

**Keynote Paper 2****Challenges for the E & P industry in the 21st Century**

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The Challenges facing the Exploration and Production Industry in the 21st Century are some of the challenges the Industry has faced since 1986 but there also challenges and/or constraints on the Industry that have only emerged in the 1990s. Fundamental to the industry are product prices-primarily oil prices. However oil prices are outside the industry's control and this speech will focus on those areas where we can have some impact.

Successful Exploration will be the main challenge for the Industry in the 21st Century. Whilst there are ample crude supplies in the Middle East to supply the world

needs into the 21st Century, Companies will need to add reserves to their books or their business will decline. This can be achieved through exploration acquisitions, or contract lifting agreements with Governments or National Oil companies. For the Majors and larger Independents the challenge will be to replace their current large profitable fields. For the National Oil companies the challenge will be to attract continued investments in their maturing or frontier areas. For the Service Industry the challenge will be to provide the goods and services required to efficiently and effectively explore and produce hydrocarbons at the lowest possible cost. Basically these are Challenges the industry has faced since 1986. However in the 21st Century these challenges will be greater as the industry pursues ever more elusive reserves.

This will call for forging new relationships between companies and countries that have had no history of working together. The companies that will be most readily acceptable to nations opening their borders will be those with demonstrated project management skills, financial strengths, leadership, a history of technology transfer and development of local talent, and a track record of environmental responsibility. The relationships will prosper if they are based on sound business judgement and commercial interests that demonstrate a potential win/win situation for all concerned.

Technology has shaped and will continue to shape our industry in many ways. Technology breakthroughs in recent years have enabled us to find and develop oil and gas at much lower costs than just a few years ago, to be able to recover more from existing reservoirs — and to do so while improving our environmental record. A number of key Technologies will be critical for the Industry to meet the Challenges of the 21st Century.

The constraints on the industry will also be examined. The industry has been struggling to lower costs for the last decade. Cost Reduction and Efficiency Improvements will be fundamental for a healthy Industry in the 21st Century but there are limits to what can be achieved. Alliancing and Partnering have been successful in the Gulf of Mexico and the North Sea both relatively mature E & P areas. There is tremendous scope to transfer these savings to other parts of the world but stringent procurement policies, local content policies, and mistrust are all obstacles that must be overcome if the industry is to achieve comparable savings around the world.

Government can also discourage investments in a number of other ways. Excessive Environmental Legislation is a constraint on our Industry in parts of the US and Western Europe. There is also a growing propensity by the US Government to impose unilateral trade sanctions on companies doing business in “non favored” countries.

The challenges facing the E & P Industry in the 21st Century will be addressed by the capital and human resources of the industry. Capital for investment will only be available from a profitable Industry and the Industry's Human Resources are the sole source of the Technology, Project Management skills. Field Development skills, Operations Management skills, and Business skills will be brought to bear on the problems facing the industry in the 21st Century.

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