



Courtesy: Halliburton

Unconventional Natural Gas

One of the most pressing problems for many countries is that conventional natural gas reserves are shrinking fast due to the preferential production of gas from inexpensive and easy to develop deposits, such that they must now rely on more complex and unconventional gas resources to sustain production.

Based on the magnitude of worldwide occurrence, the principal types of unconventional natural gas deposits are:

- Tight Gas
- Shale Gas
- Coal Seam Gas
- Gas Hydrates

Whereas unconventional gas resources are abundant in all regions, the large scale development of these resources is technically challenging and capital intensive. The drop in natural gas prices since June 2008 threatens the economic viability of emerging and frontier unconventional natural gas developments. For this reason, future development of unconventional gas deposits must seek to achieve reasonable project economics at prevailing natural gas prices while deploying technology to control costs.

The combined unconventional natural gas production in the United States and Canada has increased from 15 percent of total gas production in the year 1990 to 43 percent in the year 2007. While this reflects the high degree of dependency that this region now has on unconventional gas resources, it also heralds the immense potential that exists for the rest of the world where unconventional gas production is still in its infancy.

Conventional gas reserves are expected to play the predominant role in supplying the world's natural gas demand, accounting for over 80 percent of the world's total gas production in the year 2030. However, at this level of depletion, the conventional gas production rate is unsustainable unless substantial volumes of conventional gas reserves are proven. Otherwise, unconventional gas production must play a much larger role around the world and many countries will have to climb the learning curve quickly, requiring more aggressive technology transfers and near term R&D.

Drawing on a comprehensive review of technical and commercial issues, Nexant's new PERP report provides an independent and informed basis for organizations and countries to consider as they develop unconventional natural gas to address their individual circumstances and strategies.

Report Overview

- Technical and operational challenges: Reservoir characteristics, production behaviour, and environmental concerns
- Commercial drivers: Costs and breakeven economics
- New developments: Technology and designs
- Worldwide occurrence: In place resources and recoverable reserves
- Long term view: Production and consumption scenarios

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