



Discovering Australia's Future Petroleum Resources: The strategic geoscience information role of Government

Dr Trevor Powell FTSE
January 2008

EXECUTIVE SUMMARY

- New petroleum provinces must be found to sustain Australia's crude oil production -- which peaked in 2000 and has fallen to 124 million barrels a year this decade.
- This is essential for maintaining the economic benefit of petroleum supply, which is estimated to have reached \$22.7 billion in 2006, with governments receiving \$8.1 billion in taxes and royalties, underlining the national interest in a vibrant and competitive exploration and production industry.
- Given the maturity of Australia's oil producing areas, only the discovery of a substantial new oil province can arrest the decline in reserves and production.
- If Australia is at least to maintain petroleum liquids production at present levels -- 35 percent below the 2000 peak -- exploration will need to both diversify to the so-called frontier basins and establish the full potential of basins with known hydrocarbon resources.
- There are more than 50 sedimentary basins in Australia, of which 12 are currently producing oil or gas and four have reserves deemed non-commercial.
- A key policy question for the nation is whether its crude oil has been largely discovered or whether substantial new resources await discovery in relatively unexplored sedimentary basins. The potential of these basins remains highly uncertain. In a nation as under-explored as Australia, the results of a single well may change perceptions of prospectivity significantly, but the country is considered today to be a high cost and relatively high risk investment destination for petroleum expenditure.
- The challenge for national, State and Territory governments is to persuade the international exploration industry to risk its expenditure in Australia rather than elsewhere around the world.
- The search for petroleum in frontier basins is a prolonged process and, even if successful, will only impact production eight to 15 years from now because of the long lead times in establishing new permits, undertaking exploration and constructing production infrastructure. It is estimated that government investment in pre-competitive data acquisition typically takes a minimum of 10 years to yield a stream of secondary taxation where the search is successful.

APPEA HEAD OFFICE

GPO BOX 2201
CANBERRA ACT 2601
LEVEL 3, 24 MARCUS CLARKE ST
CANBERRA ACT 2600
PHONE 61 2 6247 0960
FAX 61 2 6247 0548

PERTH OFFICE

PO BOX 7039
CLOISTERS SQUARE, PERTH WA 6850
LEVEL 1, 190 ST GEORGES TERRACE
PERTH WA 6000
PHONE 61 8 9321 9775
FAX 61 8 9321 9778

INTERNET

www.appea.com.au

EMAIL

appea@appea.com.au

- Risk management is of critical importance in petroleum exploration, where drilling costs are high (as much as \$50 million for a deepwater well) and the outcome of the search inherently uncertain.
- Assessment of geological risk can only be made by acquiring a detailed scientific understanding of the factors affecting the generation, migration, entrapment and preservation of petroleum in a target area.
- A major contribution to the enhanced oil search is the ability of governments to attract investment from around the world by providing ready access to pre-competitive geoscience information and other exploration data. Investors use publicly-available information provided by governments to select prospective areas. Such data is vital in the early stages of exploration of an area and it provides the basic framework for bidding for exploration rights, assessment of farm-in opportunities and the attraction of newcomers after initial exploration has been unsuccessful, which is frequently is.
- Explorers must have easy access to such geoscientific data sets if they are to be convinced to invest in Australia. Pre-competitive geo-science and information management by governments is vital to the oil search -- and the surveys and research underlying it must meet the needs of the ever-increasing sophistication of exploration. To influence the decision making of potential investors on a global scale, such information must be provided in a digital format and in a timely and cost-effective manner.
- The provision of this information therefore is a strategic enterprise that must be maintained over many years to serve the needs of the petroleum industry and the interests of the nation. The absence of such information, or its inadequate provision, will lead to less than optimal investment.

Contact: Ranga Parimala, Director Exploration & Access (02) 6247 0960

APPEA HEAD OFFICE

GPO BOX 2201
 CANBERRA ACT 2601
 LEVEL 3, 24 MARCUS CLARKE ST
 CANBERRA ACT 2600
 PHONE 61 2 6247 0960
 FAX 61 2 6247 0548

PERTH OFFICE

PO BOX 7039
 CLOISTERS SQUARE, PERTH WA 6850
 LEVEL 1, 190 ST GEORGES TERRACE
 PERTH WA 6000
 PHONE 61 8 9321 9775
 FAX 61 8 9321 9778

INTERNET

www.appea.com.au

EMAIL

appea@appea.com.au