

LONG-LASTING PARTNERSHIPS

BY CHRISTOPHE DE MARGERIE
CHAIRMAN AND CEO, TOTAL



Secure and affordable energy supplies and well balanced energy markets remain essential vectors in the global economy. The industry has to operate in a context of long-term transition periods, addressing three intertwined issues: meeting growing energy demand, developing a more

diversified energy mix and developing acceptability and sustainability.

These contemporary challenges impose a vision and tremendous research and development as well as investment efforts. Hydrocarbon producers are particularly concerned as oil and gas remain the two most important energy sources for the foreseeable future. Open dialogues between consumers and producers on the one hand and between NOCs and IOCs on the other are very fruitful means in addressing output and market issues. The IEF is living proof of that. Key actors, whether national or international, private or state-held, are faced with largely common challenges. Investments needed in the upstream oil and gas sector need to be sufficiently large to meet demand and to offset the accelerating decline of producing fields. The real constraint is not geology, it is our ability to bring additional resources into production.

Upstream projects tend to become more and more technologically innovative, relying upon advanced know-how, with a growing share of non conventional: ultra-deep offshore, gas shales, oil sands. Environmental and safety rules have rightly become more stringent, and companies are not entitled to fail in these matters anywhere in the world.

What do IOCs need to implement their mission? They need first to get access to hydrocarbon resources and to benefit from a stable and reasonably attractive investment framework. Once interests are aligned, IOCs must work in such a way that the producing countries where they operate find a genuine interest in developing their hydrocarbon resources.

Traditional business ventures between an NOC and an IOC tend to be replaced by a long-lasting partnership with a broader scope covering training of human resources, technology transfer, environmental management, local industrial and business development. It often extends to the fields of health, education or culture. This demonstrates the genuine interest of most IOCs for the country where they operate, and their willingness to behave as local actors deeply rooted in the society. Total offers many examples in various countries all over the world

of a sincere dedication to local development. Upstream projects are capital-intensive, their implementation takes time and they involve a large financial exposure. Their life extends over several decades. It really matters that the stakeholders concerned feel comfortable with such projects, and can reconcile the needs of producing countries with consumer expectations. ■

NOVEL SOLUTIONS FOR MAKING POWER

BY JAKOB THOMASEN
CHIEF EXECUTIVE OFFICER, MAERSK OIL



The future looks bright for the oil and gas industry as world energy consumption keeps growing. The IEA expects oil demand to rise to 125 million barrels per day in 2020 from today's 106 million barrels. But the reality is also that global oil production is declining fast; this

year it will drop 6 per cent. In addition, we find ourselves in an increasingly crowded market of a variety of national and international players. We all compete for a smaller number of opportunities to explore for and develop oil and gas in more challenging areas under increasingly challenging operational environments. So we need to revive our commitment to technology and human innovation.

The starting point must be to work closer together. It is only through trusting partnerships – with our peers, with the service industry and with governments – that we can meet world demand for energy. Partnerships will allow us to explore previously impossible regions and develop the technology to access oil and gas thought to be inaccessible or non-commercial.

At Maersk Oil, we have just launched our new TriGen technology together with our partners, Siemens and Clean Energy Systems. TriGen is a good example of what could be the next generation of oil and gas development.

TriGen is a power generator the size of a shipping container which burns gas with pure oxygen to produce clean power, pure water and 'reservoir ready' carbon dioxide. The gas can come from stranded fields, finally unlocking their resources. The high purity CO₂ is captured, making the power generation emission-free, and can be transported to oil and gas fields for Enhanced Oil or Gas Recovery. TriGen has the potential to commercialise hydrocarbon resources which have so far remained undeveloped and boost recovery in mature fields, while supplying local populations with clean water and power.

TriGen is a real step-out for a purely upstream company like Maersk Oil. It is a unique product which, for the first

time, joins oil and gas production with power generation in one integrated project. It involves innovative partnerships that share knowledge and technology, and will require close collaboration with NOCs and other resource holders as well as players in the power and water sectors. The prize is significant but no company can solve future challenges alone. ■

THE AFFORDABLE ENERGY CHALLENGE

BY JOHN S. WATSON, CHAIRMAN AND CEO, CHEVRON CORPORATION



Since the International Energy Forum last gathered, some dramatic events in the Middle East, Asia, and elsewhere have added to the challenges of energy ministers and of the energy industry. That is just the nature of the energy economy: the whole enterprise is so central to the life

of the world that almost every year brings a critical new development, whether a political crisis, a major discovery, or a potentially game-changing technology.

For all of the unexpected turns, however, there are certain constants that we can set our sights by. We know that demand for energy of every kind will continue to rise with population and economic development. And we know what will make such development and progress possible: affordable energy. I view this as the great objective that keeps us moving forward on all the right fronts. If we stay focused on delivering affordable energy to a world of seven billion people, we will achieve many other important goals along the way – from growth and job creation to the success of new energy sources.

Progress will also depend mainly on the very same energy sources – the ones we draw from the earth. Their share of the global energy portfolio will not diminish in the foreseeable future, even under the most hopeful projections for renewable and alternative fuels that have yet to reach commercial scale. Worldwide demand will grow by some 45 per cent just in the next 20 years. For the industry's part, this will require large, long-term investments in the exploration and development of oil and gas reserves. And prudent public policy will follow a balanced approach that sustains such investment, allowing access to resources while holding energy producers to high standards. One of the worst mistakes we could make is to take the affordability of energy for granted, discouraging production until one day we are confronted with scarcity and all the economic troubles that would bring.

At the same time, we have to understand that as vital

as fossil fuels remain, even they will not be enough in the long term. Every element of the portfolio is crucial to the overall picture. Oil, gas, coal, nuclear, all the various renewables in development – in the end, we will need them all, along with technologies that reduce the amount of energy needed at the point of use. Efficiency, after all, is the cheapest source of energy we have, yielding gains at no cost whatever to the environment.

At the strategic level, there is agreement on these broad goals among the nations represented at the IEF. There is agreement as well that technological innovation is our best ally on every energy front – preserving affordability against the enormous pressures of rising demand. This consensus extends across the industry, and is shaping the policies of many governments – all to the good.

In the end, we can get everything else right, but still go nowhere unless we have affordable supplies of the energy that makes things run, economies grow and improve lives. As this biennial conference recognises, energy producers and government regulators can achieve this objective only together – committed to shared progress, and moving forward as partners in a common enterprise. ■

THE ROLE OF NATURAL GAS

BY PETER VOSER
CEO, ROYAL DUTCH SHELL



The world faces the long-term prospect of a surging demand for energy. Growing population and prosperity in developing countries will require a massive expansion in energy sources. National oil companies (NOCs) and international oil companies (IOCs) can address

this challenge by forging value-driven partnerships that look beyond short-term economic and political volatility. These partnerships can drive rapid progress towards a secure and sustainable global energy system. And a key part of that system will be based on natural gas.

Thanks to technical advances in the production of tight gas, shale gas and coal-bed methane, total worldwide recoverable gas resources are now estimated to be equal to 250 years of current gas production. The International Energy Agency's new gas scenario forecasts that, between 2008 and 2035, primary natural gas demand could increase by 60 per cent globally. We at Shell see three major opportunities for NOCs and IOCs to increase the global gas supply by exploiting tight gas, LNG and associated gas.

Shell estimates that three-quarters of the non-associated gas in the Middle East is sour or found

in tight reservoirs – or both. These are technically challenging resources to develop safely and profitably. They push the boundaries of innovation. We at Shell know first-hand how the development of tight-gas resources transformed the energy outlook for North America. Now is a perfect opportunity for IOCs and NOCs to work together to replicate this success in other parts of the world.

LNG demand is growing in line with the gas import needs of the Middle East and Europe as well as of China, India and a clutch of other Asian countries. In response, global LNG supplies will continue to expand. Moreover, LNG is fast becoming a truly global commodity, supply matching demand as they shift around the world. With an integrated IOC's access to a global customer base, more gas-resource holders will obtain the full value of their resources in the international marketplace.

Because associated gas is tied to oil production, its supply is difficult to manage. A producer nation can find itself with more gas than it needs. Sometimes, for a lack of alternative, the gas is flared. But there is real economic and environmental value in capturing associated gas instead of flaring it. A good example is the Gbaran-Ubie project, executed by the operating company of our joint venture with the Nigerian National Petroleum Corporation. The project captures associated gas and converts most of it into LNG for export. The remainder is used to fuel power plants, bringing electricity for the first time to many people. The project also strengthened the capabilities of many Nigerian businesses.

The technical capabilities of NOCs are first-rate; their people are immensely skilled; and they are fast expanding their international reach. But IOCs bring complementary capabilities to projects that can propel the growth of the global gas market. By extending and accelerating the natural gas revolution, NOC-IOC partnerships have a chance to make an immediate impact in the world's quest for more and cleaner energy. And they would generate significant economic growth for resource-holder nations and their people. ■

NOC-IOC VENTURES CAN BE WIN-WIN

BY FAROUQ H. AL-ZANKI
CEO, KUWAIT PETROLEUM CORPORATION



The relationship between NOCs and IOCs is critical in facilitating or hindering investment for one very simple reason: Close to 90 per cent of the world's oil and gas reserves are owned by governments, and any IOC investment in the upstream sector

is bound to involve close interaction with an NOC or a government agency.

Most international oil and gas companies have invested vast human and financial resources to build a capability to understand and manage below-ground opportunities and risks.

In the 1970s and early 80s, the competitive environment in the industry was characterised by limited opportunities and abundant financial resources, largely because significant parts of the world were closed to direct foreign investment and because of high oil prices.

In the early 1990s, as most governments started to open up, new opportunities became available to the IOCs at a time when the available financial resources were scarcer because of relatively low oil prices. Today, the industry has entered a phase where it has access to abundant financial resources for a very large number of diverse opportunities.

The global energy business is driven by access to management skills, capital, markets, technology, and innovation. Investment in the global upstream is determined by the balance between opportunity and risk.

When NOCs and IOCs see how their interests are aligned and understood, how each side benefits from the other side, projects acquire a new momentum and investments can take place.

Companies compete for opportunities and improved terms; governments compete for foreign investment, markets and enhanced value from their alliances with IOCs, while NOCs compete for budgets, autonomy, and access to above-ground resources such as management skills and technology.

Both IOCs and governments face new priorities and challenges; the former are primarily driven by the demands of capital markets and the investment communities, with the latter are primarily driven by socio-economic and political demands. Furthermore, IOCs are aware that they are in competition, and are forced by the market to improve their competitive positions; governments need to make the most of their competitive potential.

KPC EXPERIENCE

In its search for a win-win, and effective cooperation with the industry, Kuwait is using Enhanced Technical Service Agreements (ETSAs), which were developed as a new model, to define the relations with IOCs. These agreements should provide the technical knowledge, the know-how, the expertise and the reservoir management KPC needs.

In February 2010, Shell signed an Enhanced Technical Service Agreement (ETSA) to provide technical as well as management assistance for the development of non-associated gas. Such relationship will be extended include the development of heavy crude.

NOCs as well as IOCs need to align respective interests in many respects, through cooperation, dialogue and partnership built on the clear synergies all along the value chain, at all levels. This is the most promising avenue to enhance global energy security. ■