Messages of Rosneft Chairman of the Management Board at 2016 IP Week

London, February 10, 2016.

Slide 1. Crisis of the oil market and prospects to quit it

Introduction

Slide 2. Oil prices are abnormally low

Mr. Chairman, ladies and gentlemen, colleagues!

Probably, nobody expected such dramatic developments in the global oil market. After the catastrophic collapse of the world oil prices in late 2014 - early 2015, the situation seemed to have calmed down, in spring the prices grew up to $66 per barrel, but then collapsed again; in January 2016 they fell to nearly $27 per barrel. The essential thing here is that, **given the multiply increased Opex and Capex per barrel, the current price is probably minimal since 1973 (in the mentioned figures)**.

It appears that two things can be noted at once:

- **Our message about the gap between the financial instruments of the oil market** which, in fact, determine the prices **and specifics of the actual industry development has been clearly confirmed**. The financial market observes its own interests, and they are often abstracted from the problems of sustainable development of the industry. In this market, prices can both fall to the "bottom" where any development or stable functioning are impossible, and climb to unreasonably high levels. Financial players have tools that allow them making profit on both rise and fall in prices. Today, the financial technique implies that decisions are often made by robots at the trading platforms, and the programs managed by them impersonally respond instantly to such short-term changes of the situation or information on the oil reserves movements;

- Link of the price dynamics with the parameters of production is primarily important to the producers who

have a long-term horizon of decision-making, investment and implementation of major projects, and the consumers who are also interested in predictability. **In the past year, we saw developments in which producers were split up, and some of them announced a "price war"** setting up a mission to oust "ineffective" suppliers from the market and take their place at the market, in fact, this price war should have determined who is "ineffective".

In these circumstances, it is quite expected that the financial market players went bears while the related (if not affiliated) think tanks helpfully prompted lower and lower price benchmarks to the market.

Who was the main beneficiary of the current crisis? Apparently, not consumers because the retail prices fell by less than 20% on average, but rather financial players who, by the way, have not redirected **$250-300 bln** investments released from oil sector into projects in other sectors of the economy so far.

What are the main drives of the current crisis development that we see?

Slide 3. Disclaimer

In the analysis, **we will use the results of the forecast calculations and estimates** for which reason I would like to draw your attention to the disclaimer arising from the presence of debatable judgments and predictive calculations in our report.

1. Key factors/assumptions of origin and driving forces of "new reality" development on the global oil market in 2015

At first, we will briefly consider the **issues of oil demand and its structural and regional/country aspects**.

Slide 4. The fall in prices has led to demand acceleration in 2015, with diversification of the demand structure

As we can see, the **growth of demand for oil and petroleum products has accelerated**. The growth has become more diversified - China's role has diminished (this process already began in 2012), but the share of India, other Asian countries and Africa is gradually growing. It is also important that for the first time in the recent years OECD countries reported growth in oil demand.

Such diversified growth seems to us more resilient, and it confirms that **many of the mentioned "threats" of reducing**

the role of oil in the world economy are largely exaggerated. This also applies to excessive financial market focus on the China's economy "problems" and the use of such focus to continue the game for a fall. Objective grounds are missing here. Rosneft has a large and positive experience of cooperation with China in the area of long-term oil supplies, and we have no doubt in the perspectives of development of our cooperation. Currently the company supplies up to 32 mln t of oil annually in this direction and we are developing our partnership in all directions.

Slide 5. Explosive growth of shale oil production in the US in 2013-2014 ceased in 2015

As we know, the **explosive growth of shale production in the US in 2013-2014** became another crucial factor, and even the "trigger" of the crisis.

In 2013-2014, this growth was probably unprecedented in the world history in terms of its scale and pace. We have already noted that this reflected the advantage of the developed

US market with its financial instruments (large-scale hedging of risks, availability of cheap investment, propensity of investors to take prompt decisions, use of land pledge and encumbrances, etc.), and its capacities in drilling, service and transportation.

In late 2014, some of the leading oil producers from the Middle East followed the example of the US strategy in increasing oil production.

As the result, the problems of excess oil on the market, long-time decline in oil prices, falloff in capacity of commercial shale oil production in the US have become worse.

Slide 6. OPEC actions gave backing to imbalance in the oil market

There is every reason to believe that these producers have deliberately created and continue to maintain a surplus of supply over demand claiming their commitment to the policy of low prices. The consequences of this policy, even if it is changed or adjusted, will have affect for a certain time.

Slide 7. Positions of major speculators in the oil futures markets

We have to admit we underestimated the fact that the financial market players have no restrictions in dealing with their sheer financial objectives and **are ready to "test" any price levels** – for example, 27$ in January - down to $10 per barrel as it was recently announced by a reputable investment structure. What is it if not "an invitation to the irresponsible game" for an unlimited price drop?

2. Lack of fundamental validity of the current situation

It is natural to start the substantive debate around the **situation with the American shale oil market**.

It demonstrated quite flexible technological response to the price shocks - there was a significant increase in the efficiency of shale oil production - the prices fell 3 times, the number of drilling crews reduced more than twice, while the production decreased by not more than 15%. This happened mostly due to increase of frequency and intensity of hydraulic fracturing.

Slide 8. Distribution of different productivity zones within the Eagle Ford play

An important factor was the concentration of drilling in the most productive areas, the so-called **sweet spots**. Thus, 81% of production in the Eagle Ford play accounted for such areas in July 2015. At the same time, **the area with the highest quality of wells is a small fraction of the total play area, so,**

apparently, this reserve of productivity increase is already close to depletion.

Slide 9. Scenario-based forecast of oil and gas condensate production from shale formations in the United States in 2016

It appears that the dynamics of the US shale oil production in the second half of 2016 will be largely determined by the average oil price in this year. The slide presents the expected trends of production level changes under certain monetary price fluctuations in this year.

Slide 10. Future developments in the US oil production are highly dependent on the price environment

Having this, the price level of $50-55 per barrel, which is calculated as breakeven for the shale producers and often spoken of as the top limiter for the oil price range, will change over time.

This can be seen from the official analysis of the US Energy Information Administration (Department of Energy) which suggests that in all future realistic scenarios, shale oil production in the United States in the long term will be reduced, despite the expected rise in prices due to decline in quality of the fields and appreciation of technologies.

Slide 11. There are serious alternative views on estimates of shale oil prospects

Thus, if based on these representations of the Energy Information Administration, the **production in the United States cannot repeat the leap of 2012-2014 under any reasonable assumptions**. **This is a very important and yet underrated factor!**

It is now generally accepted that due to the novelty of the shale oil sector, its adaptation to rapidly changing market conditions, and the constant development of technology, forecasting in this area is very different from the traditional oil industry.

In this regard, there are quite well-founded views that the forecasts and the estimates of the Administration are **unduly optimistic**.

For example, a recent report by the famous Canadian geologist **J. David Hughes** of the Post Carbon Institute entitled "Drilling Deeper" has made the following conclusions:

- **Tight oil production from major plays will peak before 2020... production will be far below EIA's forecast...**
- **...Bakken and Eagle Ford—which account for more than 60% of current production, are likely to peak by 2017 and the remaining plays will make up considerably less of future production...**

Thus it turns out that the shale revolution in the United States has serious restrictions on time and scope. Possibility of its spread to other regions is also limited as

there is usually no combination of conditions that have made this revolution possible and economically efficient.

In view of such range of opinions, we will closely monitor the development of ideas about the future of shale oil production in USA.

Slide 12. Drilling activity and volume of investments reduced in all regions, expect Russia and Saudi Arabia

Most important mid-term factor is already revealed **decrease of investments in oil production in the world** that will have most severe consequences for liquid hydrocarbon production outside the USA.

Slide 13. Significant and steady decline of drilling and investments may result in lack of supply in the mid-term perspective.

One should understand those time lags between making investment decisions and start of major production projects implementation - they constitute about 4 years in most countries. At the same time, annual decline of daily production at the developed oil fields across the world is estimated at 3 mmbpd.

Witnessed capital investments decrease may lead to the growth of depletion rates at the existing fields, as costs

associated with oil recovery factor improvement and drilling of additional wells at existing fields decrease.

Slide 14. Budget and social and economic related problems in the OPEC countries and their potential development

Budget problems still endure and get aggravated **in the OIPEC countries as well as countries where the independent producers work**. It is hard to imaging for us that initiators of this *price war* can ignore those problems for any long time – both they themselves and their partners and allies may as well face social problems.

We have a strong interest in the news regarding potential **start of Saudi Aramco privatization** and would certainly support such decision. We believe that continuing on that path will allow increasing transparency of its operations, well provide market participants with a significant volume of new information on the potential of this company, including its geological resources and the efficiency of its operations. Arrival

of private investors to the wholly owned government oil companies, although with minority shares, increases the quality of information exchange and management, makes the companies more market oriented, decreases dependence from taking political decisions, increases management responsibility to shareholders and globally - contributes to aligning of our operating environment.

No doubt, that **the factor of Iran moving out of the sanctions regime** is important.

Slide 15. Iran's possibilities in oil production and export.

Only due to the existing or mothballed capacity, oil production in Iran may be increased up **by 43% to 4.5 mmbpd** by 2020 in the base scenario. In the optimistic (for Iran) scenario through attraction of sufficient volume of foreign investments and implementation of a number of PSA projects, the volume of production in Iran can exceed **5 mmbpd** in 2020 and **6 mmbpd** by 2025.

According to the estimate of Minister of Petroleum of Iran, an attraction of circa **$30 bln** of investments by 2018 and **from $180 to $220 bln** over a longer time period is required.

It will not be an easy task to implement, as cautious investor behavior, that they associate with political risks of the 2017 elections in the Islamic Republic of Iran could affect. In addition, according to Wood Mackenzie, there is currently an uncertainty about the economic attractiveness of the new terms of PSA contracts in Iran that can sharply curtail the role of those projects in the oil production growth in the country. This issues

will be considered by the Iranian colleagues. For our part, we will be very actively developing cooperation with the Iranian partners both in the oil and other economic sectors, in the energy sector for the first place.

In the base scenario, volume of oil available for export from Iran, will increase from 1.27 mmbpd in 2014 by 85% in 2020 up to 2.4 mmbpd

The additional factor of a short-term supply strengthening may be sales of oil from Iranian tanker fleet stock volume which is **49 vessels with the total deadweight of circa 11 mln tons (maximum stock volume is 40 MMbbl).** However, according to a number of experts, this fact should not have a significant impact on changes in demand and supply in the market, as the major share (circa 2/3) of these hydrocarbon volumes is the gas condensate with high sulfur content, the global demand for which is very limited.

3. Alternative developments – mid-term (until 2020) and long-term (over the period till 2036-2040)

Despite an expected smooth slowdown of GDP growth in China, a certain acceleration of economic dynamics in Europe, USA and India predetermines, at least for 2016, a higher growth rate of world GDP than in 2015. In perspective till 2020, assuming relatively stable global financial markets, the growth of world GDP will be circa 3% per annum.

Given some slowdown of world economy's oil capacity decline rate, driven inter alia by collapse in oil prices, **a most probable annual 1.3-1.5% growth of demand for liquid hydrocarbon can be expected** in the mid-term perspective.

Recently expressed innovations that shale production in the USA will now become standard and only regulator of the price situation are greatly exaggerated. **In 2015 to a greater extent, behavior of a number of the OPEC countries became such a "regulator", unfortunately with a negative sign.**

Slide 17. World liquid hydrocarbon market balancing mechanism in 2016-2017

Currently, excessive supply is **1.5 – 1.7 mmbpd** which approximately equals to the excess of the quota for supply by the OPEC countries (30 mmbpd without Indonesia), that they themselves agreed.

Global demand for oil may grow by 1.4 – 1.5 mmbpd by end of 2016, with the differently directed tendencies in oil production most likely to be observed: oil production decline in the USA down to 0.7 mmbpd with the preserved production growth in the OPEC countries up to 0.6 mmbpd. (mainly due to the expected increase of oil production in Iran). Therefore, already by the end of 2016, an imbalance between oil supply and demand may significantly reduce and lack of supply of oil by end of 2017 may likely to occur (up to 0.7 mmbpd), which, however could be offset by reduced oil stocks accumulated in the recent years.

However, influence of the two key factors may significantly slowdown the process of market balancing. On the one hand, this would be the potential of additional increase of oil supply from the OPEC, and on the other hand this would be additional supplies of oil from the USA in case the drilled but unfracced wells are commissioned, which we estimated at the volume of 0.5 mmbpd.

In this regard, major exporters agreed reduction of supplies in the volume of circa 1 mmbpd would sharply reduce the uncertainty and move the market towards reasonable price levels.

In the period till 2020 shale factor will gradually lose its dominant role due to the aforementioned limitation of the efficient resource base.

Surely, it would take certain time to smooth out the situation of abnormally high level of oil tanks utilization, primarily in the USA.

Slide 18. Energy agencies expect oil price growth in both mid-term and long-term perspectives

Now let's turn to the more long-term market perspectives.

As you can see in the **Slide 18**, all key analytical agencies still anticipate a significant price growth in the perspective beyond 2020.

Slide 19. The price increase will be due to growing demand and the need to produce more high-tech oil

This is the conclusion of their analysis of the economics of resources development which will enable the expected growth in demand for liquid hydrocarbons. Among these resources, large high-tech oil resources will occupy a constantly increasing share. According to our estimates, the projected price levels can support the development of such resources.

Of course, we all need to follow closely the scientific and technological progress, the development of new technologies,

including energy-saving technologies and new sources of energy. But I would like to warn against a simplified understanding of these processes when they announce the "end of the oil era," which has occurred or is about to occur.

Slide 20. The global development of new technologies is not only a risk but also an opportunity for growing oil consumption

It is important to note that the development of such technologies often provides new opportunities for growing oil consumption. Large-scale development of technology within the oil industry will contribute to its high competitiveness in an increasingly competitive environment.

Slide 21. The structure of current global production presents a misleading picture of the sources of future production, which depends on resources

To summarize, let me note that in the long term, the role of major players in global oil production will be largely determined by a reliable, efficient and large-scale resource base, while speculative, short-term factors will fade into the background. In this sense, we feel confident – **the economics for the development of our resources are one of the best in the world!**

Let me briefly touch on the topic of our session related to the problem of environmental pollution and greenhouse gas emissions. This problem is extremely urgent and important. But, I must say that it has virtually no solution at low prices for fossil fuels, including oil. We have already noted that the low prices for oil and other energy resources are slowing down the energy-saving processes. According to our estimates, the slowdown in the dynamics of energy consumption, which have been observed in recent years, all other things being equal, requires at least a 5% increase in the production of fossil fuels by 2030.

This means additional burning of at least 700 million tons of coal, oil and gas every year.

In this sense, the issue of rational price levels for primary energy is not so much a problem of income for energy producing industries, but rather a problem of global ecological balance and quality of life of the world's population.

4. Role of Russia and Rosneft as Russia's largest oil producer in the stabilization of the market situation

One of last year's "surprises" for many was that resistance to price shocks that the Russian oil industry demonstrated. Those who have worked a great deal with us understand the reasons for this. We have record-low operating costs, a flexible tax system, and the ruble devaluation that took place also contributed to a stable financial performance of the industry. For example for Rosneft this has led to decline of lifting costs per barrel of oil from 4$ to 2.7-2.8 per barrel. I will say even more - our resource base allows maintaining future production over a long period without large-scale exploration or appropriate high capital expenses. For Rosneft this period could be estimated at 20-22 years. Analyzing this stability of the Russian oil sector I would point out that as a result of the primary privatization Russian companies basically don’t have large leverage. This should be taken into account and their

ability to withhold low price parameters for a long time is also explained by this important factor.

Slide 22. Further Russia's oil production dynamics depend on the tax environment rather than on oil prices

The prospects for the Russian oil sector are also quite positive. The General Scheme of Oil Industry Development until 2035 should be adopted this year. Overall, it seeks to ensure the stabilization of production volumes in the long term. Obviously, this requires an effective stimulating tax system which is currently being improved.

With a combination of favorable conditions including, of course, clear market signals about the need for additional volumes to be supplied, production in the country in general and at Rosneft, in particular, may well grow. We will be ready for such a development technologically, organizationally and economically.

I would like to particularly dwell on the important and yet underappreciated problem - the development of oilfield service

facilities, especially for complex, high-tech oil projects. In recent decades, it has become a popular view that oil majors should get rid of their own oilfield services and outsource them. But this also largely means "deliverance" from mastering the latest technology, as well as dependence on the behavior of oilfield service companies, which were obviously inflating the rates for their services in the period of high prices even by price fixing at the market. In crisis conditions, **it is the OFS sector that becomes the main object of mergers and acquisitions, even including a large-scale redistribution of the OFS sector.** We even assume that as a result of current crisis it is OFS companies that will be in the area of interest of the major market players. Given these risks and opportunities, we are consistently increasing our own OFS capacity and technological possibilities and believe that we need a reasonable combination of in-house and third-party resources.

Let's try to summarize the main conclusions:

- a deep gap between financial instruments and oil production has become a major factor in this pricing crisis;

- there must be a stabilizing influence by the producers and consumers on the market, which requires interaction mechanisms;

- the market will inevitably stabilize, it has good prospects for further growth, but it depends on its players how quickly and effectively that will happen;

- a system of long-term supply contracts that we are developing with our major partners is an essential tool for such stabilization;

- the development of state-of-the-art technologies both inside and outside of the industry is an increasingly important trend in the development of the energy sector and the economy in general;

- it is the development of technologies that should ensure long-term competitiveness of our industry, in spite of the

objective processes of the resource base quality degradation and rising costs;

- technological development of the oil industry will take place, e.g. due to repartition of the oilfield service market which comprises drilling services, transport, workover, etc. Further specialization in the industry means the growing role of oilfield services that will determine the nature of the future oil production to an increasing degree;

- the major directions of technological progress and increase in the industry's added value are the new opportunities for petrochemicals, including the manufacture of heavy-duty construction materials.

Slide 23. Thank you for your attention.