22 March 2013

Mr Mike Woods
Presiding Commissioner- Resource Exploration Inquiry
Productivity Commission
GPO Box 1428
Canberra City ACT 2601
(via email: resourceexploration@pc.gov.au)

Dear Mr Woods

Issues Paper- Non-financial Barriers to Mineral and Energy Resource Exploration in Australia

APPEA welcomes the opportunity to provide comments on the above Issues Paper. A number of matters addressed in the Issues Paper are central to achieving more effective, efficient and streamlined commonwealth regulation in the oil and gas industry.

Section 1 of this submission describes the inefficiencies arising from multiple overlapping approvals processes which are leading to petroleum operators being unable to effectively plan and execute exploration programs.

Section 2 of our submission covers detailed responses to the specific questions posed in the issues paper and highlights the regulatory creep which has impacted the oil and gas industry in Australia. Social licence to operate requires strong environmental, safety and operational performance, but industry is being hamstrung by excessive and duplicative green and red tape.

APPEA welcomes further involvement and the opportunity for further comment on any regulatory amendments arising from the Issues Paper.

Yours sincerely

David Byers
CHIEF EXECUTIVE

APPEA

HEAD OFFICE
Level 10
60 Marcus Clarke St
Canberra ACT 2601

GPO Box 2201
Canberra ACT 2601

T +61 2 6247 0960
F +61 2 6247 0548
E appea@appea.com.au
ABN 44 000 292 713

BRISBANE OFFICE
Level 36
32 Turbot St
Brisbane QLD 4000

T +61 7 3231 0500
E brisbane@appea.com.au

PERTH OFFICE
Level 4
190 St Georges Tce
Perth WA 6000

PO Box 7039
Cloisters Square
WA 6850

T +61 8 9426 7200
F +61 8 9321 9778
E perth@appea.com.au

SYDNEY OFFICE
Suite 4, Level 8
3 Spring St
Sydney NSW 2000

T +61 2 8241 1900
E sydney@appea.com.au

AUSTRALIAN PETROLEUM PRODUCTION & EXPLORATION ASSOCIATION LIMITED

Submission to the Productivity Commission

Non-financial Barriers to Mineral and Energy Resource Exploration

AUSTRALIAN PETROLEUM PRODUCTION & EXPLORATION ASSOCIATION (APPEA) LTD

March 2013

Section 1: Industry Background and General Observations

The Australian Oil and Gas Industry is a major contributor to economic prosperity

The petroleum exploration and production industry is an integral part of the Australian economy. The industry's direct contribution includes:

- the supply of reliable, clean, efficient energy supplies for households and industry;
- the direct employment of tens of thousands of Australians;
- massive regional investment (including in critical infrastructure);
- export income (and the replacement of imports); and
- the payment of significant amounts of government tax revenues (on average, more than $7 billion per annum over the last five years, with this amount being expected to grow over the coming decades).

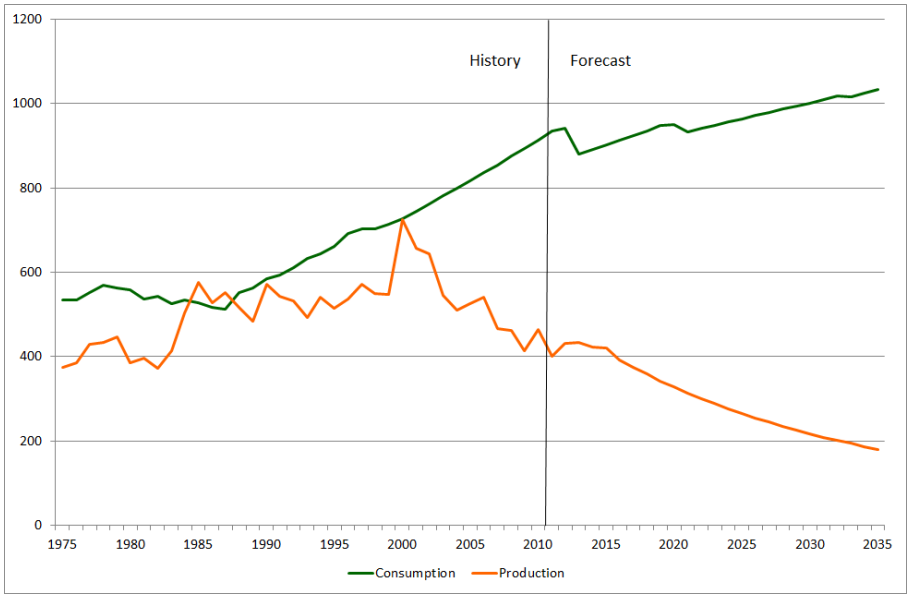
In addition, substantial indirect benefits flow from the industry, including to the national and state economies via a growing services and contractor sector which in 2011 was worth $4.3 billion. According to the Deloitte Access Economics (DAE) report *Advancing Australia: Harnessing our comparative advantage* (2012) the economic contribution of oil and gas operations, and the flow-on contribution of oil and gas projects was $28.3 billion to the economy in 2011 — accounting for 2.0 per cent of GDP. While the current economic contribution is substantial, the future contribution is expected to be much more significant. The unprecedented committed expansion is forecast to increase output by $68 billion in 2020 and $63 billion in 2025 (DAE, 2012).

Overall, the policy framework must ensure that Australia's explorers and producers are not competitively disadvantaged with producers of other energy sources and similar activities that are undertaken in other countries. Measures that attract increased exploration in the many yet-to-be explored or under-explored areas of Australia are also important.

Petroleum Exploration and Production in Australia

The trend in Australia's production of liquid petroleum (crude oil and condensate) has been steadily downwards from a peak in 1999 resulting in a growing gap between Australia's liquids production and its consumption of petroleum products (see Figure 1). Unless there is a major shift in exploration activity resulting in a sequence of new discoveries, the annual loss of income to the nation will keep increasing.

Figure 1: Crude Oil and Condensate Production and Demand (KBOE)

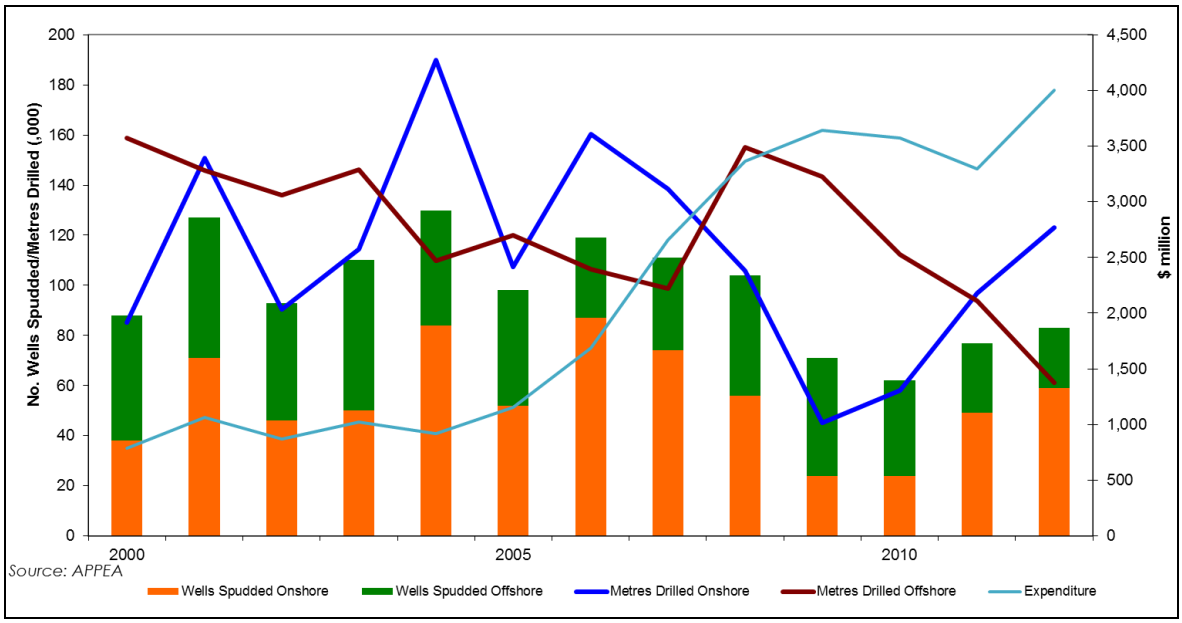


Source: BREE, APPEA

Exploration is critical

Oil and gas cannot be produced without first locating commercially viable resources and these cannot be discovered without first undertaking exploration. Exploration activity can be measured in numerous ways. Figure 2 highlights the wells drilled in onshore and offshore areas in the period covering 1997-98 to 2011-12, together with total exploration expenditure. Exploration activity is often cited in terms of expenditure, however this often misguides in terms of the quantum undertaken, because it measures cost, not activity. The level of physical activity undertaken is a far more appropriate guide and is also shown in Figure 2 by Exploration Metres drilled.

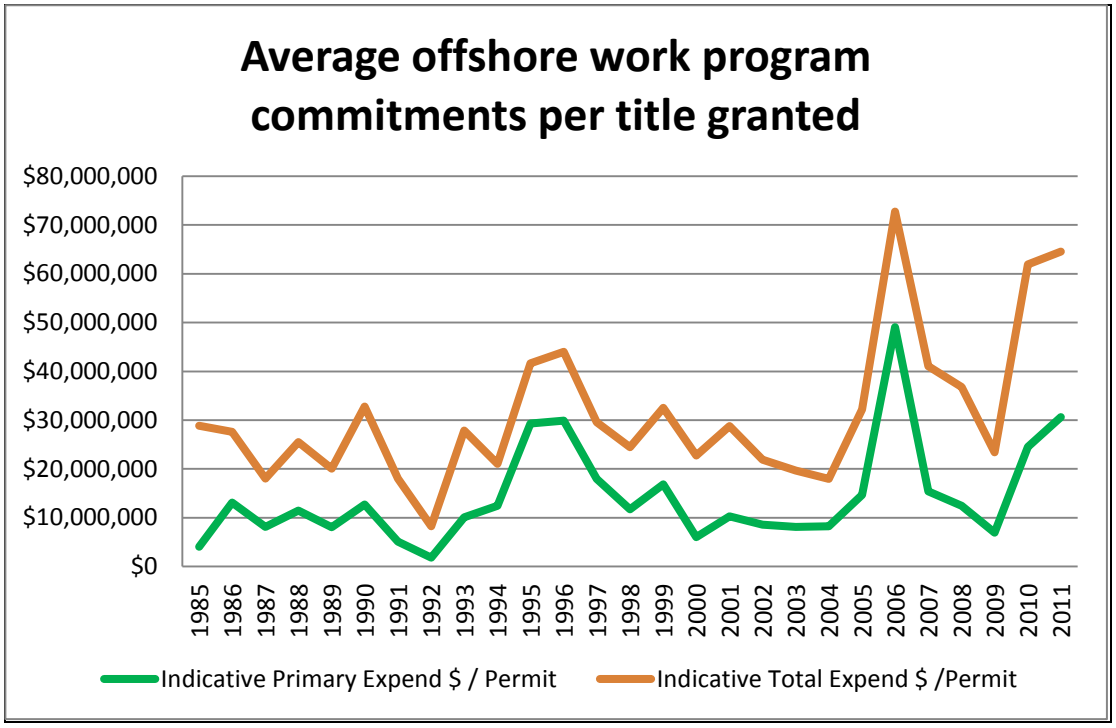
Figure 2: Australian Exploration Activity and Expenditure



Source: ABS, APPEA

Much of the increase in expenditure that has been recorded is due to rising costs, as petroleum exploration activity has generally trended downwards since the 1980s. In 2011, the number of exploration wells spudded and metres drilled in offshore areas was at one of its lowest levels for at least 20 years. Onshore activity increased only slightly from record lows in 2010. Such levels of exploration will not make meaningful inroads into the vast parts of Australia that remain unexplored.

Australia is a high-cost destination for exploration due, in part, to its distance from the world's major petroleum centres. As a result, the cost of mobilising drilling rigs and equipment is high. To date, much of the exploration activity undertaken in Australia has been in shallow water mature basins or brownfields onshore areas (such as the Carnarvon, Gippsland, Cooper and Browse Basins), with field recovery sizes generally becoming smaller. The discovery of significant new accumulations will to a large extent be dependent on exploration in new basins (both onshore and offshore), where the risk/reward balance is fundamentally different.



In recent years, governments have made more titles available in frontier areas. The industry has taken up most, but not all of these titles. Companies acquiring such permits typically commit to work programs of further geological studies, seismic acquisitions and the potential drilling of a small numbers of wells. While this is a good start, more is required to encourage high-risk, high-cost exploration activity in those permits and in Australia's many other unexplored frontier areas.

Australian prospectivity and discovery rates

Australia is generally perceived to offer low prospectivity for oil, with relatively low discovery rates and small average field sizes. Gas prospectivity is good, but Australia already has many large undeveloped gas fields and resources, and new gas discoveries are often remote from

markets and infrastructure, and are becoming increasingly difficult to commercialise. Wells cannot be drilled without access to good geoscientific data.

A review of Geoscience Australia undertaken by the Department of Finance and Administration in 2011 confirmed that there are strong 'public good' grounds for public investment in geoscience research and that such investment delivers positive returns to the community. In relation to the provision of pre-competitive information, geoscience agencies around Australia (including Geoscience Australia) make a valuable contribution by undertaking geological assessments of under-explored areas.

Exploration by its very nature is a very high risk investment. This is best demonstrated by comparing the number of exploration wells drilled with both discoveries and the percentage of discoveries that are subsequently converted to production. Geoscience Australia maintains a detailed petroleum database that records the above information across individual geological basins in Australia.

- In the period 1955 to 2011, a total of 4,248 conventional exploration wells were drilled in onshore and offshore Australia.
- Of the 4,248 wells drilled, 1,200 were considered by Geoscience Australia as being 'discoveries'. A discovery well is defined as a well that recovers petroleum or encounters a producible log pay zone. This represented a 28 per cent success rate as a percentage of the number of exploration wells drilled.
- Of the 1,200 discovery wells, 585 led to production. This represented a 14 per cent success rate as a percentage of total well drilled.
- If the two most successful basins are excluded from the data set in terms of exploration wells drilled, discovery rates and production, the discovery success rate falls to 20 per cent, while the production success rate falls to slightly less than 9 per cent. For this latter scenario, this means that the success rate is around one in eleven.

Source: Geoscience Australia (unpublished data)

The above highlights some very important trends. Specifically, such activities are often unsuccessful, they more often than not do not generate petroleum reserves, and many decades can pass before a company is aware as to whether a discovery can ultimately be converted into production. Notwithstanding the generally poor success rates associated with petroleum exploration (reflecting the high risk nature of the activity), the lengthy time periods between discoveries and a decision to produce highlights the importance of streamlined and non-duplicative regulatory processes. Delays directly impact on the efficient development of resources, and therefore project economics in what is a very upfront capital intensive industry.

Issues for Australia's smaller exploration companies

The diversity in size and activity in the Australian petroleum industry has been a major contributor to its success. A number of Australia's major oil and gas discoveries have resulted from the innovative and pioneering work undertaken by junior exploration companies, while the prospectivity of some basins has been established by the work undertaken by small independent companies at the frontier stage of the exploration cycle. Of more recent times, junior explorers

have underpinned the emergence of coal seam gas as an important energy source and the growth of shale gas activities.

The challenges confronting small to mid-sized Australian companies in raising capital to fund exploration have been long standing, but have increased markedly over recent years. In addition, there has been a trend for companies to direct funds towards overseas exploration programs (see Section 2). While this globalisation is in part a welcome development and highlights the international nature of the industry, it is also at least in part a reflection of the increased levels of regulatory complexity in Australia.

Petroleum company executives and investors around the world believe that significant barriers to further investments in Australia are the restrictions on access to resources and inefficient regulation and approvals processes. Independent annual surveys such as the Fraser Institute and GL Nobel Denton, report that the investment attractiveness of most Australian jurisdictions is declining (see Section 2).

Smaller Australian based companies rely heavily on equity funds to underpin exploration activity. The investors of these types of funds (often through direct capital raisings on the Australian equity market) place a high priority on the funds being directed towards exploration activity. Any delays in exploration programs will reduce the attractiveness to invest in these types of companies.

The Overall Regulatory Burden

Many studies, including those previously undertaken by the Productivity Commission and the Business Council of Australia, have highlighted the cost of increasing government regulation and duplicative and inefficient approvals processes. Over the past two years, the Australian oil and gas industry has seen the introduction of two new offshore regulators governing titles, environment and safety management; the release of the Commonwealth Marine Reserves Network establishing 44 new marine parks covering more than a third of Australia's waters and the introduction of new state and Commonwealth regulations and restrictions on the CSG industry. Of more recent times, changes have been proposed to the *Environment Protection and Biodiversity Conservation Act 1999* to add an additional trigger for certain mining activities, including those associated with coal seam gas operations. Such activities are already subject to comprehensive environmental and regulatory processes.

A good start to regulatory reform has been made in some parts of the country, particularly the regulation of activities in offshore Commonwealth waters and in some onshore jurisdictions such as Western Australia and South Australia. However, implementation of the new offshore environmental approvals regime has been difficult and resulted in extensive work program delays.

From 1 January 2012, two new regulatory agencies were created. The National Offshore Petroleum Safety and Environmental Authority (NOPSEMA), which regulates occupational health and safety, integrity of facilities and wells, environmental management and day-to-day

operations of petroleum activities in commonwealth waters, and the National Offshore Petroleum Titles Administrator (NOPTA), which administers petroleum titles and data. By assuming the responsibilities for offshore petroleum regulation previously held by state and territory designated authorities, the national agencies have made improvements to the consistency and reduced duplication in offshore petroleum regulation.

The industry continues to support the objective of achieving sound regulatory oversight of industry environmental practices however notes that the management of the transition to NOPSEMA becoming the regulator of environmental management of the offshore industry has posed serious and costly challenges for the industry. The substantive issue has been NOPSEMA's different expectations and approach to the implementation of offshore environmental regulations. Some companies have incurred substantial costs and delays with implications for pre-existing permits and work program commitments. A number of examples are included in APPEA's recently released report *Cutting Greentape: Major Oil & Gas Project Environmental Approvals Processes in Australia* (provided separately to the Commission prior to this submission).

Regulatory complexity, duplication and uncertainty in other parts of the industry — particularly in relation to the CSG industry in Queensland and New South Wales — have also increased markedly. This duplication occurs between Federal and State agencies and between Federal Government agencies and bodies.

Environmental approvals are usually subject to a range of conditions often requiring the development and approval of more specific management plans, the monitoring of performance and impacts, remedial action and investment in further environmental research or environment protection programs. For major projects, these programs add tens of millions of dollars to already high project costs and significantly increase regulatory uncertainty.

For example, it took more than three years and a 13,500 page Environmental Impact Statement for Commonwealth and state approvals to be granted for the Santos GLNG Project. These approvals included 1200 strict conditions over the project's operations and requirements for further, extensive scientific work to be undertaken as the project proceed.

Further case studies highlighting the significant level of overlap, inconsistent and contradictory conditions given to project proponents can be found in APPEA's *Cutting Greentape* report. Ultimately, the inefficiencies arising from multiple overlapping approvals processes leading to operators being unable to effectively plan and execute exploration programs will see investment diverted from exploration and companies leaving or redirecting funds from Australia. These additional burdens that are directly related to regulatory duplications and overlap are well within the control of governments to address.

Maintaining a competitive framework for petroleum exploration

It is critical for the nation to obtain a comprehensive understanding of its petroleum resources, particularly in onshore and offshore areas where there has been little or no exploration. A

diversified and active exploration industry is essential if Australia is to maximise the value of its petroleum resources and maintain a sustainable oil and gas industry. To achieve this outcome, it is important to:

- reduce the regulatory burden on business;
- increase public investment in onshore pre-competitive geoscience initiatives, maintain offshore programs and improve the coordination of publicly funded geoscientific data management systems so as to stimulate greater interest in onshore and offshore frontier areas; and
- develop and implement a comprehensive package of measures for increasing onshore and offshore frontier exploration, including enhanced fiscal terms and other incentives.

The current Inquiry being undertaken by the Productivity Commission will be crucial to identifying pathways to reduce the impact of the overall regulatory burden.

Section 2: Comments on Specific Questions

Outlined below are responses prepared in relation to the range of questions contained in the December 2012 Issues Paper released by the Productivity Commission. These comments are intended to supplement the direct input that will be made by companies engaged in petroleum exploration operations in Australia.

1) *What factors determine the location (greenfields versus brownfields) and level of exploration activity?*

The perceived prospectivity of an area is determined by a range of factors, including the material and work generated from both the publicly available data sets maintained by government agencies and from a company's own opinion, based on their databases, knowledge and expertise. Prospectivity is often dependent on the balance between risk and reward. Greenfields areas are generally more risky (with higher potential rewards), while brownfields are lower in risk, but often involving lower rewards to an investor.

The level of exploration activity is dependent on a range of complex and inter-related factors, including prospectivity, fiscal terms, technical risk, market opportunity, access to capital and the regulatory framework.

2) What are the likely long-term impacts resulting from the current focus on brownfields exploration?

Companies are currently spending significant sums on exploring close to production/producing assets as there is lower overall risk and a better opportunity to value add. Therefore, there is a lower overall risk profile, smaller discoveries generally become economic to produce as they are closer to existing infrastructure and production facilities. By not exploring or drilling wells in more remote and frontier areas, companies are much less likely to find the larger and material discoveries. Overall, this will lead to a longer term decline in field development and production through the discovery of smaller and smaller fields.

3) Is the balance between greenfield and brownfield exploration appropriate to sustain Australia's mining sector over the longer term?

No. In the current environment where "everything is costing more" (including rigs, seismic vessels and the other tools of exploration), this inevitably leads to lower risk exploration targets, but these are generally the smaller targets. These can deliver similar levels of near term profitability, but do not necessarily contribute to the significant resource adds. Discretionary exploration spend is often first to go in a capital constrained environment, and particularly the higher risk and more discretionary exploration.

4) Are there different factors influencing exploration expenditure by junior explorers and established producers?

Established producers often target exploration expenditure to meet contracted gas supply needs or other production related objectives) or permit commitments. However established producers are often more constrained on discretionary expenditure which may be a last priority if there is anything left in the budget.

Juniors with producing assets (most often have non-operator status) and juniors without production will both have greater restrictions on discretionary spend as there is invariably a more limited pool of funds and these funds are generally already allocated (there is lesser capacity to undertake wildcat drilling). Smaller companies are often dependent on equity market investors to underpin their exploration efforts.

5) *How appropriate are metres drilled and the number of discoveries as measures of exploration productivity, or are there better measures?*

The primary measure used by industry is the "finding cost" (cumulative resource volume divided by the cumulative exploration spend). In addition there are leading indicators such as:

- Leasing take up
- Quantity of seismic acquired
- Quantity of wells drilled (both # and metres drilled)

   a) *What are the factors that complicate the interpretation of such measures?*
   b) *How sound are the statistics associated with productivity measures?*

Industry does consider that there are better measures (such as that indicated above) to determine the productivity of exploration but that using the measures indicated above and considering the size of any discovery as a third variable (therefore can also see how any finds have changed over time (i.e. decreased), is a reasonable generalisation. Such assessments should also be categorised on wildcat/greenfield versus near field exploration (i.e. brownfields) as this can make a difference on how the statistics are interpreted (i.e. a commercial discovery capable of producing can be smaller, yet still economic, close to infrastructure). These statistics are reasonably robust given the mandatory reporting under licence conditions required by Australian legislation but must be allocated into right category/bucket of green/brown/near field to have an additional degree of appropriateness to the numbers.

Another measure of the level of exploration activity would be to look at how much seismic has been acquired - 2D and 3D seismic is a precursor to drilling and by using the measure of line km and sq km shot/collected, a reasonable estimate of the level of activity can be generated. This is used as a lead indicator of level of activity occurring across industry at any given time (as opposed to drilling which can be considered a lag indicator in this sense). An even earlier lead indicator of exploration interest (assessment of worth of an area) would be to look at acreage turnover, acceptance of bids/blocks and their associated work programs as this sequence is a pre-qualifier to actual physical exploration (i.e. geophysical studies and then seismic) occurring.

6) *Is Australia's exploration activity becoming less productive?*
   a) *What factors are underpinning changes in exploration productivity and what contribution have current Government policy settings made to these changes?*

In Australia, companies are not finding the same volume of resources given the easy, near shore and shallow water finds made but levels of activity are considered to be reasonably constant. These productivity measures or 'find rates' are continually being offset via advances in technology, new understanding of geological plays and subsurface interpretations. However, exploration in Australia is returning less reward for similar levels of activity. This is further

compounded with higher levels of green and red tape impacting global exploration budget allocations.

In 2013, it costs more to explore. In the current regulatory/ economic /international-globalised/ competitive environment, companies have limited budgets and need to consider their total allocation of funds in a global context, therefore Australia must compete on the global stage across all aspects of the sovereign risk spectrum as well as the geographical distance and prospectivity factors.

7) *What are the factors underpinning the decline in Australia's share of global exploration expenditure?*
   a) *Do these factors differ by type of mineral or energy resource?*

Australia is seen as prospective for gas, rather than oil. Gas is generally more expensive to commercialise compared with oil. There have also been recent and well documented cost increases associated with large scale infrastructure, including LNG facilities. In addition, there is the potential for a lowering in gas prices due to the expansion of unconventional gas production on worldwide basis. However, there has been a significant paradigm shift in the onshore gas industry, due to higher anticipated prices for domestic gas sales.

Oil is significantly easier to commercialise (and generally develop), but is harder to find in Australia.

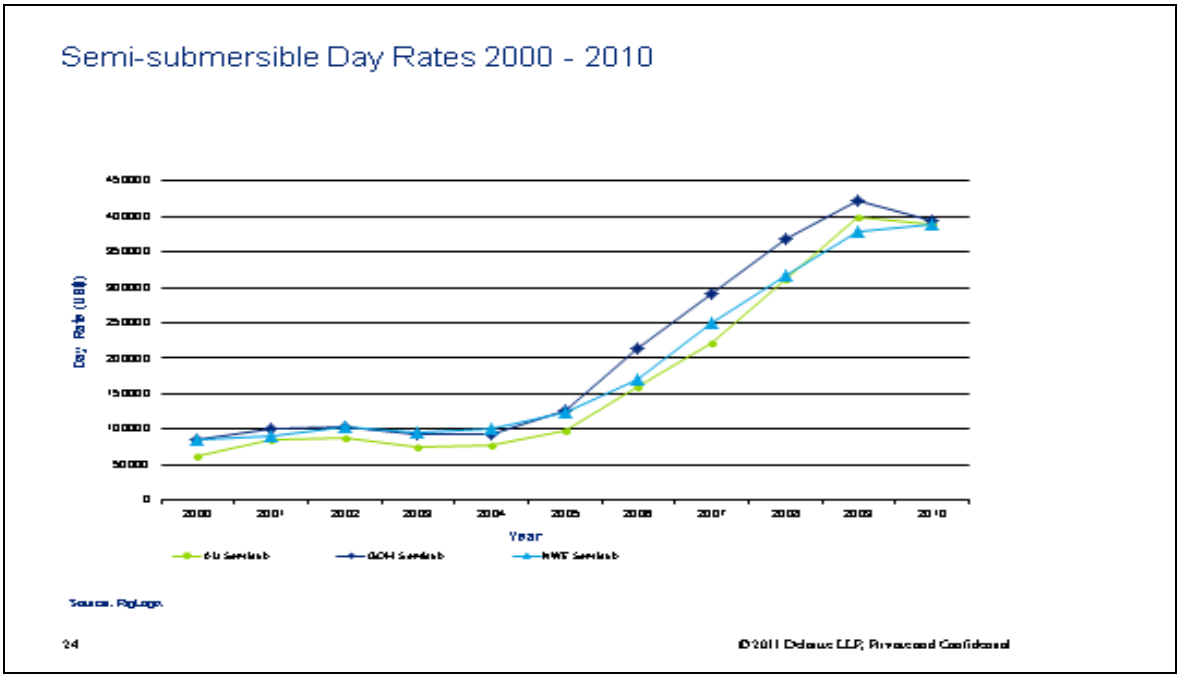
8) *Is Australia seen as offering less likelihood of significant discoveries?*

Yes (especially for oil compared with gas). While Australia is often 'externally marketed' as a highly prospective investment destination (and this view is often then assumed to be the case by the regulators), the reality is very different. A more realistic view is generally held by industry. A view within industry is that future large discoveries will most likely now be found in the more remote and frontier areas and likely in deeper strata than current discoveries.

9) *Are the costs of exploration higher than in other countries?*
   a) *If so, what are the factors driving these higher costs? (Issues relating to offsetting benefits, such as reduced sovereign risk, are discussed below.)*

Yes, the tyranny of distance to Australia means increased costs of drilling rigs, seismic vessel and red tape, which is exacerbated by the cost of labour in building the production facilities. The Chart below highlights the upward movement in the cost of day rates for a commonly used type of exploration equipment. Added to the likelihood that future large discoveries will be in deeper strata, which requires longer drilling times, costs to companies could potentially escalate significantly. As can be noted, rates dramatically rose in the period from the mid 2000's to the end of the period.

Semi-Submersible Drilling Costs ($US per day)



Source: Deloitte

Recent experiences have also increased the regulatory cost of exploration, i.e. the cost of compliance with regulations.

10) Has the 'globalisation' of Australian based exploration companies meant that they have spread their exploration activities too thinly in Australia?

All companies have a finite pool of resources which are directed where they can deliver the "best bang for buck". Thus Australian exploration projects must compete with international opportunities to be funded (by both small and large companies alike).

Large international companies can also struggle in Australia unless they are incumbent, due to the diminishing size of discoveries, the increasing cost to develop gas infrastructure and the significant overhang of discovered gas resources to date.

11) How has the complexity of the approvals process increased over time?

a) What factors are contributing to the increasing coverage and complexity of the approvals process?

b) What can be done to reduce this complexity while still meeting regulatory objectives?

Industry supports the principle of a single offshore petroleum regulator however the transition to NOPSEMA and NOPTA have not delivered the simplicity and cost savings to date that were originally envisaged. In addition, the increased scrutiny on onshore exploration has also increased the complexity of the approvals process onshore. Whilst the need for stringent environmental regulation is core to all industry operation (especially in a post-Montara/Macondo society), there is a need to adopt regulatory reforms across all levels of government (onshore and offshore) to reduce regulation where no further environmental benefit is being obtained.

Environmental approvals for exploration activities are often subject to a range of conditions requiring the development and approval of more specific management plans, the monitoring of

performance and impacts, remedial action and investment in further environmental research or environment protection programs. Recently, industry has seen this level of scrutiny increased with conditions on projects being replicated at State and Commonwealth level (State legislation and the EPBC Act), and also across pieces of Commonwealth legislation (i.e. OPGGS Act and EPBC Acts). Some of this has been Government implementing additional greentape in response to public concerns that are not necessarily based on science. For major projects, these conditions and programs add tens of millions of dollars to already high project costs and significantly increase regulatory uncertainty.

There is much benefit in investigating and promoting the delegation of authority to regulate activities where duplicative processes exist. For instance, accrediting the responsible Commonwealth Minister to approve Environment Plans under the OPGGS Act to comply with the requirements of the EPBC Act, or agreements with State governments to ensure the complimentary process of meeting national standards are applied, and applied once. Government has the opportunity to realise time and cost savings via streamlining of approvals processes.

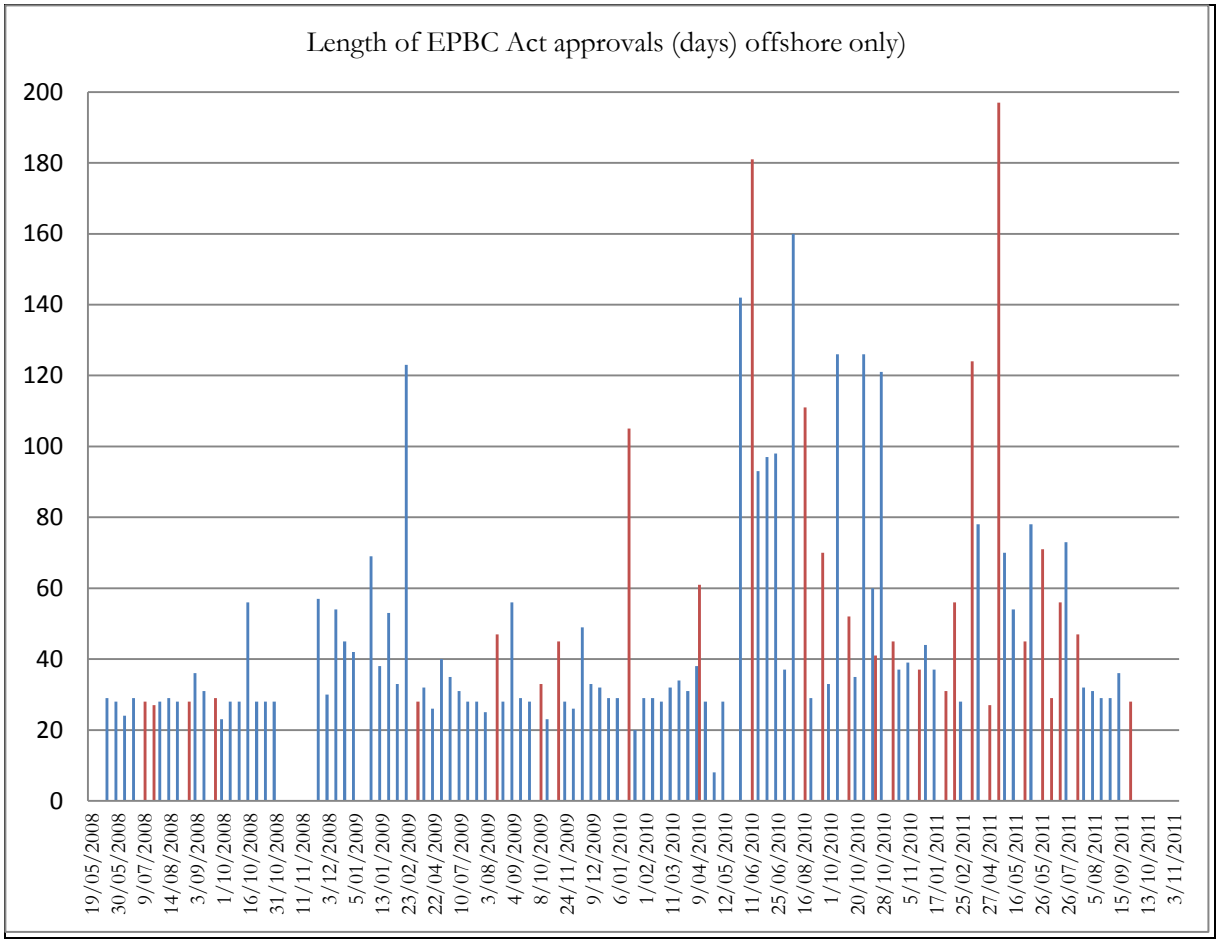
12) How has the length and number of steps required of the approvals process changed over time

a) How does it compare with the international experience and across jurisdictions in Australia?

b) Are there ways to shorten the duration of the approvals process while still meeting regulatory objectives?

The length and number of steps for approvals has increased considerably in recent years. For example, while industry fully supports the introduction of single offshore regulatory model (introduced on 1 January 2012) many operators are still adjusting to changed expectations and requirements of the approval process. Lengthy delays have been experienced as industry has adjusted to a different interpretation of the requirements for e.g. Environment Plans, a process that has been hampered by the increased involvement of SEWPAC in the decision making process (often conflicting in its requirements) and also a litany of issues with State government processes impinging on top of, changes to stakeholder consultation (demonstration of) and sign off of oil spill contingency plans (AMSA).

The requirements, conditions and approval steps required through the EPBC Act since it came into force on 16 July 2000 has been considered to be a key contributing factor to the length of time taken to receive approvals. The creep of onerous conditions on operators, a highly precautionary approach to approvals and limited departmental resources is considered a significant hurdle for exploration activities. An examination of 215 offshore approvals (covering both production and exploration) highlighted an average time of 42 days for approval under the EPBC Act. There are a number of examples of relatively short duration marine seismic surveys taking over 100 days for approval. The below diagram demonstrates approval times under the EPBC Act since mid-2008.



Results from the Fraser Institute Global Petroleum Study 2012 indicate that in the last survey period Australia—Offshore moved up from 7th place in the region to 3rd. On the other hand, Victoria slipped from 2nd place to 5th, and Tasmania from 4th place to 8th. South Australia consistently ranks highly as a jurisdiction, reflecting their efforts as a jurisdiction to streamline approvals, provide clarity to operators, and establishing a 'one stop shop' for regulatory processes.

The improvement in Australia—Off shore's regional standing is partly due to slightly improved scores on several survey questions including labour availability, trade agreements, and political uncertainty. But the improvement also comes from this year's poorer All-Inclusive Index values for Victoria, Tasmania, Western Australia, and the Northern Territory, all of which out-performed Australia—Off shore in 2011. The declines in relative attractiveness were greatest in Tasmania and Victoria. In both states, survey respondents indicated that general taxation, availability of skilled labour, the cost of regulatory compliance, the administration of regulations, and, in particular, uncertainty over environmental regulations, were of considerably greater concern than a year ago.

Respondents' comments highlight reasons for the investment attractiveness (or not) of some jurisdictions. Among other factors, investors indicate that they continue to turn away from jurisdictions with onerous fiscal regimes, political instability, land claim disputes, and corruption.

Similarly, investors prefer to avoid jurisdictions with costly, time-consuming uncertain regulations. Other factors being equal, competitive tax and regulatory regimes can attract investment and thus generate substantial economic benefits (*Fraser Institute Global Petroleum Survey, 2012).*

13) Are there adequate resources and expertise to administer the system?

Through the industry's long period of operations in Australia (including working with various states and territories) the flexibility adopted by the industry with respect to working with local conditions has always been central to undertaking exploration and production activities. Industry remains concerned about the capability of the regulators to undertake the full suite of regulatory functions. This is primarily a skills rather than funding issue. Given, the growth of the industry in Australia, the changes in offshore petroleum regulatory structure and the ongoing government turnover of staff, industry remains to be convinced that government officials have the requisite skills to assess the types and volume of approvals that are now required. It is critical that regulators are adequately 'skilled-up' to perform their duties. Overall, the experience of a number of companies is that the regulators are suffering from a lack of relevant experience of the industry's operations. APPEA acknowledges that this skilling requirement is more prevalent in a prescriptive regime such as the EPBC Act, rather than an objective based system, such as the OPGGS Act.

14) Are there any estimates of the unnecessary costs of gaining approval (by project or company) to undertake resource exploration in Australia.

- *a) If so, what proportion of (i) total approval costs and (ii) total exploration costs, do they account for?*
- *b) How does this compare across Australian jurisdictions and with other countries?*
- *c) How can these unnecessary approval costs be eliminated or reduced while still meeting regulatory objectives?*

While APPEA member companies will be in a position to provide more definitive data about the direct costs of gaining approvals, anecdotal evidence relating to the approval for a relatively simple offshore seismic survey cites costs can be in excess of $500,000 for the acceptance of Environmental Plan, with a time frame of up to 220 days to complete the detailed justification. This includes a $30,000 application fee to NOPSEMA, which was to have been established on a cost recovery basis in exchange for the abolition of fees on transfers and dealings in permits. To date, the transfer fees remain in place. Conditions places on activities through the EPBC Act also present a significant level of cost for operators, often with little environmental justification. There are a range of different arrangements that exist in overseas jurisdictions. Because of different regulatory systems, fiscal terms and administrative obligations, comparisons with other countries are difficult. Nonetheless, the Australian system is currently characterised by complexity, delays and uncertainty.

Duplicative and inconsistent aspects of the regime add to costs, timeliness of approvals and ultimately confidence in the overall system. Streamlining the EP process, and focussing on what is really important would be a critical next step, rather than simply adopting a precautionary principle. The use of bilateral arrangements with state and Commonwealth regulators would also

assist in finding the right balance between environmental considerations and industry's operations.

15) Are there specific examples of overlap and duplication of regulatory requirements faced by resource explorers?

a) What are the costs associated with such arrangements?

b) Are there examples where different tiers of government mutually recognise compliance with another government's regulatory arrangements?

A number of examples have been cited in earlier questions. Some areas of overlap and duplication exist in relation to:

- NOPSEMA and SEWPAC and the granting of EP's/administration of the EPBC Act
- Overlap between the states/territories and Commonwealth processes
- Overlap and duplication across Commonwealth agencies

Further details and examples can be found in the APPEA *Cutting Greentape report.*

Some states/territories (e.g. WA for Major Projects) have a one stop shop to ease the regulatory burden, and to fast track approvals, however, there is even the potential for some conflict if same agency both issues and regulates policies. For example, in the past, in the Northern Territory Department of Primary Industry, Fisheries and Mines (NT DPIFM) where fisheries and energy activities were under the one portfolio, there was identified conflict and delays that resulted in project approvals being held up for significant periods of time.

16) How have regulators sought to balance competing policy objectives?

APPEA is generally unaware of examples where regulators have sought to work together to address competing policy objectives. However, it is noted that an integrated approach is sought with the relevant agencies within the Western Australian and South Australian jurisdictions and industry looks forward to the ongoing nature of these reforms.

17) Are there examples of inconsistent or contradictory regulatory arrangements occurring within or across jurisdictions?

a) How does this affect exploration activity?

Exploration activity is primarily affected by the cost of delays and the impacts on investment funding both of which have a restrictive effect on the volume of exploration undertaken. APPEA refers the Commission to *Cutting Greentape* report for specific examples of both inconsistent and contradictory arrangements.

18) Has there been an adequate examination of the costs and benefits of excluding exploration activities from particular land?

Generally no. While attempts have been made to ascertain the sources of government information as to the assessment processes for cost-benefit analysis, none has been satisfactorily forthcoming. It is perceived that decisions seem to be based on anecdotal or political considerations rather than quantifiable mapping or modelling on a transparent set of criteria. However, it is arguable that the premise of the question is flawed as it assumes that the 'benefit' of resource exploration can be compared with the 'cost' of exploration in terms of its impact on

other land uses or values, and that planning decisions could then be made on that basis. Industry maintains the coexistence of petroleum and other land use has occurred successfully for decades and can continue to do so.

a) *Should land be indefinitely excluded from exploration activities, and if so under what circumstances?*

No. The rationale behind exclusion zones is ostensibly to protect the values of given assets or values (which, for example, may be environmental values, community amenity, or existing businesses). However exclusion zones are the bluntest policy option available to achieve this outcome. If the governments consider that certain values in given areas should be protected, they should identify those values and specify the outcomes required to provide adequate opportunities for the industry to operate in those areas in a manner consistent with those values and outcomes.

b) *Are independent, transparent and evidence based processes used to determine which land is to be excluded from exploration activities?*

Generally no. Decisions relating to exclusion zones are often politically driven (e.g. urban exclusion zones in Queensland and NSW, critical industry clusters in NSW) or based on anecdotal views or non-scientific grounds. Experience would suggest that little weight is given to the economic consequences associated with excluding commercial activities from given areas, with a disproportionate weighting being given to non-economic factors.

19) Are the processes and conditions placed on exploration activities to access private land and Crown land where mining exploration is permitted, unnecessarily onerous?

There is a general (but not universal) perception that exploration (and production) onshore is relatively well understood. Those farmers and land-owners with limited exposure to exploration are placing demands on governments by way of bans, unrealistic approval conditions and claims on environmental impacts – but this is primarily a result of a lack of understanding rather than unsustainable practices. While sometimes lengthy and complex, the processes relating to land access can generally be met. However, the regulatory burden imposed by environmental processes and conditions and 'green tape' are significant for industry.

a) *Are there particular examples of such processes and conditions?*

Yes. Examples include duplicate assessment at the state and federal level leading to similar but different conditions for the same activity, water quality standards for water used for dust suppression being higher than drinking water standards, and higher standards being applied to petroleum industry activity than applied to identical activities in the mining and agricultural sectors.

20) How can the mineral and energy exploration sector coexist with other types of land use, such as agriculture?

The petroleum industry has coexisted with other land uses, including agriculture, for many decades. There is a growing body of examples of how CSG operations have increased the agricultural productivity and commercial viability of a given area. This may occur, for example,

through the provision of a new source of clean treated water or by virtue of the new source of cash flow provided as compensation under the land access regime.

As noted above, if the government considers that certain values must be maintained in the agricultural sector, it should specify them and the standards required of the petroleum industry to operate in agricultural areas. In some cases, this already successfully occurs. Added to this level of protection are the compensation requirements under existing land access rules which essentially require resource companies to make landholders whole for any impact resource activities have. Beyond that point, how a given resource operation can coexist with a given land use can only be determined by a site specific analysis.

a) *Are the additional processes and conditions placed on exploration activities necessary to ensure agricultural production is protected?*

Agricultural production is conceptually no different to any other industrial or commercial activity. If the government considers that the agricultural productivity of a given area must be maintained, it should specify the outcomes required of resource companies to operate in that area. Industry maintains the coexistence of petroleum and other land use has occurred successfully for decades and can continue to do so.

b) *Are current government policies and legislative responses based on a robust and transparent account of the costs and benefits of different types of land and aquifer use?*

Through the sensible use of compensation – exploration can be more aerially extensive, but is of a short timeframe. Production is longer term, but aerially constrained. Principles need to be in place, but not a prescriptive framework.

21) Are the current heritage requirements providing an appropriate balance between heritage preservation and resources exploration?

a) *Are there aspects of Indigenous and non-Indigenous heritage requirements that pose an unnecessary impediment to resources exploration?*

b) *Are there ways to streamline the processes while still meeting regulatory objectives?*

The experience of industry is that this is very much a case by case issue dependent on jurisdictional laws and the expectations of the Indigenous groups. Companies have a record of working collaboratively with indigenous groups, however difficulties can arise in the context of unrealistic expectations, the role played by 'third parties' and in determining the appropriate representative body or bodies. The experience of the industry to date suggests that the behaviour of some negotiating representatives or groups is very 'tactical' in nature, with a view to place considerable commercial pressure on explorers or developers. Such an approach is inconsistent with the policy intent of the negotiation process and leads to outcomes that impose sub-optimal outcomes for all parties.

22) Are the environmental approval processes and requirements of the states and territories (and the Australian Government to the extent they are in scope for this inquiry) commensurate with the environmental risks posed?

a) *If not, what aspects of the existing environmental assessment and management system place an unnecessary regulatory burden on exploration activities?*

Environmental regulatory frameworks in Australia are considered as some of the most robust and stringent in the world. However, there are numerous examples of approval requirements applied to the oil and gas exploration sector that are not commensurate with the level of risk, and are not asked of other industries proposing similar activities. To illustrate this point, one company was required to notify of the loss of 100 litres of water from a "turkey's nest" dam to land in the QLD gas fields. This is about a bath tub of water, and no environmental harm was caused. Nonetheless, the company was required to undertake soil samples to demonstrate that harm was not caused to the environment and submit a detailed report to the regulator. Departmental officers were required to investigate the incident and formally respond. There are numerous similar examples of both industry and the government investing resources in these activities that distract from delivering real environmental outcomes on the ground.

The lengthy nature of the assessment process, both in time and complexity, is a significant burden on exploration as not only do companies have limited funds, people and equipment contracted, but much exploration in Australia is timed around adverse climactic (seasonal) conditions (e.g. cyclones, floods, extreme temperature etc.).

Industry is working to better understand the requirements of regulators, such as NOPSEMA, but this is often hampered by the involvement of other regulators in the process (for example, NOPSEMA approved a recent seismic survey but SEWPAC did not despite operating under the same sections of the EPBC in this instance) as well consultation requirements (to demonstrate) and any involvement of other Commonwealth agency. Many additional requirements (e.g. baseline studies) and conditions will not provide additional environmental benefit and in some cases have been against the Commonwealth's own advice. APPEA refers the Commission to *Cutting Greentape* report for additional examples.

23) To what extent is there duplication and overlap between the state and territory environmental regulatory requirements and the EPBC Act?

a) Does duplication exist within jurisdictions?

b) What changes to the existing arrangements could reduce unnecessary regulatory burden and time delays while maintaining appropriate environmental protections?

APPEA refers the Commission to *Cutting Greentape* report for additional examples.

24) Are regulatory requirements more relevant to production processes being unnecessarily placed on explorers?

Yes. Industry is not arguing that higher risk activities such as drilling and production activity need less rigorous regulation - however regulators need to consider the vast differences in risk in the context of the activities being undertaken. For example, offshore exploration operators are asked to consider the 'worst-case' scenario of an oil spill in the marine environment. This focuses regulatory process on extremely remote events which are not credible or even remotely likely. Such rigorous criteria may be applicable and appropriate for low likelihood yet high risk activities such as production drilling, however lower risk activities (such as the risk of a collision or a spill from a seismic vessel) should not need such extensive documentation when ocean going tankers (arguably that have a considerably higher risk of an incident) do not require anything other than the adherence to the AMSA and international regulations. A common anecdote currently is that an "EP is not an EIS" and nor should it be.

25) Have explorers been unable to convert an exploration licence into a mineral or energy production licence?

No, not to APPEAs knowledge.

a) *Is there a need for wider legislative changes to provide greater certainty regarding the conversion of an exploration licence to a mineral or energy production licence?*

While there are no specific regulatory or legislative hurdles that may directly influence the surety of tenure from exploration to production, industry remains concerned that shifting regulatory process and expectations may shift the requirements for production to a point that development is impossible. For example, one of the key attractions of the offshore petroleum regime is a solid regulatory system that provides operators with a high degree of certainty that they will be able to develop a resource should one be found. Changes to the regulatory landscape that could affect that system negatively impact on the perception of an operators ability to convert an exploration permit into a production permit.

For example, there are concerns that a monumental shift in the sovereign risk resulting from the introduction of commonwealth marine reserves and the management of those reserves could affect an operator's ability to produce. The management plans for the reserves are currently being considered by government (at the time of writing).

Under the current arrangements, the Director of National Parks is required to give approval on the renewal of a petroleum permit or grant of a new title (i.e. if an exploration permit moved to a production licence) in a marine reserve areas. Whilst this is currently an additional level of red tape, there are discussions underway as part of the plan consultation process which may see the current concerns about increased risk and uncertainty resolved.

26) Are there other regulatory approvals or processes which impose unnecessary regulatory burdens on explorers?

None that have not already been mentioned in this submission or in APPEA's *Cutting Greentape* Report.

27) How significant are any unnecessary adverse regulatory impacts on the resource exploration sector's productivity, profit and international competitiveness compared to exploration in comparable countries?

A variety of factors will influence the reaction and impact of unnecessary regulation, ranging from the experience of the company to complexity of the regulatory framework (an incumbent company will often be more willing and able to meet a complex regulatory framework compared with a new entrant), to the prospectivity of the area (an entity will be more willing to commit the resources and time to an area if it is perceived to be highly prospective). In a practical context, the impact of unnecessary regulatory imposts could be expected to weigh most heavily on exploration activities, where entities have a greater opportunity to withdraw or redirect funds to other locations.

28) Are there other measures which provide insight into Australia's competitiveness?

Australia consistently ranks poorly in surveys of comparative international effectiveness conducted by the Fraser Institute. The Institute's 2012 Global Petroleum Survey analysed the regulatory performance of 147 jurisdictions involved in the administration of petroleum activities. Overall, of the eight Australian jurisdictions in the survey, South Australia ranked best at twenty-ninth and New South Wales poorest at sixty-third. All Australian states and territories fell from their rankings in the previous year's survey.

For regulatory duplication and environmental regulation, New South Wales was in the bottom half of all jurisdictions and last in environmental regulations. A New South Wales respondent cited a key issue as 'Overlapping and conflicting jurisdictions' (*Fraser Institute Global Petroleum Survey, 2012).*

29) What lessons could be learned from countries, or particular states or provinces within these countries, to reduce unnecessary regulatory burdens on resource exploration in Australia?

The GL-Noble Denton report *Seismic shifts; the outlook for oil and gas industry in 2013* cites the regulatory burden remaining a costly impediment to growth with the fears of 2010's Macondo oil spill have yet to fully fade. Nearly half (46%) of those polled believe that the consequences are still rippling through the industry. While this survey focuses on global companies, the majority are operating in the northern hemisphere. About half (49%) expect to increase spending on compliance in 2013 – the single highest area. This is most evident in North America, where nearly six in ten (59%) expect to increase spending, nearly twice the rate of Europe (32%). This comes with a degree of frustration: three in ten agree that many new regulations have been rushed into place, without being properly thought through (rising to 37% in North America). Just one in ten think otherwise. Yet there are also signs that the industry is adjusting to the new reality: 57% say that they have taken lessons from the spill and changed their operating practices as a result. While the report does not include a great deal of commentary on the Asia-Pacific, it does give a good insight as to what are global trends with respect to companies which may undertake exploration.

Within Australia, South Australia has sought to implement and support an efficient regulatory structure. Data is available to entice explorers as a basic building block; Indigenous Land Use Agreements (ILUAs) have been successful (but based on the lower risk Cooper Basin with proven production, meaning that the investment in delivering the ILUA delivered immediate benefits, plus the traditional owners had a familiarity with the industry); exploration incentives are in the place (PACE program); and an Unconventional Gas Roadmap has been developed. While not necessarily perfect, they demonstrate a commitment by government to the exploration industry.

30) What occupations and skills sets relevant to resource exploration are currently subject to shortages?

Skills in the following areas are generally in short supply:

- Geologists / Geophysicists
- Reservoir Engineers
- Petroleum Engineers
- Well Engineers
- Drilling/Fluids Engineers
- Engineering Managers
- Experienced Drilling Occupations (various)
- Rig Managers
- Cementing/Completions Engineers
- Drilling Managers

- Environmental Scientists
- Hydrographic Surveyors
- Marine Transport and Support Professionals
- OHS Advisors

31) How much more costly is it to employ skilled workers, such as geologists and mining surveyors, in Australia compared to countries such as United States and Canada?

Australia is at the top of the pay rates leader board of the Hays Oil and Gas Global Salary Guide for 2013, with limited skilled labour pools and substantial projects underway. Across the board, indicators suggest a that there is a 5% additional cost in salary level alone for imported labour, however it is reasonable to suggest that this would be higher in the highly skilled area of exploration occupations, and in the usual on-costs associated with importing skilled migrants for both short- and long-term projects.

The Canadian local workforce is, with Australia, Norway, New Zealand and the Netherland, one of the top 5 in terms of local salaries in the oil and gas industry, with the US in the top 10. However average local salaries in Australia are around 25% higher than in Canada.

32) Has industry been adequately involved in the training and education of the skilled workers required for resource exploration?

a) How have the vocational education and higher education sectors performed in educating and training the skilled workers required for resource exploration?

The oil and gas industry in Australia has invested significantly in vocational training, higher education and research. Companies are major investors in education and training for both current and future workforce, and have established strong partnerships with educational, vocational and tertiary sectors. The industry offers work readiness, apprenticeship, traineeship, internship, graduate and up-skilling programs, alongside support for school programs and scholarships, research investment and funding for chair positions at Australian universities. However, in the exploration field, there are many highly skilled occupations that require long lead-times in both education and training, followed by extensive work experience in order to gain the depth of knowledge and experience required by the industry. Encouraging the next generation to take up the STEM (science, technology, engineering and mathematics) subjects that underpin most of the job roles in exploration and lead to tertiary qualifications in science/geoscience may present a significant challenge.

33) Does employer sponsored migration represent an effective way to address these shortages, in the short-term and over the longer term, and are the current employer sponsored migration processes efficiently administered?

Yes. The oil and gas sector is undergoing a period of rapid expansion, and it is critical that there is efficient access to appropriate levels of temporary skilled migration to ensure the projects proceed on time and budget and that labour productivity is maximised.

While APPEA agrees that the integrity of Australia's migration program must be ensured to maintain job opportunities for eligible Australian workers, the wholesale application of provisions that impose additional compliance burden on companies in the process of engaging skilled migrants must be avoided. Recent wholesale changes adopted in order to target the minority of organisations that are not complying with the Migration Act create hardship for compliant businesses and potential skilled migrants alike, adding uncertainty and delays for projects.

34) Are the current workplace relations regulations an issue for the minerals and energy exploration sector?

a) To what extent have these arrangements impacted on the productivity and overall competitiveness of the sector?

Offshore unions are making Australia a challenging environment to employ staff. For example, seismic vessels have highly specialised crews, however when working in Australia, they are required to have Australian union representatives on board at the operators cost, with few tasks to perform (due to the value and technical advancement of these vessels the unionists are not permitted to skipper the vessels). This is a significant cost, for effectively no return, for international vessels working in Australian Waters. The same applies to some functions undertaken by drill rigs.

35) Is the availability and access to pre-competitive geoscience information adequate to meet the needs of the resource exploration sector?

a) Is the focus of Geoscience Australia and the state and territory surveys, in terms of their pre-competitive data collection, reflective of industry needs?

Geoscience Australia (GA) provides good basic data with easy and regular access. With respect to the States, South Australia and Western Australia stand out as good, but the other jurisdictions are generally patchy. One issue has been the "competition" between the Commonwealth and WA, with both moving to develop similar databases, for the same data, and duplicative costs. This now appears to be less of an issue with the new GA funding, the role of NOPTA in compliance (for data submission) while the creation of the National Offshore Petroleum Data and Core Repository (NOPDCR) will assist in getting all Australian petroleum data verified and in one place.

36) Based on the relative public and private benefits accruing from the provision of geoscientic information, is the balance between public and private investment in the acquisition and distribution of this information efficient from an economy-wide perspective?

Evidence from industry is yes, all data acquired is valuable regardless of risk profile or maturity of basin. Any explorer will try to establish as much geological and geophysical data as they can before recommending any further work. The provision of information whether it is from previous industry data collected by the government under the terms of the permit and then released after the appropriate confidentiality period has expired, or data acquired by a geoscientific agency, creates an attractive investment environment for Australia. Further industry input into the targets of Geoscience Australia research into frontier, new technical frontiers (i.e. brownfields new plays or deeper drilling or improved technology etc.) or synthesis of data collections, will allow better collaborative efforts.

37) If implemented, would the levers developed by the EIGWG improve the quality, relevance and accessibility of pre-competitive geoscience?

a) Would these improvements add to Australia's competitive position in attracting resource exploration?

The levers described in the issues paper as proposed by the EIWG are in the majority, already in the process of being implemented. National exploration strategy (No.1) was announced with the launch of the Governments Energy White Paper in November 2012 and parts of No.2, renewed focus on promoting greenfields exploration and No.3 development of a national geoscience initiative (including national 3D geology; new exploration information portal and harmonised geoscience datasets) were flow on benefits for the renewed funding by Geoscience Australia which coincided with the EWP (November 2012) announcement. The establishment of the NOPDCR function by government (via NOPTA) will also form part of the response.

The industry is supportive of these measures and believes they will deliver positive benefits for exploration in Australia.

38) How effective are the existing processes used to determine the respective roles of Geoscience Australia and the various state and territory government geological surveys?

a) Are existing mechanisms which govern cooperation and coordination between these agencies effective?

b) To what extent is there overlap and duplication between these agencies?

The changes to the JA/DA structure with the advent of the single offshore regulator have made some improvement. The previous relationship between WA and GA in terms of data holdings historically was competitive/duplicative. However, with the new GA funding, and the announcement of NOPTA's role in data management (and also compliance), there appears to be a better balance of all agencies working together in the provision of data and information.

39) What are the issues in accessing infrastructure to support exploration activities?

In an offshore context, it is very costly to get equipment to Australia as we are a remote location in which to explore. The quality of rigs coming to Australia (if current regulatory environment continues) will become problematic. The best quality rigs/seismic vessels will operate in areas of highest utilisation, and therefore if delays in Australia continue, then the owners of these services will direct them to areas of higher utilisation, meaning that there will either be a shortage of equipment in Australia, or we will only get access to equipment without new age technologies and efficiencies.

In onshore remote desert locations, the cost of mobilisation and demobilisation can be prohibitive, especially when considering the "east/west" divide. Recent changes to the number of rigs operating onshore may ease demand but this is yet to be realised.

40) To what extent have the various OHS regimes created unnecessary burdens for exploration activities?

a) Have the various industry specific regimes resulted in unnecessary duplication or overlap?

Offshore petroleum operations are regulated under the OPGGSA. The offshore oil and gas industry is regulated by a performance-based regime that imposes general duties on parties to the regime, especially operators and employers. The principle underlying these performance-based, general duties regimes is that the primary responsibility for ensuring health and safety should lie with those who create risks and those who work with them.

APPEA and its members support the objectives of a harmonised approach to OHS legislation, but argue that the offshore petroleum industry must retain its own safety legislative regime, based as it is on a higher level system of regulation than the general OHS regimes across Australia, and one that firmly reflects the principles of risk assessment and management through the 'Safety Case'.

The Model Work Health and Safety Act commenced in most onshore jurisdictions between 1 January 2012 and 1 January 2013 and had the intention of harmonising all OHS requirements across jurisdictions. The cost of regulatory change management for industry is not only in implementing this regime, but also consequential changes in other regulatory regimes, for example electricity safety, dangerous goods and pipeline regulatory regimes.

APPEA sees confusion arising from the interaction and impact of Model WHS legislative and regulatory reforms on the labyrinth of state-based Acts and Regulations that continue to operate.

41) Is accessing capital a problem for resource exploration companies?

Yes, it is always a challenge to secure external funding for exploration activities, i.e. if there is no cash flow to fund projects internally. Also, the Toronto Stock Exchange and AIM (London Stock Exchange) seem more accepting of exploration risk and are more prepared to "take a punt" on the junior explorers.

a) Is there any evidence that Australian capital markets are not operating efficiently and effectively?

No evidence of market failure but current market appetite for risk is weak. Historically, companies invested in Australia due to its transparency and low sovereign risk but perceptions are changing, due to the recent changes in regulatory regime. This may have contributed to some of the flight of the juniors overseas, i.e. to the USA or Africa, where the rewards are potentially higher, and commensurate with the geologic and regulatory risk.

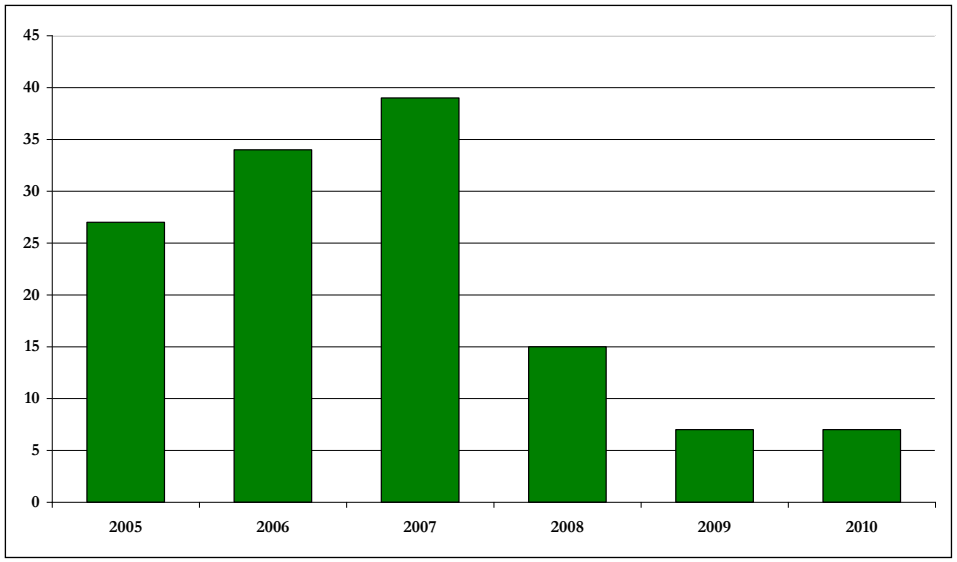
b) How successful have Australian exploration companies been in accessing offshore capital markets?

The diversity in size and background of companies in the Australian petroleum industry has been a major contributor to its success. In the context of exploration, while the sources of funding to undertake drilling and seismic programs are diverse, smaller public and private entities are almost exclusively reliant on equity funding to provide the capital necessary to underpin exploration. Such funding is generally high risk in nature, with investors placing a high value on funds being spent on near term exploration efforts. Such funds can be sourced globally, however small entities generally obtain capital from local equity markets. Debt funding (particularly that from financial institutions) is more focused towards resource development activities and has a lower risk tolerance.

As indicated in Section 1, it is important to understand that a number of Australia's major oil and gas discoveries have resulted from the innovative and pioneering work undertaken by small and junior Australian based exploration companies. Of recent times, junior explorers have underpinned the emergence of the coal seam gas as an important energy source and the growth of shale gas activities.

While the challenges confronting small to mid-sized Australian companies in raising capital to fund exploration in Australia have been long standing, the degree of difficulty has generally increased of recent times.

Australian Initial Public Offerings – Energy Sector (2005-2010)

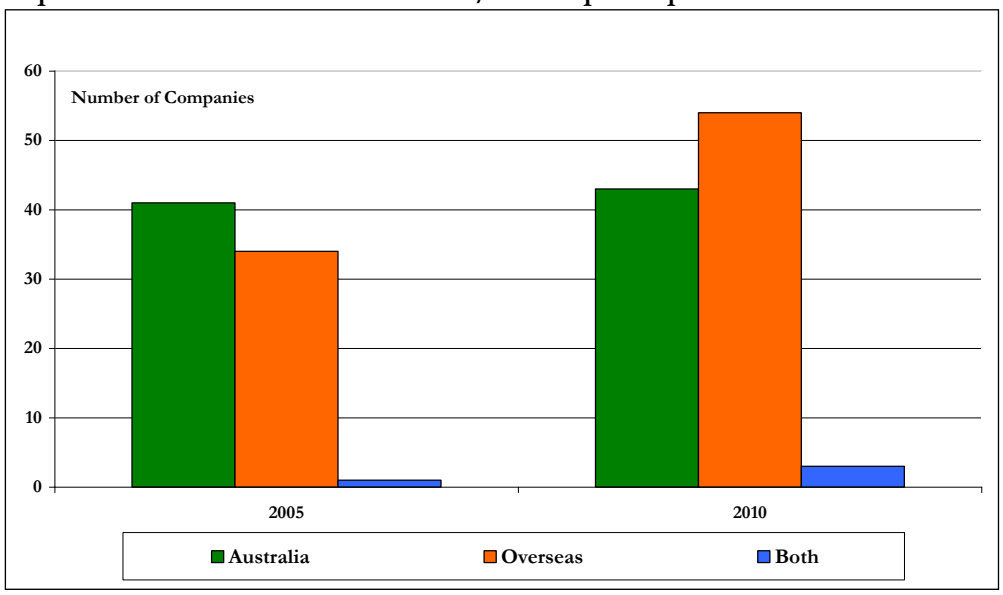


Source: ASX

The Chart above presents information on the number of initial public offerings in the energy sector in Australia for the period 2005 to 2010. Such offerings are an important means of generating funding for exploration in Australia. There was clearly a dramatic fall over the period.

Furthermore, there has been a trend for such companies to direct funds towards overseas exploration programs, where the ability to undertake exploration programs on a timely and predictable basis aligns more closely with the objectives of investors from where funds have been sourced. The Chart below, based on data collected in 2010, outlines the exploration focus of Australian small and mid-cap entities for the years 20105 and 2010.

Exploration Focus of Australian Small/Mid Cap Companies



Source: Patersons

A further difficulty arises through the operation of the Australian income tax system. Entities that do not have adequate income are unable to obtain tax relief and are therefore required to carry deductions forward in nominal terms for indefinite periods. The inability to obtain a tax deduction means that the after tax cost of exploration is significantly higher for these companies. This is generally the case for small companies with limited production. The industry has sought

the introduction of measures to address this tax-induced distortion, including through a flow through share type regime that applied successfully in Canada. While the Government has acknowledged the possible benefits of such a system, and formal consideration has been deferred until 2015. In addition, many smaller companies are also limited in their ability to claim deductions under the petroleum resource rent tax regime due to insufficient income.

42) What is the impact of this non-disclosure, or incomplete reporting, on exploration activity on the international competitiveness and economic performance of Australia's exploration sector?

Entities that hold interests in petroleum permits and licences are obliged to provide the relevant regulator with data and information associated with exploration and production activities that are undertaken. In addition, publicly listed entities (whether based in Australia or overseas) are required to comply with the relevant reporting obligations that exist in the host country. National oil companies, the presence of which is increasing in Australia, are also subject to a variety of reporting requirements.

In terms of reserves reporting, there a range of reporting obligations imposed on entities that hold interests in exploration and production permits. The process for the assessment of petroleum reserves (both oil and gas) is highly complex and dependent on a range of market and technical factors. In many instances, a high level of confidentiality exists with respect to the reserves and resources in place as permit holders are competing for markets with other producers and customers. Formal reporting obligations need to be aware of the commerciality impacts of any disclosed information.

The industry is generally not aware of any operational or exploration impediments that have arisen as a result of the reporting obligations that currently apply under the various Australian jurisdictions. While regulators may have concerns that the current obligations on permit holders have not been enforced, it is important that further layers of regulatory requirements are not placed on companies that operate in the industry. The duplication of reported and internally generated information merely acts to increase inefficiencies and impose unnecessary additional costs on industry.

Reference Documents

Cutting Greentape: Major Oil & Gas Project Environmental Approvals Processes in Australia APPEA, 2013.

Submission to the Business Tax Working Group – Discussion Paper: APPEA, 2012.

State of the Industry 2012 – A Status Report on the Platform for Prosperity, APPEA, 2012.

Fraser Institute Global Petroleum Survey, 2012, www.fraserinstitute.org

Seismic shifts; the outlook for oil and gas industry in 2013, GL-Noble Denton, 2013, www.gl-nobledenton.com

Advancing Australia: Harnessing our comparative advantage, Deloitte Access Economics, *2012,* http://www.appea.com.au/images/stories/Publications/dae%20report%20appea%20-%20main%20report%20-%20final%20-%2022%20june%202012.pdf]