

Committee Secretary  
Senate Economics References Committee  
PO Box 6100  
Parliament House  
Canberra ACT 2600

26 October 2019

Dear Secretary,

Thank you for inviting me to make a submission to the Committee in relation to its inquiry into Australia's oil and gas reserves. My submission is as follows.

**My core proposition is that the Australian public bears the costs and risks of investment whilst the benefits accrue disproportionately to small groups in control of vast concentrations of wealth and influence.** I provide the evidence for this proposition below.

Beginning in December 1970, taxpayers paid for underwater scientific explorations of Australia's offshore geology. Geoscience Australia, then known as the Bureau of Mineral Resources, Geology and Geophysics, conducted the Continental Margin Survey (CMS) at a cost of more than three million dollars – a considerable sum in those days. A specially designed ship traversed nearly 100,000 nautical miles in waters between 50 meters and 4,500 meters deep.<sup>1</sup> It trailed a proton precession magnetometer behind it to measure variations in the Earth's magnetic field, thus allowing iron-rich objects to be detected. It had a marine gravity meter mounted on a gyro-stabilized platform to measure variations in the earth's gravitational field. It also took seismic soundings to measure water depths. These measurements revealed Australia's underwater structure: the locations of rifts, faults, basins, and other features.

The CMS was the biggest single systematic marine survey ever done anywhere in the world, collecting geo-scientific data covering almost 200,000 square km. Geoscience Australia, as it is known today, gained a good appreciation of what Australia's offshore area looks like. It went from knowing almost nothing about the offshore features – not even what kind of features existed – to having a good idea of where the underwater plateaus, terraces, trenches, canyons and other features were located, what their dimensions were, where they were steep and where shallow, and how they were all organized together offshore. Many years of data processing took place after the surveys. It soon became clear that most of Australia's oil and gas reserves lay offshore in the seabed under the waters.

In the 1980s, taxpayers provided a massive financial windfall to oil and gas corporations by funding more offshore geological surveys and petroleum resource studies. Known as the Continental Margins Program (CMP), it was a huge undertaking, given the size of Australia's continental margin: nearly 12 million sq. km. Put simply, Australia has substantially more sea floor than it does land (7.69 million sq. km).<sup>2</sup> The workhorse of the surveys was the *Rig Seismic*, a purpose-built ship chartered from Norway in 1984. It had advanced geophysical equipment and advanced navigation instruments including the first Global Positioning System ever installed on an Australian or Australian-chartered ship. Its air compressors, air gun arrays and seismic streamer

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<sup>1</sup> Bureau of Mineral Resources, Geology and Geophysics, *Marine geophysical survey of the Australian continental margin 1970-1973: field progress reports* (Canberra: BMR, 1979-1980).

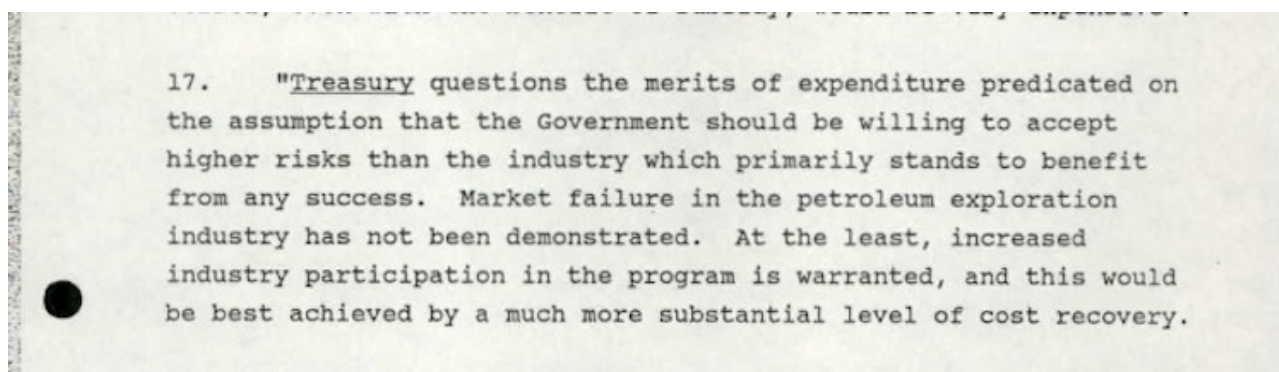
<sup>2</sup> Geoscience Australia, "Australia's Size Compared," <http://www.ga.gov.au/scientific-topics/national-location-information/dimensions/australias-size-compared> accessed January 27, 2018.

reels occupied 342 square meters of space over three decks. Heavy geological equipment was also on board, such as a large coring and dredging winch containing ten kilometers of wire rope with a breaking strain of over 20 tons. This winch was the largest of its kind on an Australian ship and enabled the BMR to take rock and sediment samples from the deepest part of the seafloor around Australia. The geological equipment and laboratories occupied 170 square meters of space over three decks.

The machinery wasn't the only aspect of the project. Seismic data collection was a continuous, 24-hour operation from 20 to about 40 days. Three shifts of two technical officers monitored navigational and seismic acquisition. Two shifts of two engineering technical officers maintained air guns and compressors. An electronic specialist maintained the hardware, and two systems geophysicists on 12-hour call ensured data quality control. Five additional scientific crew were involved, as were experts in micropaleontology, geochemistry, heat flow, and side-scan sonar.

The Commonwealth's aim was to support the interests of petroleum companies by reducing the element of risk involved in exploration. It wanted the project to collect "the same kind of data that are the principal tool of the petroleum exploration industry - high quality, deep penetration multichannel seismic reflection data."<sup>3</sup> Would the petroleum companies pay for all this? No, said the Hawke Cabinet in March 1988, "Product sales are unlikely to return more than 5% of total program costs in the long term." The overriding concern was to encourage petroleum companies to invest: "The principal benefits to Australia will be obtained from increased private petroleum exploration and production."<sup>4</sup>

According to the Cabinet Minutes of March 22, 1988, the Treasury Department objected to all this valuable information being given away. It asked why "the Government should be willing to accept higher risks than the industry which primarily stands to benefit from any success." It pointed out that "market failure in the petroleum exploration industry has not been demonstrated. At the least, increased industry participation in the program is warranted, and this would be best achieved by a much more substantial level of cost recovery."<sup>5</sup>



These concerns, expressed in 1988, had been a running sore in the 1970s, when economist Tom Fitzgerald concluded in a report to the Minister for Minerals and Energy that the government

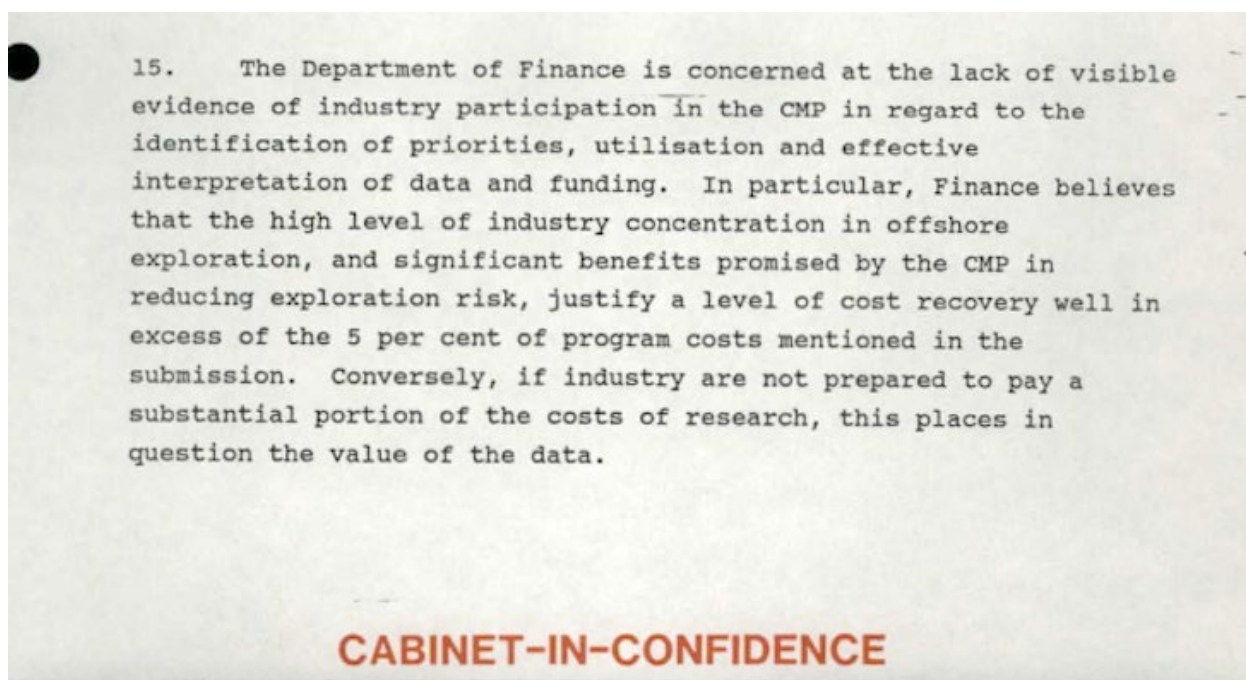
<sup>3</sup> National Archives of Australia (NAA): A14039, 5522: Long-term Continuation of the Continental Margins Program and Extension to Antarctica. Cabinet Minute No. 10805 of 22 March 1988.

<sup>4</sup> NAA: A14039, 5522: Long-term Continuation of the Continental Margins Program and Extension to Antarctica. Cabinet Minute No. 10805 of 22 March 1988.

<sup>5</sup> NAA: A14039, 5522: Cabinet Minute No. 10805 of 22 March 1988.

subsidies to the mining companies were more than they paid in tax.<sup>6</sup> In the 1974 election campaign, Prime Minister Whitlam used the report to argue that Australia was “paying to be exploited.”<sup>7</sup> He introduced tax changes for mining companies after his narrow election victory. But his defeat in 1975 saw the Fraser government roll these changes back, and a pro-corporate, low taxing approach was entrenched.

The Finance Department also spoke up, saying it was “concerned at the lack of visible evidence of industry participation in the CMP.” In particular, it said, a “level of cost recovery well in excess of the five percent of program costs” was warranted. It was not as though the offshore exploration sector suffered from too much competition. On the contrary, the Finance Department argued, there was a “high level of industry concentration in offshore exploration” and this small sector would derive “significant benefits promised by the CMP in reducing exploration risks.”<sup>8</sup>



Instead, in 1988 Cabinet approved the continuation of the surveys for a further ten years, subject to review at three-yearly intervals.

As with so much else in Australia, the state stepped in to do the foundational work, and large private companies benefitted from the resulting opportunities. While the public absorbed the costs and – crucially – the risks – of investment in fundamental research, the corporate sector stood to benefit from the energy riches in the continental shelf. In reality, this meant that a tiny minority of people in control of huge concentrations of capital were able to set up the North West Shelf Gas Project off the coast of Western Australia, near the Pilbara town of Karratha. On September 4, 1984, West Australian premier Brian Burke formally opened the \$27 billion Project, which was operated by a then little-known company called Woodside Petroleum. It began exporting liquefied natural gas (LNG) in 1989. The Project has today become one of the largest LNG producers in the

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<sup>6</sup> Thomas Fitzgerald, “The Contribution of the Mineral Industry to Australian Welfare,” *Report to the Minister for Minerals and Energy, the Hon. R.F.X. Connor MP* (Canberra: AGPS, 1974).

<sup>7</sup> Gough Whitlam, Policy Speech at the Blacktown Civic Centre, NSW, on April 29, 1974.

<http://whitlamdismissal.com/1974/04/29/whitlam-1974-election-policy-speech.html> accessed January 16, 2018.

<sup>8</sup> NAA: A14039, 5522: Cabinet Minute No. 10805 of 22 March 1988.

world. Woodside has become Australia's largest stand-alone oil and gas company, and one of the top 20 stocks in the Australian Stock Exchange (ASX) by market capitalization.<sup>9</sup>

The Australian government deployed the full weight of its diplomatic, legal and scientific assets over decades to secure massive benefits for Woodside's shareholders. The most important factors in Woodside's success, its founding chairman later reminisced, were the exploration licenses for the North West Shelf and keeping the company in Australian hands.<sup>10</sup> In return, according to Woodside's own calculations in February 2017, the government received approximately \$26 billion in royalties, excise and taxes from the North West Shelf Project since it began in 1984.<sup>11</sup>

### **The Road Not Taken**

By contrast, Norway made better use of the oil and gas in its continental shelf. The Norwegian government owns two-thirds of the shares in Equinor, formerly known as the Norwegian State Oil Company.<sup>12</sup> Equinor's workers elect three of the 11 directors.<sup>13</sup> The Norwegian government created the Government Pension Fund Global in 1990 to invest Norway's oil revenue. The Ministry of Finance owns the fund on behalf of the Norwegian people, and determines its investment strategy. The Fund had more than 9 billion kroner (almost **\$1.5 trillion Australian dollars**) in 2019.<sup>14</sup> This was a handsome investment for a country with less than six million people.

1. The **Commonwealth should have insisted on equity** in the North West Shelf Project at the very beginning, when share prices were affordable.
2. It could have **insisted on income-contingent subsidies** in the same way that Australian students are required to pay back their university fees once their incomes exceed some amount.
3. It could have **insisted on a golden share of any intellectual property arising from the project over its lifetime**. These alternatives would reward inventors whilst also giving society some additional benefits.

### **An ongoing matter**

The above discussion of geoscience and state subsidy is not merely of historical interest. It is very much an ongoing activity. The **Committee should examine** the economics of Geoscience Australia's work in the central North West Shelf. Known as the Dorado petroleum system, it comprises an area bigger than the Grand Canyon, all of it underwater. Geoscience Australia's work

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<sup>9</sup> Woodside is one of five resource companies in the ASX 20 along with BHP-Billiton, Rio Tinto, Newcrest and Fortescue. Robert Gottlieb, "CSL the only growth stock in Australia's top 20 companies," *The Australian*, August 17, 2017.

<sup>10</sup> "Woodside penny well spent for WA," *The West Australian* August 18, 2004, 27.

<sup>11</sup> Woodside Energy Ltd, "North West Shelf Submission to the Review of the Petroleum Resource Rent Tax," February 8, 2017. The figure includes 30% corporate income tax, federal royalty at rates ranging from 10% to 12.5%, and excise applied to the volume weighted average realized (VOLWARE) price of crude oil and condensate.

[https://static.treasury.gov.au/uploads/sites/1/2017/06/R2016-001\\_North-West-Shelf-Project.pdf](https://static.treasury.gov.au/uploads/sites/1/2017/06/R2016-001_North-West-Shelf-Project.pdf) accessed January 27, 2018.

<sup>12</sup> <https://www.equinor.com/en/about-us/html#sponsorship> Accessed 26 October 2019.

<sup>13</sup> <https://www.equinor.com/en/about-us/board-of-directors.html> Accessed 26 October 2019.

<sup>14</sup> <https://www.nbim.no/en/the-fund/market-value/> accessed 26 October 2019.

has revealed vital new insights into the region's structural architecture and hydrocarbon potential, with immense significance for hydrocarbon exploration, extraction and profits.<sup>15</sup>

It constitutes another massive public subsidy on the part of the taxpayers. To reiterate: the risk absorbed by the taxpayer is more important than the cost. Taxpayers ought to be entitled to equity in projects when share prices are affordable. The private sector should have to pay more as their incomes increase, just as Australian students are required to pay back their university fees once their incomes exceed some amount. Taxpayers should retain a golden share of any intellectual property arising from the project over its lifetime. These alternatives would reward risk and cost whilst also ensuring benefits to private investors.

Yours sincerely,

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<sup>15</sup> Steve Abbott, Claire Orlov, George Bernardel, Chris Nicholson, Nadege Rollet, Duy Nguyen, and Merrie-Ellen Gunning, Stratigraphic and structural architecture across the central North West Shelf – implications for Triassic petroleum systems, The APPEA Journal 59(2) 832-839, June 2019. <https://doi.org/10.1071/AJ18154>