

Senate Standing Committee on Economics

ANSWERS TO QUESTIONS ON NOTICE

Resources, Energy and Tourism Portfolio
Supplementary Budget Senate Estimates
20 October 2010

Question: SR5
Topic: Prospectivity of Basins
Proof Hansard Page: E90

Senator Bushby asked:

Dr Pigram—We have not examined all of those basins and a number of them we are working on, and part of our task is to examine the potential in the frontier basins of Australia with a view to attracting exploration activity to test that potential.

Senator BUSHBY—You say you have not examined or assessed all of them. Have you assessed any of them?

Dr Pigram—We have not examined all 38. We are in the process of examining some of them.

Senator BUSHBY—So beyond the 12 that are currently producing gas, are any of those 38 ones that you have actually assessed to your satisfaction at this point?

Dr Pigram—We think some of them have potential and they are part of the acreage release program and they have attracted exploration investment. So there is a process underway to test that potential.

Senator BUSHBY—I want to get a sense of potentially what is out there. If you have looked at 10, did you find that five of them looked pretty good or did you find eight or two? Of those 38 that are not currently producing, how many have you actually looked at in more detail? Of those, in how many did you find a high degree of prospectivity?

Dr Pigram—Can I take it on notice and I will provide you with a more detailed explanation of where we have been and where we think the potential is?

Senator BUSHBY—Okay; thank you. You also note from the same report that by area less than a quarter of Australia's onshore and offshore basins have received exploration activity. In respect of the quarter that have, what prospect exists for those basins to produce oil and gas?

Dr Pigram—I will take it on notice again and provide you with a detailed answer

Answer:

The quantification of potential hydrocarbon resources in frontier areas, in which it is not known if a petroleum system exists, is no longer undertaken by Geoscience Australia (Powell, T.G., 2001 Understanding Australia's Petroleum Resources, Future Production Trends and the Role of the Frontiers, *APPEA Journal* pp.273-287 <http://www.ga.gov.au/pdf/GA1704.pdf>). Fundamentally, studies of frontier basins focus on providing evidence of the existence of active petroleum systems and the indicative size of targets (hydrocarbon traps) that may exist.

Under both the New Petroleum Program (2003-2006) and the Offshore Energy Security Program (2006-2011), Geoscience Australia has acquired new data and assessed eleven offshore frontier basins. Areas within six of these basins have been offered to industry during successive rounds of Acreage Release.

Outcomes include:

- uptake by Industry in the Bremer, Arafura and Canning, basins;
- the Vlaming Sub-basin received no bids; and
- the Mentelle basin is still under assessment by Industry with bids closing in May 2011.

Geoscience Australia is currently working on five offshore frontier basins, namely:

- the remote Capel and Faust basins, offshore eastern Australia;
- the Sorell and deepwater Otway basins on the southern continental margin; and
- the Perth Basin offshore Western Australia.

Areas in the Perth basin are under consideration for the 2011 Acreage Release program.

The situation regarding prospectivity in onshore sedimentary basins is a little different. Unconventional energy resources (Coal Seam Gas and Shale Gas) are changing the perceived prospectivity of many onshore basins. This is particularly evident in Queensland with the rise of an export LNG industry at Gladstone using Coal Seam Gas.

Many of Australia's onshore sedimentary basins are old and have low prospectivity for oil. However, organic-rich source rocks present within these basins may be suitable for the production of shale gas. Companies are currently assessing these older onshore basins for potential Shale Gas reserves and, as a result, the prospectivity of some of these basins may increase over the next few years.