

**INTERNATIONAL EXHIBITION & FORUM  
EXPLORATION, PRODUCTION, PROCESSING 2015  
Russia, Moscow, November 17<sup>th</sup> – Plenary Session**

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Ministers, Your Excellencies, Ladies and Gentlemen, distinguished Guests –

I am delighted to speak here today at the International Forum on Exploration, Production and Processing and I would like to express my personal thanks to Minister Novak for his kind invitation to share my thoughts on the transformation of the energy markets and Russia's role in the global energy mix.

Just over a year ago we held our most successful World Petroleum Congress to date in Moscow, so it is worthwhile looking at the outcomes from that event and the developments in the international markets since then.

First, let me give you a bit of background on the World Petroleum Council. The WPC is the world's premier global oil and gas forum and is the only international organisation representing all regions and all aspects of the petroleum industry. It was established in 1933 with the intent to promote the management of the world's petroleum resources for the benefit of all. Headquartered in London, the association now includes 70 member countries representing over 97% of global oil and gas production and consumption. Our members consist of both OPEC and Non-OPEC countries and include National Oil Companies (NOC's) as well as Independent Oil Companies (IOC's). WPC is a non-advocacy, non-political organisation and is accredited as a Non-Governmental Organization (NGO) to the UN. We are registered as a charity in the UK due to our legacy work, mainly in the field of education.

Every three years we organise the World Petroleum Congress, which has been referred to as the “Olympics” of the petroleum industry. The Congress is designed to provide a forum to showcase technological advancements in both the upstream and downstream sectors of the petroleum industry, build international cooperation and network with the leaders of our industry.

In June 2014, Russia was the host of the 21st World Petroleum Congress here in Moscow. As the world's largest producer of crude oil and the country with the largest natural gas reserves in the world, Russia was the perfect place to hold the Congress.

The week-long event gathered 5000 key decision makers, including 34 ministers, over 1000 media representatives and nearly 700 speakers. With its 50,000 sqm, the accompanying World Petroleum Exhibition was the largest oil and gas exhibition ever to take place in Russia. The strong interest in Russia’s oil and gas industry was an important factor in attracting more than 500 exhibitors from over 80 countries. More than 3000 global operators, contractors, suppliers and services presented their companies and strategic operations in front of over 20,000 visitors.

This world-class event was organised by the Russian National Committee of the World Petroleum Council under the leadership of the Russian Federation. We are very grateful to Minister Novak for his excellent support and active participation at the Congress.

The theme for the 21st World Petroleum Congress in Moscow was “Responsibly Energising a Growing World”. With an expected world population of over 9 billion by the year 2050, the biggest challenge for our industry will be to supply energy and products in a world with increasing challenges and uncertainties. In order to continue delivering affordable, safe and reliable

energy, the industry requires massive investments, leading edge technologies, the highest skilled human resources, and superior ethical business practices. Stability of the energy sector and close international co-operation are essential to achieving that.

This is especially important in times like this, when the industry is experiencing an extreme downturn, with prices having dropped by 50% in the past year and market expectations looking at a prolonged weakness of oil prices into 2016. This has had a major impact on drilling activity and capital spending. The IEA estimated that globally, companies would cut their 2015 spending on new oil and gas production projects by more than \$100 billion, a decline of over 20% compared with 2014. With the repeat dip in oil prices, we see oil companies preparing for further cuts now as they revisit their spending plans.

As low-priced oil continues, companies face declining cash flow as their options for raising capital diminish.

With the high output from the North American shale gas industry and OPEC's continued production at high capacity, the markets are faced with a global oversupply of crude. According to the US Energy Information Administration, crude oil stocks are currently near an 80-year high. At the same time, global economic growth has slowed down more than expected, as did the demand for oil in major consuming countries such as China.

With benchmark Brent crude below \$50 per barrel and the prospect of oil prices remaining lower for longer, the industry needs to focus its efforts on making their businesses more economically robust, mainly through simplification, cost control and improved execution.

Rather than simplistic, across-the-board cutbacks that can weaken a company's long term position, leading companies need to focus on developing sustainable cost transparency and cost optimisation capability.

At the project level, standardization has emerged as the majors' big hope for long-term cost control. Leveraging shared expertise, simplification and standardization can lead to true collaboration with service firms, with project deferrals being used not simply as a way to squeeze contractors on costs, but also to allow more timely reviews of project design and engineering.

This was already addressed more than a year ago at the World Petroleum Congress in Moscow, where many of the keynote speakers highlighted the need to devote more effort to finding solutions to drive costs down. They identified a number of options, such as building on existing experience, standardizing more, as well as reusing technology and concepts which have already shown successful application elsewhere. It is not a fight between suppliers and contractors, but a common challenge that has to be solved together.

The Congress was also an opportunity to discuss new technologies for downstream processing, as this remains one of the most pertinent problems in that country. But Russia is working to turn this gap around to its advantage: today, new processes are being developed – more effective and less ecologically damaging than those which have been used in the past.

People are our greatest assets and skilled workers are the human capital of our industry. Companies should therefore be encouraged to continue investing in training and working to retain key skills through the down-cycles.

By collaborating across the industry, making structural changes, standardising operations, implementing digital solutions to improve productivity and

profitability and optimising internal capability to drive higher efficiency and agility, companies can emerge from uncertain times stronger and more competitive. So while the business environment may remain difficult and unpredictable, oil and gas companies can take action in numerous areas to reduce the impact to the bottom line and emerge stronger and in a better position to respond to the volatile crude cycle.

Innovation is a strong driver for the industry. Our industry is exploring in ever more challenging new frontiers, such as the Arctic shelf, where large oil and gas discoveries are still being made. The development of such new discoveries will require deployment of cutting edge technologies delivered in an environmentally safe manner. Enhanced oil recovery is still one of the more promising areas to increase the reserves and production from existing fields. The development of new technologies is significantly increasing recovery factors and prolonging the life of mature oil and gas fields.

Technological innovation has made it possible to extract fossil fuels that weren't accessible just a decade or two ago. Gas from shale and oil from oil sands—these are resources that were considered too difficult or expensive to access in the past, but they have transformed the global marketplace, turning unconventional into the new conventional.

Technological innovation has also had a huge impact on all aspects of the supply chain. Advances ranging from 3-D and 4-D seismology to improvements in distillation and isomerization to liquefaction and regasification have had a profound impact on the way companies explore, drill, produce, process and distribute oil and gas. The future will hold many more advances, as energy companies begin to examine nanotechnology, biotechnology, and sustainable chemistry solutions.

Other advances in horizontal drilling like using a “pad” to drill multiple wells from one site are contributing to increased productivity and reducing the industry’s geographic footprint, too. According to one estimate, in North America the typical oil and gas well has become four times more productive in just the last six years. That reflects decades of research happening across many fields. The number of patents related to extractive industries have more than doubled from 2005 to 2010.

Innovation in the oil and gas industry does not only contribute to increasing production. Ensuring safe operations is another top priority. This includes finding new ways to monitor the integrity of materials in changing environments or creating new systems for inspection, maintenance and repair. As the industry enters more challenging environments, safety innovations are becoming even more important. Some of the techniques used in deep-sea drilling can be compared to those needed to put a man on the moon. By collaborating with NASA, the industry has managed to develop fiber optic sensing systems that will make off-shore drilling platforms safer.

In the oil and gas sector collaboration is especially important due to the high cost and long lead times associated with oil and gas advancements. Producers already partner with oil field service operators and other strategic partners, suppliers or universities around the globe. New technologies and innovative thinking developed in cooperation with research institutes and the academic community can lead to major advances for the industry.

A PWC Study found that working together with partners outside the oil and gas industry and its core disciplines can also open new opportunities. Nuclear magnetic resonance imaging— originally developed for medical applications— is now routinely used to map the amount of oil in rock. Even Hollywood can lead to innovations in the oil and gas sector. For example, a partnership with the creative minds behind the Shrek movies, helped Shell achieve better

visualisation of seismic data to solve some of the future challenges of maintaining aging deepwater facilities. Total worked with a French robotics engineering firm, Cybernetix, to develop a new Inspections, Maintenance, Repair (IMR) system called SWIMMER (for Subsea Works Inspection and Maintenance with Minimum Environment ROV). It's designed to stay underwater for three months and has a range of 50 km. And oil services company Schlumberger is partnering with Saint-Gobain on crystallography and with Lockheed Martin on advanced computing, as just two examples of the company's many external industry partnerships.

In 2014, research from Lloyd's Register Energy found that in the near term, automation and EOR are expected to have the greatest impact on the oil and gas sector; in the medium term, it will be high-pressure, high-temperature drilling and multi-stage hydraulic fracturing; from 2025 and beyond, subsea robotics is seen as most promising.

None of these can work without cooperation. Even in the current economic downturn, there are good opportunities for independent oil companies (IOC's) to partner with national oil company (NOC's) on a long term, sustainable basis. The economic crisis can be a good time to focus on forming and strengthening strategic alliances, particularly with NOC's.

Cooperation between IOC's and NOC's is not without its challenges: there are significant cultural, philosophical and social differences between the two parties that can make working together awkward at best and sometimes impossible. In addition, the possibility of government changing the rules can pose a real risk and induce added uncertainty. Furthermore, government, playing the combined roles of policy maker, regulator, partner and investor, is a complex mix requiring considerable skill, understanding and flexibility. However, the potential rewards of enhanced cooperation are significant for both parties and indeed, there are many examples of successful partnerships.

The World Petroleum Council (WPC) can facilitate the building of important bridges for the two sides to find ways to work together.

In the new economy, strategic alliances enable businesses to gain competitive advantage through access to a partner's resources, including markets, technologies, capital and people. Teaming up with others, adds complementary resources and capabilities, enabling participants to grow and expand more quickly and efficiently. Many fast-growth technology companies use strategic alliances to benefit from more-established channels of distribution, marketing, or brand reputation of bigger, better-known players. Companies might also consider cooperating with other firms by outsourcing the cost of noncore functions, freeing them to focus on key areas.

Russia's huge potential for energy efficiency measures offers great opportunities for international cooperation. Reducing energy costs and improving the environment are key outcomes to be achieved with the President's target to reduce the energy intensity of the Russian economy by 40 percent by 2020. By addressing market barriers such as procurement processes, certification requirements and import duties new alliances could be formed and valuable technology and know-how brought in to improve global competitiveness.

With project cycles lasting several decades the oil and gas industry is a long term player and we require long term policies for sustainable development.

The term sustainable development was originally defined by the Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their needs." It describes "a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and

institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations”.

For many years WPC has worked with bodies such as the UN Global Compact to demonstrate best practise in the oil and gas sector and to get our member countries and companies to sign up to their principles. We also work with industry bodies such as OFID and the World Bank in this area.

Together with the OPEC Fund for International Development, WPC has formed an industry platform for “Universal Access to Energy” as part of the UN’s Sustainable Energy for All programme. With 1.2 billion people – close to one-fifth of the world’s population – having no access to electricity and more than 2.7 billion people having no access to clean cooking facilities, this is a clear priority area for the petroleum sector to get together and find solutions.

Our industry has a cyclical nature, and it is particularly during such downturns, that it is more important than ever, that the oil and gas sector maintains its role as an important part of a sustainable future. Good leadership, high standards and ethical business practices are required to ensure the sustainable supply and efficient use of the world’s oil and gas resources for the benefit of all.

Earlier this year the WPC hosted a Leadership Conference to demonstrate the industry’s efforts on responsible operations in cooperation with all stakeholders, in order to contribute to a sustainable solution. We welcome all initiatives that pursue this objective, be it through such worthwhile platforms as this international forum, an open dialogue with partners and stakeholders, or direct engagement with multi-lateral organisations.

We invite you to share your outcomes and continue the dialogue with our global membership at the 22<sup>nd</sup> World Petroleum Congress in Istanbul in 2017 when we will present the industry's view on "Bridges to our Energy Future".

Thank you for your attention.