes in ownership**. Since then, the situation has begun to change dramatically.

### **SLIDE:** Active reactors, by countries

Over the past five years, global annual investments in nuclear energy have increased by **50%**, reaching **70 billion dollars** last year<sup>33</sup>. **China** has become one of the leaders in nuclear power today. Over the past ten years, the installed capacity of nuclear generation in this country has **increased fivefold** and approached **60 GW**. **China** plans to complete the construction of **32 more reactors** in the coming years.<sup>34</sup>

It is important to note that in developing its nuclear industry, **China** relies on the latest technological achievements of the leading nuclear powers: **Russia, the United States and France**. **India** ranks second in terms of the number of new nuclear projects, with six reactors<sup>35</sup>.

Russia has many years of experience in the construction of nuclear power plants. The cost of the most modern Russian **VVER-1200** reactor is twice lower than that of the American **AP 1000**. Today, such reactors

<sup>&</sup>lt;sup>32</sup> International Atomic Energy Agency (IAEA), <u>What is thermonuclear fusion?</u>, Feb. 2025

<sup>&</sup>lt;sup>33</sup> IEA, <u>World energy investment 2025</u>, June 2025

<sup>&</sup>lt;sup>34</sup> World Nuclear Association, <u>Nuclear Power in China</u>

<sup>&</sup>lt;sup>35</sup> IAEA, Energy Reactor Information System, data as of 13 June 2025

are already operating in Russia and are planned to be commissioned in friendly countries.

# **SLIDE:** Seven countries control a significant share of uranium fuel production and reserves

Of particular importance is the availability of the **resource base**. Today, only seven countries, including the **Russian Federation**, control more than **90**% of the world's uranium fuel production and about **70**% of the world's uranium reserves.

Today, **Russia** is the only country in the world that has expertise in the **entire technological chain of the nuclear fuel cycle**, from uranium mining to nuclear fuel disposal. In total, **80 nuclear reactors** have been built in the world using Russian technologies. The world's only lowpower floating nuclear power plant has been commissioned in Russia. Today, **four nuclear power plants** are under construction in our country.

Also, a **sodium-cooled nuclear reactor** belonging to the category of **fast neutron reactors**, **the BN-800**, has been successfully operating in our country for ten years. Another latest-generation **fast neutron reactor**, **the BN-1200**, is under construction.

Reactors of this type take into account the most advanced technical solutions, including the enlargement of fuel elements, the use of uranium-plutonium mixed fuel, as well as new structural steels with increased radiation resistance, which provide **deeper fuel burnup and higher efficiency**.<sup>36</sup> In particular, the efficiency of electricity generation increases by 20-25%, even without taking into account the significantly higher efficiency of fuel use.

#### **SLIDE: Nuclear renaissance leads to increased generation**

Investments in the nuclear sector are expected to continue growing According to the IEA forecast, by 2050 the global installed nuclear

<sup>&</sup>lt;sup>36</sup> Rosatom, Fast modernized, June 2023

generation capacity will grow by nearly 60% to reach  $650 \text{ GW}^{37}$ . I believe this estimate is understated. Just a few weeks ago, the US President set a goal to quadruple the country's nuclear generation capacity to  $400 \text{ GW}^{38}$ .

Today, new technologies such as **small modular reactors** are attracting increased attention from investors. While such reactors are more mobile, their implementation also requires **investments in the development of power grids**. In addition, special attention should be paid to their safety and security from terrorist threats.

**Rolls-Royce** recently won a tender for the construction of such reactors in the **UK**. Experts note that these reactors **have a number of features<sup>39</sup>**. One of them is described in **Ecclesiastes<sup>40</sup>**: "What is crooked cannot be straightened; what is lacking cannot be coun ted." None of these reactors have been put into operation yet.

The **smaller reactors** proposed by a number of developers will require **no less effort and expense**, including those related to fuel disposal and safety, than existing larger reactors.

Finally, nuclear energy is, in any case, a **dual-use technology**. The issue of **non-proliferation of nuclear weapons** must be given the utmost attention, as it is precisely because of this that the **Middle East conflict** is currently **intensifying**. It is crucial to consider whether we want further **expansion of the nuclear club**.

**SLIDE:** Investments in "clean" energy are already twice as high as investments in fossil fuels

### 9. GREEN ENERGY TRANSITION IS ANOTHER UTOPIA

Over the past ten years, total spending on the energy transition has reached **\$10 trillion<sup>41</sup>**. During the same period, the share of solar and wind

<sup>&</sup>lt;sup>37</sup> IEA, <u>The Path to a New Era for Nuclear Energy</u>, January 2025 For the forecast for 2035

<sup>&</sup>lt;sup>38</sup> The White House (US), <u>OPINION: Trump unleashes US nuclear renaissance with bold executive orders</u>, 27 May 2025

 <sup>&</sup>lt;sup>39</sup> The Guardian, <u>'A viable business': Rolls-Royce banking on success of small modular reactors</u>, 15 January 2025
<sup>40</sup> Ecclesiastes, 1:15

<sup>&</sup>lt;sup>41</sup> PV magazine, <u>Global clean energy investment hit \$2.1 trillion in 2024, says BNEF</u>, Jan. 2025

energy in the global energy mix has increased by only four percentage points, reaching 6%.<sup>42</sup> According to the IEA, this year alone, the world is investing over **\$2 trillion in** the development of so-called "clean" energy. This is twice as much as investments in fossil fuels, which still account for nearly 80% of global energy consumption<sup>43</sup>.

It is already becoming clear that even doubling investments will not yield the desired result. Experts estimate that achieving net-zero emissions by 2050 requires more than **\$180 trillion in investments**. In other words, on average, more than **seven trillion dollars** will need to be spent annually<sup>44</sup>. And as **Talleyrand** once said: **«Tout ce qui est excessif est insignifiant»** — **Everything that is excessive is insignificant**<sup>45</sup>.

Besides this, regulators in different countries need to develop unified technical standards for new energy sources, providing their universalization and fast adaptation to any market. This is not a simple task.

### **SLIDE:** Fossil fuels have the highest energy density

It is important to note that whenever mankind switched to a new type of fuel, the **efficiency of the energy system increased** and its capabilities expanded<sup>46</sup>. This was due to the fact that the new energy source usually had a **higher energy flux density**.

**Kapitsa** proved that the density of **energy flow** is a key characteristic of any kind of energy. By this indicator, such types of fossil fuels as **coal** (135.1 W/m2), **oil** (195 W/m2) and gas (482 W/m2), as well as **nuclear energy** (241 W/m2) are far ahead of both **solar** (6.6 W/m2) and **wind energy** (1.8 W/m2)<sup>47</sup>. Thus, the concept of 'net zero' actually **crosses out centuries of progressive development of society**, offering mankind an **energy regression**.

<sup>&</sup>lt;sup>42</sup> Our World in Data, 2023 data

<sup>&</sup>lt;sup>43</sup> IEA, <u>World Energy Investments 2025</u>

<sup>&</sup>lt;sup>44</sup> Bloomberg NEF, Energy Transition Investment Trends 2025, Jan. 2025

<sup>&</sup>lt;sup>45</sup> Le Figaro, <u>Tout ce qui est excessif est insignificant</u>

<sup>&</sup>lt;sup>46</sup> V. Smil, Power Density: A Key to Understanding Energy Sources and Uses

<sup>&</sup>lt;sup>47</sup> J. van Zalk, P.Behrens, The spatial extent of renewable and non-renewable power generation, 2018

However, European politicians lack the courage to publicly recognise this fact. Their **blind faith in the 'green' transition** already resembles an addiction. As one of the classics of French literature aptly put: **'A red nose is a sign of constancy of character'**.

Clearly, the integration of renewables requires a **profound transformation of infrastructure**, the scale of which is underestimated. The IEA estimates that global investment in grid development is **two and a half times** behind investment in generation<sup>48</sup>.

#### SLIDE: Antarctica's ice cover has begun to recover

### 10. CLIMATE ALARMISM IS NOT SCIENTIFICALLY JUSTIFIED

The refusal of the main initiators of the climate agenda to implement it and the termination of preferential financing of "green" projects is confirmed by the **objective conclusions of a number of scientists**.

From a scientific point of view, large-scale deployment of renewable energy sources will not have the expected effect on the climate. **American physicists Richard Lindzen and William Happer** stated in a recent paper that a presumptive achieving 'net zero' in the United States by 2050 would avoid a temperature increase of only **two hundredths of a degree Fahrenheit**, and only **thirteen hundredths of a degree Fahrenheit**, The effect is obviously disproportionate to the amount of cost required.

Moreover, the entire concept of 'net zero' emissions is built on the assumption that rising **carbon dioxide** concentrations are destroying the climate. However, a recent study by Western scientists<sup>50</sup> has confirmed earlier findings by Nobel laureate **John Clauser** about the dominant influence of clouds on climate change. Even a slight decrease in cloud cover at altitudes below 2,000 metres can **increase solar heating of the Earth's surface by a few per cent**. This effect is several times greater

<sup>&</sup>lt;sup>48</sup> IEA, <u>World Energy Investment 2025</u>

<sup>&</sup>lt;sup>49</sup> R.Lindzen, W.Happer, <u>Physics Proves Net Zero Carbon Dioxide Will Prevent Very Little Warming but Cause Great</u> <u>Harm</u>, July 2024

<sup>&</sup>lt;sup>50</sup> W.E. van Wijngaarden, W.Happer, <u>Radiation Transport in Clouds</u>, 2025

than the effect that **doubling the concentration of carbon dioxide in the atmosphere** would have on climate.

One of the main postulates of the green transition theory is the thesis of ice cover reduction. However, recent studies by Chinese scientists show that from 2021 to 2023, Antarctica experienced a significant increase in ice mass in the amount of 108 gigatonnes per year<sup>51</sup>.

### SLIDE: Coal demand peak is once again postponed

### 11. ENERGY SECURITY DEFINES THE NEW LANDSCAPE OF THE GLOBAL ENERGY SECTOR

Renewable energy sources development must be based on existing, time-tested **traditional energy sources**, otherwise it will **undermine global energy security**.

Historically, the transition to new fuels has **never resulted in a complete abandonment** of existing energy sources. On the contrary, it has resulted in increased inter-fuel competition based on the principle of greatest efficiency. Thus, coal is still **the largest source of electricity** in the world<sup>52</sup> and **the second largest source of energy** with a 25%<sup>53</sup> share in the global energy mix.

Global demand for the fuel set a new record of **8.8 billion tons<sup>54</sup>** last year and international agencies have once again been forced to revise expectations for peak demand.

Global coal consumption has increased by **75%**<sup>55</sup> since the **Kyoto Protocol** was signed in 1997. And since the **Paris Agreement** in 2015, it has increased by almost **15%**<sup>56</sup>.

### **SLIDE: China energy balance dynamics**

<sup>&</sup>lt;sup>51</sup> New York Post, <u>Antarctic ice has made a surprising rebound in mass, scientists say</u>, May 2025

<sup>&</sup>lt;sup>52</sup> IEA, <u>Global Energy Review 2025</u>, March 2025

<sup>&</sup>lt;sup>53</sup> Our World in Data, <u>Energy Mix</u>, 2023

<sup>&</sup>lt;sup>54</sup> Rosneft calculations based on the IEA data

<sup>&</sup>lt;sup>55</sup> Energy Institute, 2024 Statistical review of world energy

<sup>&</sup>lt;sup>56</sup> IEA, Global Energy Review 2024

A unique example of a competent approach to the development of the energy system is **China**, which today accounts for a third of **global investment** in the energy sector<sup>57</sup>.

Please pay attention to the slide. In my opinion, **China**, which has already ensured its **energy security**, is confidently moving towards complete energy independence, forming a stable energy balance based on its **own resources**. There is no doubt, taking into account the persistence and professionalism of the Chinese comrades, that in the foreseeable future they will achieve the desired result, which will turn **China** from an importer of energy resources into a **major energy exporter**.

# **SLIDE:** By 2035, peak demand in China will be covered by renewable energy sources and nuclear power plants

In recent years, **China** has been the country with the largest amount of new renewable energy capacity and more than 70% of the world's "green" economy equipment manufacturing capacity<sup>58</sup>.

### **SLIDE:** China is the leader in renewable energy production chain

This applies to the entire value chain: from critical minerals to the production of high-tech equipment that has no analogue in Western countries.

In an effort to ensure reliable power grid functioning, **China** is also increasing the investments in related energy infrastructure: **investments in power grids** grew by **15%** last year and the rate of growth could double this year<sup>59</sup>. And investments in **rechargeable batteries** have grown almost fivefold to **\$11 billion**. As of today, the total capacity of such batteries in China exceeds **35** GW<sup>60</sup>, which amounts to **two-thirds of the entire global capacity**<sup>61</sup>.

<sup>&</sup>lt;sup>57</sup> IEA, World Energy Investment 2025

<sup>&</sup>lt;sup>58</sup> BloombergNEF, <u>China Dominates Clean Technology Manufacturing Investment as Tariffs Begin to Reshape Trade</u> <u>Flows</u>, Apr 2025

<sup>&</sup>lt;sup>59</sup> Bloomberg, <u>China Accelerates Grid Spending to Absorb Deluge of Solar Power</u>, Mar 2025

<sup>&</sup>lt;sup>60</sup> Reuters, <u>China, struggling to make use of a boom in energy storage, calls for even more, 5</u> July 2024

<sup>&</sup>lt;sup>61</sup> The Visual Capitalist, <u>Top 20 Countries by Battery Storage Capacity</u>, 25 March 2025

### **SLIDE:** China is also leading the way in commissioning coal-fired power generation facilities

However, China has never abandoned fossil fuels. Over the past five years, the country has outpaced the rest of the world in terms of **new coal-fired power generation capacity**<sup>62</sup>. Today, **coal accounts** for almost  $60\%^{63}$  of China's electricity generation. Last year alone, China issued permits for about **100 gigawatts** of new coal-fired power generation<sup>64</sup>, the highest in a decade, which should strengthen coal's role in the grid.

China's efforts to strengthen its own energy security have drawn a **storm of criticism**, often disguised as environmental concerns. As the outstanding Chinese strategist and thinker **Sun Tzu** aptly noted two and a half thousand years ago: "The more brilliant your plan, the fewer people will agree with it."

### SLIDE: Oil consumption in China is slowing down

China's co-ordinated approach to **energy security** is particularly clear in the case of **electric vehicles**. The growth in the EV sales resulted in **significant slow-down in motor fuel demand** during the last year. If this trend continues – it may have a **significant reverse impact on the oil market balance**.

An important part of China's strategy to reduce dependence on energy imports is the **processing of coal into synthetic fuels and chemical products**. About 40 million tons of coal is used to produce **synthetic fuels and more than 260 mln tons for ammonia and methanol production**. <sup>65</sup>

**SLIDE:** Application of GTL technology in Rosneft Oil Company

<sup>&</sup>lt;sup>62</sup> IEA, Coal 2024

<sup>&</sup>lt;sup>63</sup> Ember Energy Agency

<sup>&</sup>lt;sup>64</sup> IEA, World Energy Investment 2025

<sup>&</sup>lt;sup>65</sup> Rosneft's calculations based on data from the IEA, China Coal Research Institute, and the Institute of Energy

I would also like to inform that Rosneft has completed the development of proprietary technologies and catalysts throughout the entire chain of the **GTL** process using **Fischer–Tropsch** synthesis. All stages of the technological process are covered by respective patents. We plan to introduce this technology in **Taimyr**. I would like to show you the result of this work. (*Demonstration of a flask with fuel*). Here is **synthetic oil** that consists of **pure hydrocarbon molecules** with **zero** sulphur content.

**India**, which many now expect to experience explosive growth in energy demand, is **on the verge of choosing its energy consumption model**. In this country, we are also seeing a growing interest in coal-fired and nuclear generation. For example, more than **30 coal mines** are scheduled to reopen this year, and **five new coal mining projects** are expected to come onstream<sup>66</sup>. India is also building six new nuclear reactors.

According to the Energy Ministry's plans, at least **80 gigawatts** of additional coal-fired capacities will be built in **India** to meet growing electricity demand by 2032 – equivalent to an increase of more than a third from the current **218 gigawatts** – and will require about **\$80 billion** in investments<sup>67</sup>. These new capacities will account for about a quarter of the forecasted increase of energy demand in India.

### **SLIDE: US electricity consumption has started growing after a decade of stagnation**

In the **US**, where electricity consumption has returned to growth after a decade of stagnation<sup>68</sup>, the new administration is already revising its energy strategy in favour of traditional sources.

For example, President **Trump** recently signed a series of executive orders aimed at revitalising the coal industry<sup>69</sup>. Simultaneously with

<sup>&</sup>lt;sup>66</sup> Financial Times, <u>India's coal champion reopens dozens of mines</u>, 8 June 2025

<sup>&</sup>lt;sup>67</sup> Reuters, <u>India eases coal supply rules to ramp up power generation capacity</u>, 7 May 2025

<sup>&</sup>lt;sup>68</sup> US Department of Energy, <u>After more than a decade of little change, U.S. electricity consumption is rising again</u>, May 2025

<sup>&</sup>lt;sup>69</sup> The White House (US), <u>Fact Sheet: President Donald J. Trump Lifts Burdensome EPA Restrictions on Coal Plants</u>, Apr. 2025

regulations' mitigation, the US Department of Energy has raised its forecast for US coal production this year by  $6\%^{70}$ .

The lifting of "green energy" subsidies in the US shows that unlike the **European Union** this country is coming back to a **pragmatic policy**. This has already led to the fact that the cost of electricity in Europe today is **5 times higher** than in the US.

### **12. STATE OF THE OIL INDUSTRY**

The energy policy that was initially proclaimed by the new **US** administration appeared **very promising**. However most of the proclaimed objectives are yet to be achieved. Tariff wars led to drop in oil prices, while taxes for the oil industry remain at the previous level, and the interest rates are not going down. Amid all this, the number of active drill rigs over the recent 2 months has dropped by 9% down to 439 units, and so oil production growth has stalled.

Within less than one year the US Department of Energy reduced its forecast for the US oil production rate till 2025 year end by **400 barrels per day.** 

At current prices, the USA oil production appears to have peaked. This opinion was recently voiced by **Diamondback** and **ConocoPhillips**. Oilfield services company **Liberty Energy**, founded by **Chris Wright**, the US Secretary of Energy, expects a **significant slowdown in drilling activity** in the second half of this year, which should lead to a reduction in the US drilling fleet by around  $10\%^{71}$ . Not surprisingly, against this backdrop, many shale players have already started **cutting investments**.

The IEA's latest estimate is that this year, for the first time in five years, global upstream investment in oil will fall by 6%, with the US seeing a drop of around 10%.<sup>72</sup> I think this is just the beginning.

<sup>&</sup>lt;sup>70</sup> US Department of Energy, <u>Short-Term Energy Outlook May 2025</u>, May 2025

<sup>&</sup>lt;sup>71</sup> Rigzone, <u>Company Founded by Trump's Energy Chief Predicts a Shale Slowdown?</u>, May 2025

<sup>&</sup>lt;sup>72</sup> IEA, World Energy Investment 2025

### **SLIDE: OPEC+** oil production growth since May is 3 times higher than initial plan

The new head of the US Treasury Department, **Scott Bessent**, has repeatedly stated that the success of Trump's second presidential term requires **oil production growth in the US in the amount of three million barrels per day**. This is part of a so-called "3-3-3 Plan" which also envisages cutting the US budget deficit down **to 3% of GDP** and reaching **3% of GDP increase**.

As for **barrels**, what difference does it make for the American market where these barrels will be coming from? Quite possibly, those may be barrels produced in **OPEC**+ countries. Since late last year the alliance has consistently reiterated the need to ramp up production due to changes in consumption.

The announced production increase from May this year is **three times higher** than the alliance's original plan. In addition, the entire OPEC+ production increase may be **shifted a year earlier** than planned. The decision of OPEC leaders to **boost production** appears today a very **forward-looking and, a justified one** from the market standpoint, given the consumers' interest in light of uncertainty pertaining to the scope of the **Iran-Israel conflict**.

#### **SLIDE:** The price of gasoline in the US has returned to 2019 levels

Low oil prices suit consumers in the US, where the inflationadjusted price of gasoline has already returned to 2019 levels. It is no coincidence that this is happening against the backdrop of the White House's intensified Middle East policy and the conclusion of a number of agreements with key countries in the region.

#### SLIDE: Oil reserves are at the 5-years' minimum

Despite the announced production growth, there can be no question of an oil excess in the market in the long run. World oil reserves are now at their **lowest levels** in five years. I would like to note that the European Union would just not rest and keeps trying to push the Russian oil **price cap** down to the level of **45 dollars per barrel**. I believe that the real purpose of this is the EU's desire to **increase the efficiency of its purchasing from Russia, not to reduce Russian budget revenues**, as was publicly declared. Figures confirm this: according to Western experts, since the beginning of 2023, Europe has purchased more than **20 billion euros** worth of Russian oil, thus becoming the fourth largest buyer.

It is obvious that the **United States will not agree with the lowering of the reference prices** for the Russian oil, pushed by the Europeans, because it will negatively affect the **profitability of the US oil exports**.

By the way, imports of Russian dark oil products after the start of sanctions restrictions allow **Saudi Arabia** to effectively meet the needs of its energy industry in raw materials without affecting oil exports. The volume of **fuel oil and vacuum gasoil** supplied to this country from Russia over the past 12 months is **more than six times** higher than that of four years ago.

A similar approach is now applied by Indian refiners. Being the second largest buyer of Russian crude oil, **India** has practically **doubled its export of petroleum products into Europe** over the past three years.

### **SLIDE:** The current price level does not cover the budget expenditures of oil-producing countries

Many producing countries need an oil price much higher than current levels to **balance their budgets**. Thus, according to IMF calculations, in 2025 this price is more than **\$90 per barrel** for **Saudi Arabia**'s budget.

#### SLIDE: Oil majors shareholders' payments are at risk

In addition to the interest of states, the **interests of shareholders** must also be taken into account. Low oil prices in the current period do not allow many companies to maintain the same level of dividend

payments and share buyback. According to experts of Rystad Energy, if oil majors retain payments to shareholders, they will have to practically completely abandon investments or significantly increase their debt already this year.

The fall in prices has already started to affect the major players. **BP** and **Chevron** will reduce share buybacks by almost  $60\%^{73}$  and 30%, respectively<sup>74</sup>, while **Aramco** has to build up debt to be able to pay dividends.

### **SLIDE:** Russia's real contribution to the world economy is proportional to its share in the resource balance

# 13. GLOBAL ENERGY SECURITY IS IMPOSSIBLE WITHOUT RUSSIA, VENEZUELA AND IRAN

Russia, Venezuela and Iran are **key players** in the energy market, and **global energy security** directly depends on their supply. These countries account for **one-third of the global liquid hydrocarbons reserves** and **15% of the global production**. Without their resource base, it is impossible to facilitate the transition to the **new landscape of the global energy industry**.

Russia's actual contribution to the global economy is proportional to its **share in the world resource balance**. Our country's share in global **hydrocarbon exports** is about **15%**. However, the **Russian resource base** is not only hydrocarbons, but also **metals**. Russia's share in gold mining is about **10%**, and in the mining of such metals as high-grade **nickel** and **palladium** it reaches **20%** and **40%** respectively. In addition, Russia has about **10%** of the world's reserves of **rare-earth metals**, without which the development of modern technologies is impossible.<sup>75</sup>

### **SLIDE: Conclusive slide**

### 14. CONCLUSION

<sup>&</sup>lt;sup>73</sup> Reuters, <u>BP reports 48% profit drop as strategy chief leaves</u>, Apr. 2025

<sup>&</sup>lt;sup>74</sup> Reuters, <u>Chevron meets Wall Street profit estimates but cuts buybacks in Q2</u>, May 2025

<sup>&</sup>lt;sup>75</sup> Energy Institute, Statistical Review of World Energy 2024

Over the past three-plus years, the Russian economy has been under **unprecedented sanctions pressure**. However, despite numerous negative forecasts, it has been able to **assert its viability** during this period. In the last two years, Russia's GDP growth rate has exceeded **the global average**.

According to the Ministry of Finance the **federal budget remains balanced** and the level of government debt is under control.

The banking **system is stable** due to the relatively **low tax burden** and increased yield of **federal loan bonds**, which allows it to operate with **high efficiency**. But we expect an increase in its contribution not only to the budget, but also to the country's economy. As a minimum, increasing **dividend payments** in favor of the state would be reasonable and appropriate and would reduce budget risks and allow for considering the **mitigation of fiscal regime** for producers and become a stimulus for the country development.

Let us go back to the **beginning of our discussion**. Having acquired the Golden Fleece, the Argonauts returned to Greece, but there was still no happiness. But what is the meaning of the myth, if evil is followed only by evil, and good intentions turn into their opposite? Perhaps the meaning is that the Golden Fleece, obtained by criminal means, does not bring happiness, and **evil always begets evil**. **The miracle will not happen**.

Despite the fact that our dream of an open global economy, of unshakable laws, protecting the inviolability of property and contractual obligations, of equal legal guarantees for all turned out to be an illusion, despite the historically unprecedented external pressure, we repeat the **great words** that were pronounced in June of 1941 and have since become a symbol of the insuperable spirit of our people: "**Our cause is right**! **The enemy will be destroyed, the victory will be ours!**"

Thank you for your attention!