



CHALLENGES AND OPPORTUNITIES IN THE PETROLEUM INDUSTRY AND THE ROLE OF THE WPC

PIERCE RIEMER
 DIRECTOR GENERAL
 WORLD PETROLEUM COUNCIL

The World Petroleum Council (WPC) is a non-political, not for profit, registered charity with the mission of promoting the sustainable exploration, production and consumption of oil and natural gas and other sources of energy for the benefit of mankind. Currently with 70 member countries, representing over 97 percent of the world's production of oil and natural gas, the WPC is uniquely positioned to promote a forum for the debate of the key issues that the industry is facing and the dialogue with all its stakeholders. The petroleum industry has never failed society on what respects delivering affordable and reliably supplies of oil and natural gas, except for relatively minor disruptions caused by natural disasters or man-made conflicts. However, the challenges that the industry is now facing require that new paradigms be established with respect to the level of cooperation with the industry's stakeholders, development and deployment of breakthrough technologies and social responsibility in doing business.

THE CHALLENGE – SUSTAINABLE SUPPLY OF EVER-GROWING ENERGY DEMAND: Several studies prepared and regularly updated by companies, government and non-governmental agencies, even if based on somewhat different economic growth assumptions, agree on two main projections for the next 20 years: growth of energy consumption by about 35 percent to 40 percent and the predominance of fossil fuels in the world's energy matrix, with coal, natural gas and oil accounting for approximately 80 percent of the energy supply.

Global oil reserves and production, currently respectively at 1.4 trillion barrels and 87 million b/d, have been growing steadily over the last decades. The main challenge going forward will be not only to meet the increasing demand, which according to most estimates will reach about 110 million b/d by 2030, but, most importantly, to offset the natural decline of the current reservoir productivity. Even if a moderate decline rate of 3.5 percent per year is assumed, by 2030 the production of the reservoirs currently on stream will decrease to about half of today's rate. In summary, the production gap to be met with new field and reservoir developments is of around 65 million b/d, a daunting task.

Natural gas demand will also steadily increase, particularly in the developing countries, with the current global consumption of approximately 112 tcf per year expected to reach 160 tcf per year by 2030. While the world's natural gas resources are plentiful, at about 6,600 tcf total reserves plus at least the same amount of resources from unconventional sources in the United States only, delivering these to the consuming markets will require innovative solutions in production, processing and transportation, and stable geopolitical relations between producing and consuming countries.

To continue meeting the world's demand of oil and natural gas, the industry will have to invest massive amounts of capital and venture into ever more challenging and costlier production provinces, such as the

ultra-deep waters, ultra-deep reservoirs, unconventional resources, and inhospitable environments like the Arctic, remote deserts, jungles, mountain ranges and conflicted areas. It is estimated that the exploration and production activity alone will require a total capital deployment of more than \$20 trillion in the next 30 years.

One of the main challenges that the industry is already facing is to continue attracting skilled human resources, both in the technical and managerial areas, to successfully implement such massive projects. In order to attract these talented professionals, the industry will need to improve its overall image, tarnished by the lingering memory of past poor records, some recent highly visible accidents, and reach out to all pools of professionals, particularly the youth and women.

And all of the above will have to be accomplished in a sustainable way, which implies ensuring attractive returns to investors, operating with increasingly higher standards of safety and care with the environment, returning a fair share of the wealth to society and local communities, and doing business in an ethical and regulatory compliant manner.

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THE OPPORTUNITY – LONG-TERM RETURNS TO ALL STAKEHOLDERS: Oil and natural gas have been utilised by humankind for thousands of years. Industrial-scale exploitation of these resources is considered to have started in Pennsylvania about 150 years ago. It is impossible to predict how long the petroleum age will last, but the projections above clearly indicate that for next several decades fossil fuels will continue as the main source of energy for the world development.

If the challenges are huge, so are the opportunities that lie ahead. Very few industrial activities have the breadth of opportunities that the petroleum sector offers to develop and deploy new technologies, promote development and wellbeing, and remunerate huge sums of capital, all of these at the same time and sustainably in the short and long term.



The list of ingredients for the continuing success of the petroleum industry is not long and is fairly obvious.

People, innovation and technology: The combination of skilled human resources, innovative thinking and new technologies has been and will continue to be the key factor in finding and developing new sources of hydrocarbons in the most challenging environments. It is for this reason that time and again ingenuity unlocks enormous new pools of resources that were unknown or not viable even in well-explored provinces. Recent examples are the huge shale gas resources being developed in North America and now being target around the world, and the vast amounts of oil discovered only in the last 10 years, in spite of over 50 years of exploration activity, in the Lower Tertiary of the United States' Gulf of Mexico and the pre-salt layers of the Santos and Campos basins offshore Brazil.

Dialogue, co-operation and level ground competition: One peculiarity of the petroleum industry is that very often bitter competitors in one area establish partnerships and co-operate in other ventures. A clear trend of increasing dialogue has been established between consumers and producers (OPEC and IEA, for example), business areas (producers, refiners and automobile industry), and corporate organisations (international oil companies and national oil companies, majors and independent oil companies). It is important that this dialogue be kept at all levels, so that regulators establish fair and balanced terms under which companies may compete in level ground conditions, earn the right to exploit natural resources, generate profits for their shareholders and return a fair share of the wealth to local societies.

Highest standards of health, safety and environmental (HSE) protection: More than ever HSE considerations must be an intrinsic component of any upstream or downstream project that companies decide to carry out. Even though these may, in the beginning, imply higher implementation costs, in the medium and long term the companies with the highest HSE standards are the ones that will benefit more from productivity gains and that will earn from society the right to continue doing business; conversely, as we see more stringent scrutiny and regulations being implemented around the world, non compliance and low HSE standards will be extremely costly to companies with poor performance;

Social responsibility and business ethics as part of the business model: There is already ample evidence that companies that are socially responsible, transparent and adhere to high ethical business conduct have more access to capital and tend to be more successful in the medium and long term, as is the case with those listed in the Dow Jones Sustainability Index. Also, already almost 200 companies, including most majors, national oil companies and services companies, committed to the 10 principles of the UN Global Compact. Going forward, the most successful companies in the oil sector will be those that

will strike the right balance between profitability and sharing the wealth with the local society in the form of taxes, royalties, jobs and promotion of local businesses, that operate in full compliance with the law and the culture of the community, and that adopt strict ethical business conduct, transparency and anti-corruption practices.

The WPC is committed to promoting the sustainable growth of the industry, serving as a forum for discussion of the key issues, promoting the dialogue of all stakeholders involved and disseminating the best technical, managerial and business practices of the petroleum sector.

Under the theme "Responsibly Energising a Growing World," the premier conference of our industry will bring together world leaders, executives, experts and representatives of all stakeholders to address the key issues of the petroleum sector. For over 150 years, our industry has never failed to deliver affordable and reliable energy resources to promote the development of humankind. However, as the world population increases and economic development brings a large number of new consumers to the market, our challenge is growing ever more daunting. Oil and natural gas will continue to be the world's leading energy resource for the foreseeable future. Meeting future demand, in a safe, socially and environmentally responsible manner will require massive investments, leading-edge technology, the highest skilled human resources, and superior ethical business practices.

The world has changed beyond recognition since the 8th World Petroleum Congress was held in Moscow in 1971, and since then the influence of energy on global affairs has grown exponentially. In June 2014 Moscow will host the 21st World Petroleum Congress, an appropriate venue reflecting Russia's position as one of the world's leading oil and natural gas producers. High-level executives and government officers, experts in all areas of the industry, researchers, academia, NGOs, students and society representatives will come together to collectively analyse and determine the course of the petroleum sector. Through the open debate and the exchange of fresh ideas and technologies we expect, as the main result of the event, to formulate responses to contemporary challenges of the petroleum sector and to direct and oversee social and ecological programmes.

Preparations for the 21st World Congress are already underway. An Organising Committee – established with the full support and patronage of the government of the Russian Federation – is actively working on the programme and logistics of the conference and in a global promotion campaign. I am confident that the 21st World Petroleum Congress will represent an important landmark in the history of our industry and will create a platform for truly beneficial multilateral dialogue and co-operation, which will be constructive for the future of the world economy. And, and top of it, this will be an opportunity to enjoy the rich heritage and warm hospitality of the Russian people. You cannot miss it. ■