
Executive Summary

What Next for the Oil and Gas Industry?

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The future for the oil and gas industry has changed. For over 100 years the story was one of growth in production to supply a largely Western-driven market, and of competition between private companies for access to reserves. Since 2005, oil prices have moved to a permanently high level. Other industries are capturing some of the demand for transport by producing more efficient engines, vehicles, ships and aircraft, and by supplying alternative fuels. New technologies are providing diverse but uncertain opportunities for producing 'unconventional' oil and gas in many parts of the world. There are also still opportunities for private-sector companies in the traditional oil-exporting countries where the industry is under state monopoly, but generally these will involve cooperation with the state-controlled oil or gas company. Finally, there is a question of who will carry responsibility for the physical security of Middle East oil exports now that these mostly go to Asian markets rather than the US or Europe.

The industry's response to these challenges has implications for the global economy and environment. Oil and gas supply 57% of the commercial energy the world consumes, and their combustion accounted for roughly the same proportion of global CO₂ emissions. Oil and gas exports are more than 15% of the value of global exports and provide more than 25% of GDP in Russia, Central Asia and members of the Organization of the Petroleum Exporting Countries (OPEC). Just over 10% of the value of the world's stock markets is invested in the oil and gas sector. What happens next in the industry will affect the consumers who depend on its products or try to avoid the environmental and social effects of using them, as well as the governments and shareholders who seek tax revenues and dividends from their activities.

The industry cannot develop its strategies independently of governments. The report shows increasing and changing intervention by governments, driven by climate change policies and economic and physical security. Government policies are generated by political processes that cannot necessarily be expected to produce coherent or rational results.

The report does not offer new quantitative predictions. The future cannot be predicted with any confidence, especially while the present (2012) economic difficulties persist. The report's key findings are:

1. The oil industry can no longer rely on its monopoly of the transport market.

Use of oil in transport – half the world oil market and most of its expected growth – is being reduced by competition from other industries. The vehicle industry is replacing oil with more efficient vehicles, and biofuels are replacing oil products as liquid fuels. This is driven both by the increase in oil prices since 2005, and by government policies limiting carbon emissions. Since 2011 all major importing countries have adopted strong policies on carbon emissions and vehicle efficiency. These secure markets for efficient automobiles, rather than for oil. As current policies are unlikely to achieve their aims, it is probable that stronger policies will be introduced. Businesses outside the oil sector are anticipating more severe policies against carbon fuels and are innovating accordingly. The result will be to flatten and reverse growth in the use of petroleum in transport in developed countries, and slow its growth in developing countries.

The major private-sector oil companies have a legacy of refineries and distribution networks in the 'no-growth' markets. Companies will not invest in modernizing these for a short and uncertain future. Refineries will close, brands will disappear, and more products will be imported. Governments will be less able to rely on major international companies to secure supplies.

2. The role of OPEC will change.

The international oil market will continue to be dominated by economics, but the role of OPEC will change. Future weaknesses in short-term demand will be balanced not only by OPEC's regulation of its members' production when prices are weak, but by the response of producers of non-conventional oil, whose high variable costs will drive them to slow drilling and delay new projects. Competition in the medium term will be between investments (made now) in new sources of oil and substitute fuels, and investments that reduce the use of oil by greater efficiency. Competition from outside the oil industry is a real and present threat to demand for oil. Long-term trends cannot be predicted on the basis of business-as-usual extrapolation. Investors look to the industry to show how it will respond.

3. There will be more gas, but uncertainty over where and when.

New perceptions about the potential supply of conventional and 'unconventional' gas (such as shale gas) at relatively low cost are creating the possibility of unexpected expansion of gas markets in most parts of the world. For this to happen each major region needs prices which are low enough to increase demand but high enough to increase supply. Prices at present differ widely between markets. Relying on imports to build new gas demand will seem risky to some countries. In the power sector (which now consumes about 40% of world gas production) the market for gas depends on government policies for coal, nuclear and renewables rather than on factors intrinsic to the gas industry. As many oil and gas companies switch their emphasis from the oil to the gas business, the policies and dynamics influencing the utilities sector – and potentially transport – will be of growing strategic concern. Because a 'golden age for gas' may not prevail soon or everywhere, investors will be concerned about the cost-competitiveness of new projects.

4. Technology and collaboration are the keys to upstream reserves growth.

'Peak oil' is proving a misleading idea. The foreseeable problem is not finite resources but the rate at which these very large resources can be converted into reserves for potential production. Reserves of oil and gas have each more than doubled since 1980 – faster than the increase in production. Technologies are developing which are creating new reserves of 'unconventional' oil, as they already have for gas. These technologies have more places to go, many of them outside the existing oil-exporting countries. These new areas are opening a field of growth for private-sector companies which was not foreseen a few years ago. The companies also still have opportunities for collaboration with state companies, in half of the world's oil reserves, provided they meet each country's terms and conditions and bring technology to complement the state company's own resources. In some countries whose economies depend on oil exports, expansion of production is problematic, because their governments may choose to keep oil in the ground for future production, while gaining time to diversify their economies. Technology is the master key to both sets of opportunities.

With demand vulnerable to other industries, and supply growing from 'unconventional' sources and new areas, there is no long-term escalator for oil prices. There is no clear trend; all depends on investment by competitors for the transport market and on the creation of new reserves.

5. Financing future investment is not a question of quantity but of quality: matching opportunities and risks with sources of funds.

Finance for the private sector in oil and gas depends on investors' beliefs about growth, risk and the prospects for positive change. Inertia is not an option if the industry is to maintain and improve the terms on which it gets finance. Downstream, prospects differ for developed and the developing markets, and upstream for technologies and access to resources in either state-controlled or open-access areas. The private-sector companies need to demonstrate to investors their strategies for managing the declining value of their downstream assets in 'no-growth' markets and accessing the diversity of opportunities upstream. This may lead to radical restructuring of companies and the industry.

Finance for the state companies depends on their place in the national economy, their access to government, loan or bond finance and governments' willingness to involve the private sector.

For investors who look for growth in value or volume, many private-sector oil companies seem configured for the last era and not the next; their public strategies look recycled, not renewed. Few companies seem to question the arguments for vertical integration and there is a legacy of implied obligations to 'meet demand' rather than to engage with the changing forces shaping that demand. Choices are emerging within the industry in which some companies will become energy conglomerates with interests throughout the value chain, while some become focused upstream or downstream companies.

6. The oil security problem has moved to Asia.

The geopolitics of oil are changing fundamentally as interregional oil trade divides between the eastern and western hemispheres, with Asian markets absorbing more oil than the Middle East can supply. This changes the security of supply problem. For Western countries, the risk is price, not supply, since disruptions to Asian supplies will affect the world oil price.

Political and physical security measures have not yet caught up with these new realities. Although they are building their own oil stocks, China and other key Asian countries are not part of the OECD/IEA emergency response system.

There is also a political question: how far will the US go to defend sea lanes that mainly benefit Asian countries which import oil from the Middle East? And will Asian countries eventually seek to provide their own protection, individually or collectively? These questions cannot be separated from the wider issues of US military arrangements in Asia and conflicts there, which may prevent the development of cooperative Asian response mechanisms either for physical protection or in order to share supplies.

Conclusion

The oil and gas industry has always changed, and has caused changes in the societies in which it operates. The schismatic changes of the 1970s opened a new era. The combination of changes that the industry now faces requires epic rather than incremental responses, for the industry to evolve and prosper. Those responsible both inside and outside the industry need to try to understand what is happening now and how it may affect the future, to explain their strategies clearly and to adapt to new situations as they develop. In a world where technology and environmental threats are changing industries and society so rapidly, the slowly turning supertanker is not an image that excuses inertia in oil and gas companies and those who deal with them. All who are in the industry or who are involved with it need to share clear thinking about the future.