



Australian Government  
Productivity Commission

# Mineral and Energy Resource Exploration

Productivity Commission  
Inquiry Report

No. 65, 27 September 2013

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27 September 2013

Senator Arthur Sinodinos AO  
Assistant Treasurer  
Parliament House  
CANBERRA ACT 2600

Dear Assistant Treasurer

In accordance with Section 11 of the *Productivity Commission Act 1998*, we have pleasure in submitting to you the Commission's final report into Non-Financial Barriers to Mineral and Energy Resource Exploration.

Yours sincerely

Michael Woods  
Presiding Commissioner

Jonathan Coppel  
Commissioner



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# Terms of reference

## **Inquiry into Non-financial barriers to mineral and energy resource exploration**

I, David Bradbury, Assistant Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby request that the Productivity Commission undertake an inquiry into the *Non-financial barriers to mineral and energy resource exploration*.

### **BACKGROUND**

The Policy Transition Group (PTG) was established to advise on the implementation and technical design elements of the new resource taxation reforms, and minerals and petroleum exploration. In its report to the Australian Government in December 2010, the PTG recommended that the Productivity Commission be tasked with undertaking an examination of the regulatory barriers faced by exploration companies. The report noted that ‘a range of approvals are required before exploration can begin, including land access, native title, indigenous and non-indigenous heritage, environmental, conservation estate, and planning and infrastructure approvals’.

### **PURPOSE**

This review will examine exploration approvals systems and processes, within and across jurisdictions, to assess their effectiveness and efficiency. The Commission will also assess areas of duplication between State, Territory and Commonwealth regulation for potential streamlining and further review. The Commission will also assess costs associated with government processes and broader economic costs such as that associated with regulatory duplication but not related to taxation, financial incentives, fees, charges and royalties.

### **SCOPE OF THE INQUIRY**

The Commission is requested to outline high priority reform options to address non-financial barriers to exploration for mineral and energy resources in Australia. In order to achieve this, the Commission should:

- 
- determine if there is evidence of unnecessary regulatory burden and if there is, make recommendations on how to reduce or eliminate these burdens;
  - examine the complexity and time frames of government approvals processes for exploration, and potential for delay due to appeals both within and across jurisdictions;
  - examine areas of duplication between and within Local, State, Territory and Commonwealth regulation that can be triggered throughout an exploration project;
  - examine costs of non-financial barriers (including regulatory and related costs);
  - consider options to improve the regulatory environment for exploration activities, having regard to regulatory objectives; and
  - assess the impact of non-financial barriers on international competitiveness and economic performance of Australia's exploration sector.

Local, state, territory and Commonwealth taxation and fiscal policy is not to be examined.

The inquiry is not to re-examine the Government's response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*.

The inquiry is not to examine processes under the Commonwealth's *Native Title Act 1993*, the *Aboriginal Land Rights (Northern Territory) Act 1976* or state Indigenous land rights regimes.

In undertaking this inquiry, the Commission should take into account current or recent reviews commissioned by state, territory and the Commonwealth Governments regarding regulatory approval processes for exploration.

There is a continued need for government involvement in pre-competitive geoscience to attract exploration investment. As such, the Exploration Investment and Geoscience (EIG) working group's report to the Standing Council on Energy and Resources on options that may be used to improve Australia's global position for attracting resource exploration investment should inform this inquiry. This inquiry will also consider the work the EIG working group is undertaking on resource reserve disclosure by non-Australian Stock Exchange (ASX) companies.

The Commission should consult with all relevant state, territory and Commonwealth government agencies and other key stakeholders. The Commission will report within 12 months of receipt of this reference and will hold public

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hearings for the purpose of this inquiry. The Commission is to provide a draft and final report to the Australian Government, both of which will be published.

The Government will consider the Commission's recommendations, and its response will be announced as soon as possible after the receipt of the Commission's final report.

The Australian Government will refer the final report to the Council of Australian Governments for action by Australian jurisdictions after the inquiry report has been tabled in Parliament.

DAVID BRADBURY

[Received 27 September 2012]



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# Abbreviations and explanations

## Abbreviations

AAPA	Aboriginal Areas Protection Authority
ABS	Australian Bureau of Statistics
ACF	Australian Conservation Foundation
AMEC	Association of Mining and Exploration Companies
AMMA	Australian Mines and Metals Association
ANEDO	Australian Network of Environmental Defender's Offices
APPEA	Australian Petroleum Production and Exploration Association
ATSIHP Act	Aboriginal and Torres Strait Islander Heritage Protection Act
AUA	Australian Uranium Association
AusIMM	Australasian Institute of Mining and Metallurgy
CHMP	Cultural Heritage Management Plan
COAG	Council of Australian Governments
CSG	Coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DoFD	Department of Finance and Deregulation
DRET	Department of Resources, Energy and Tourism
EIGWG	Exploration Investment and Geoscience Working Group
EPBC Act	Environmental Protection and Biodiversity Conservation Act
GA	Geoscience Australia
IC	Industry Commission
MCA	Minerals Council of Australia
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority

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NTA	Native Title Act
OPGGS Act	Offshore Petroleum and Greenhouse Gas Storage Act
PC	Productivity Commission
PTG	Policy Transition Group
QEC	Queensland Exploration Council
QRC	Queensland Resources Council
SACOME	South Australian Chamber of Mines and Energy
SCER	Standing Council on Energy and Resources
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SLO	Social licence to operate

## Explanations

Billion	The convention used for a billion is a thousand million ( $10^9$ ).
Findings	<i>Findings in the body of the report are paragraphs highlighted using italics, as this is.</i>
Recommendations	<b><i>Recommendations in the body of the report are highlighted using bold italics, as this is.</i></b>
Base metals	Are non-ferrous (ie not containing iron) metals used in industrial products. they include copper, lead, nickel and zinc.
Brownfield	Locations close to existing or historical mines or wells or known resource locations.
Coastal waters	The waters between the territorial sea baseline (which is generally situated at the lowest astronomical tide line along the coast) and the line that is three nautical miles seaward of the territorial sea baseline, as well as any waters landward of the baseline that are outside the limits of a state or territory.
Energy resources	Includes petroleum, coal and coal seam gas.
Exploration	Activities that relate to the gathering of knowledge as to the location, quantity and quality of mineral and energy resource deposits.

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Extraction	The process of removing mineral and energy resources. This includes mining and oil and gas wells.
Geoscience	The study of the structure and evolution of geology and mineral and energy resources.
Greenfield	Locations remote from existing or historical mines or wells or known resource locations.
Internal waters of a state or territory	The waters on the landward side of the territorial sea baseline that fall within the Constitutional boundaries of a state or territory. They may include bays, gulfs, estuaries, rivers, creeks, inlets, ports or harbours.
Junior explorer	A company whose principal activities are exploring for mineral or energy reserves and whose main income is derived from selling the rights to any such discoveries. They have little or no involvement in operating mines or wells.
Mineral resources	Naturally occurring materials that cannot be renewed.
Petroleum	Naturally occurring hydrocarbons including crude oil, natural gas, oil shale and similar products.
Pre-competitive geoscience	Government provided information about the broad geology of a region which is then used by private explorers to select areas for more intensive exploration.
Prospectivity	The relative geological potential of different possible exploration locations. The probability that a given area will contain mineral or energy deposits.
Senior explorer/miner	A company that is involved in operating mines or wells. While they may undertake exploration activities, exploration would be a small component of their expenditure.
Social Licence to Operate	Achieved when an organisation has ongoing acceptance from the local community or other relevant stakeholders.
Territorial sea baseline	Generally is the line of lowest astronomical tide along the coast, but it also encompasses straight lines across bays, across rivers and between islands, as well as along heavily indented areas of coastline under certain circumstances.



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## OVERVIEW

## **Key points**

- Mineral and energy resource exploration in Australia is a small part of the economy, equivalent to 0.5 per cent of GDP in 2011-12. The sector's significance is in discovering commercially valuable resources that sustain the operations of mineral and energy extraction industries — which represented 9 per cent of GDP in 2011-12.
- The number, size and quality of resource discoveries in Australia is declining over the longer term, and the exploration sector is experiencing rising costs and lower productivity.
- Governments regulate resource exploration for three broad reasons:
  - the mineral and energy resources are owned by the Crown
  - exploration may impact on existing and future land uses such as agriculture, or damage sites of environmental and heritage significance
  - exploration may have effects beyond the area being explored, such as on the regional environment and nearby communities.
- Many stakeholders are dissatisfied with the current regulatory arrangements:
  - some explorers claim that governments are discouraging exploration by increasing compliance costs, extending approval times and increasing regulatory uncertainty
  - some community groups claim that regulations are insufficient to protect heritage, environmental and community values and agricultural uses of the land, and that regulators are not being sufficiently diligent in protecting those values and land uses.
- Regulatory processes that impose *unnecessary* burdens on resource explorers or inhibit exploration can be reformed by:
  - ensuring stronger and simpler coordination, transparency and accountability of exploration licence approval processes
  - making land access decisions that take into account the benefits of exploration to the wider community, and that are appropriate to the level of risk posed by exploration as informed by sound evidence
  - improving access to the existing knowledge of Indigenous heritage and accrediting state and territory government processes which meet Australian Government standards of Indigenous heritage protection
  - addressing state, territory and Commonwealth environmental approvals processes that are duplicative and are not commensurate with the risk and significance of the environmental impacts of exploration.
- Explorers highly regard the accessibility and provision of pre-competitive data by Australia's geological survey organisations. However, the effectiveness of state and territory geological survey organisations is hampered because significant shares of their budgets are from short-term funding initiatives.

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# Overview

## About the inquiry

The Productivity Commission was asked to examine the non-financial barriers to mineral and energy resource exploration in Australia. The inquiry examined the exploration approval systems and processes within and across jurisdictions, their effectiveness and efficiency, and the costs associated with the regulation of exploration activities. It also assessed the impact of non-financial barriers on the international competitiveness and economic performance of the sector. This report recommends improvements to the regulatory environment for exploration activities.

In accordance with the terms of reference, the inquiry has excluded consideration of financial barriers to exploration and certain matters relating to environmental and native title legislation. The full terms of reference are set out on pages v–vii.

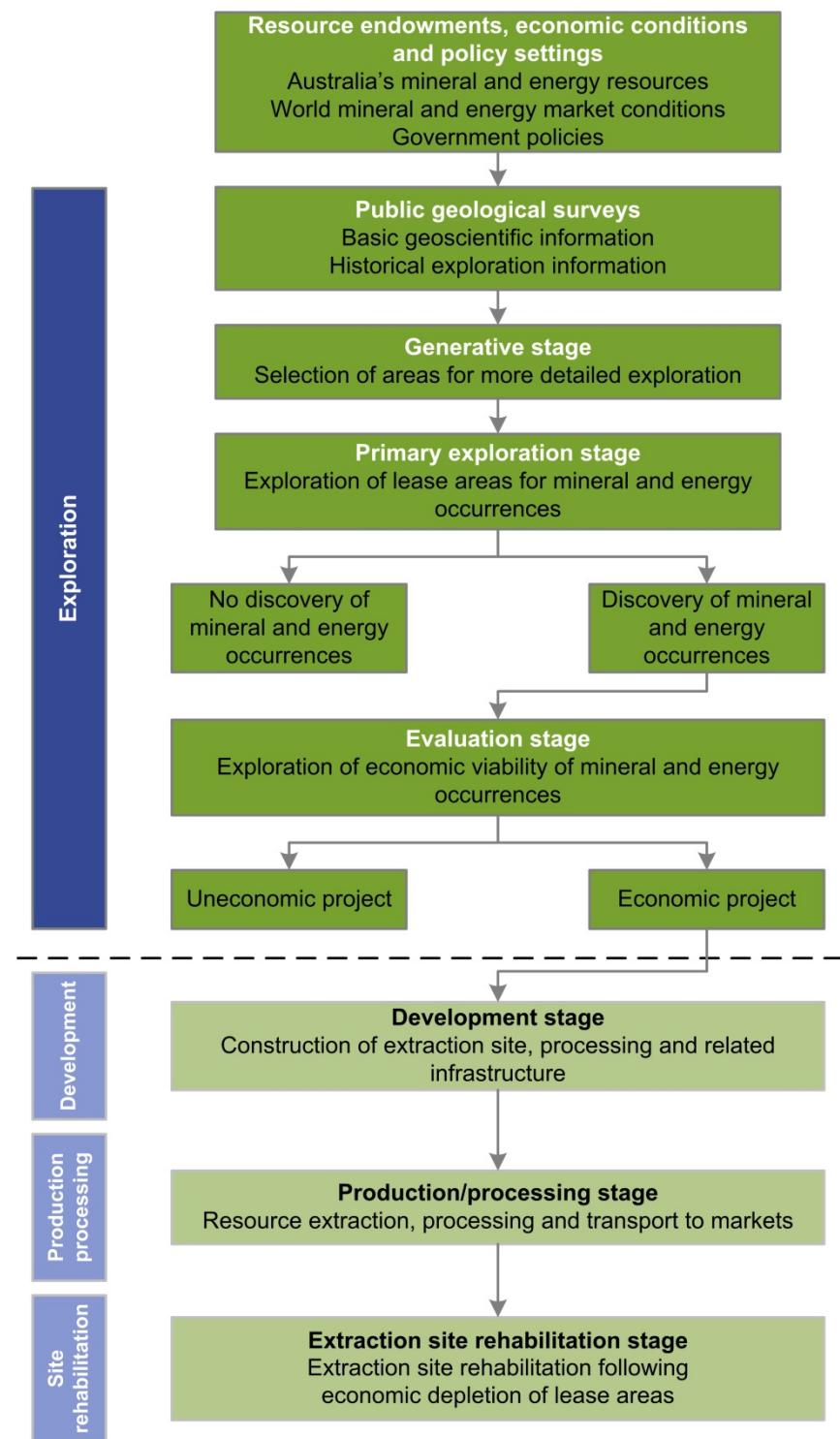
In assessing barriers to exploration, the Commission examined the benefits and costs of government policies, programs and regulations to the wider community.

Exploration, for the purposes of this inquiry, is defined as those activities that relate to the gathering of knowledge on the location, quantity and quality of mineral and energy resources. A distinction has been drawn between exploration and the downstream activities of developing mines and drilling production wells (that is, mineral and energy resource extraction). However, all of these activities are interdependent (figure 1) and the distinction between them can be blurred.

## Background

Mineral and energy resource exploration represents a small share of the economy, but it is an essential prerequisite for mining and energy resource extraction. Exploration expenditure was just under \$8 billion in 2012-13, equivalent to about 0.5 per cent of GDP, whereas resource extraction accounted for 9 per cent of GDP. Resource exploration accounted for 0.2 per cent of Australian employment.

**Figure 1 Key stages in mineral and energy resource exploration and production/processing**



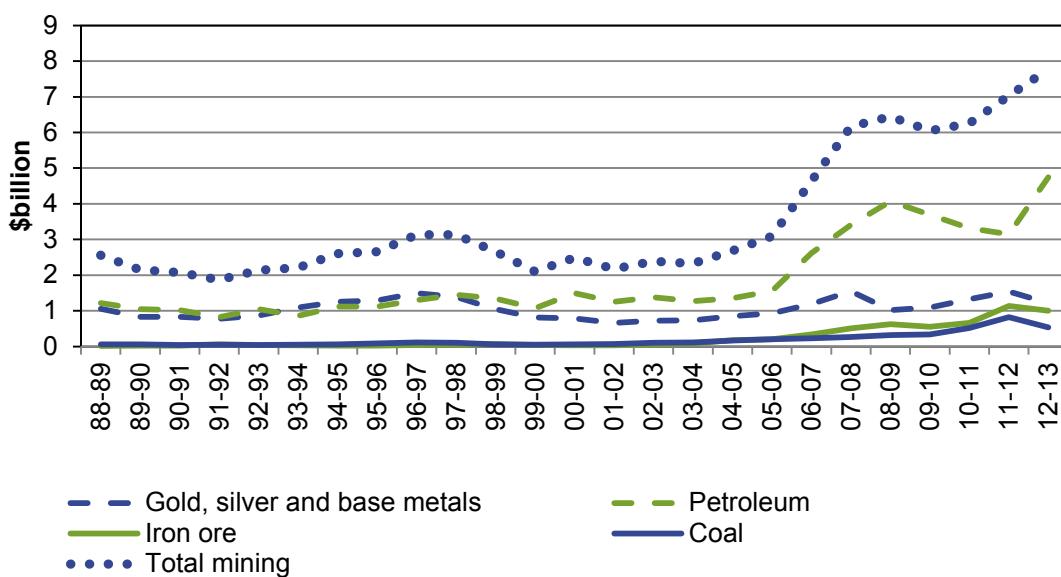
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Exploration has a greater impact on employment at a local level, and is an important source of economic activity for regional and remote economies.

Mineral and energy exploration is conducted by firms which range from ‘senior explorers’ that have established multinational resource extraction operations, and have billions of dollars in assets and operations to ‘junior explorers’ with much lower levels of capitalisation. The largest share of expenditure is targeted at petroleum exploration, and it has been the main driver of the substantial increase in exploration expenditure since 2005-06 (figure 2).

**Figure 2 Exploration expenditures have increased substantially<sup>a</sup>**  
Quarterly real expenditures — 2011-12 prices

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<sup>a</sup> Coal includes coal seam gas.

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### Greenfield and brownfield exploration

Exploration can be broadly classified as greenfield or brownfield. Greenfield exploration is the exploration of unexplored or less explored areas, and is directed at discovering new resources. This exploration is a high-risk, high-reward venture with potentially large returns to those successfully discovering commercially viable resources. Brownfield exploration occurs in areas near established resources and is mainly focused on proving up areas to extend mining and energy drilling operations.

The level of greenfield exploration expenditure has remained relatively stable in real terms over recent years, but its share of total exploration has fallen over the last

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decade from 40 to around 33 per cent. The growth of brownfield exploration has been driven in part by favourable commodity prices, which have provided an incentive for producers to expand existing mines.

Some industry bodies are concerned about the sustainability of Australian resource extraction in the medium term. While existing reserves may last many years, remaining reserves are more likely to be found in more remote greenfield locations, may be of lower grade, deeper in the ground, mixed with greater impurities and/or require more difficult and costly exploration and extraction techniques. In these circumstances, more ‘effort’ will be needed to produce each unit of output of exploration and the measured productivity of exploration (and, most likely, extraction) will decline.

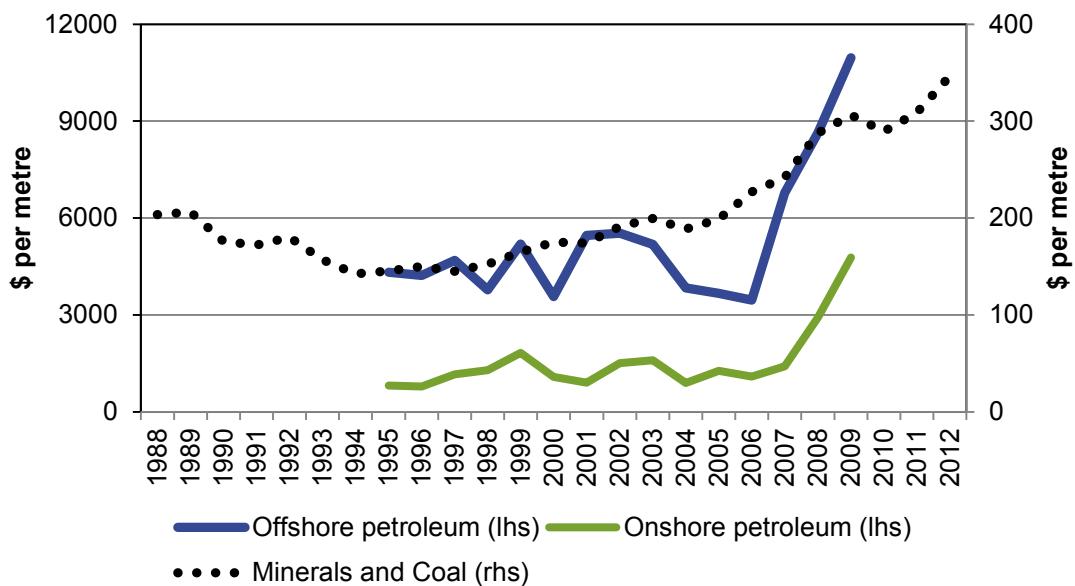
### **The performance of the industry**

The competitiveness of resource exploration in Australia has been deteriorating according to several measures:

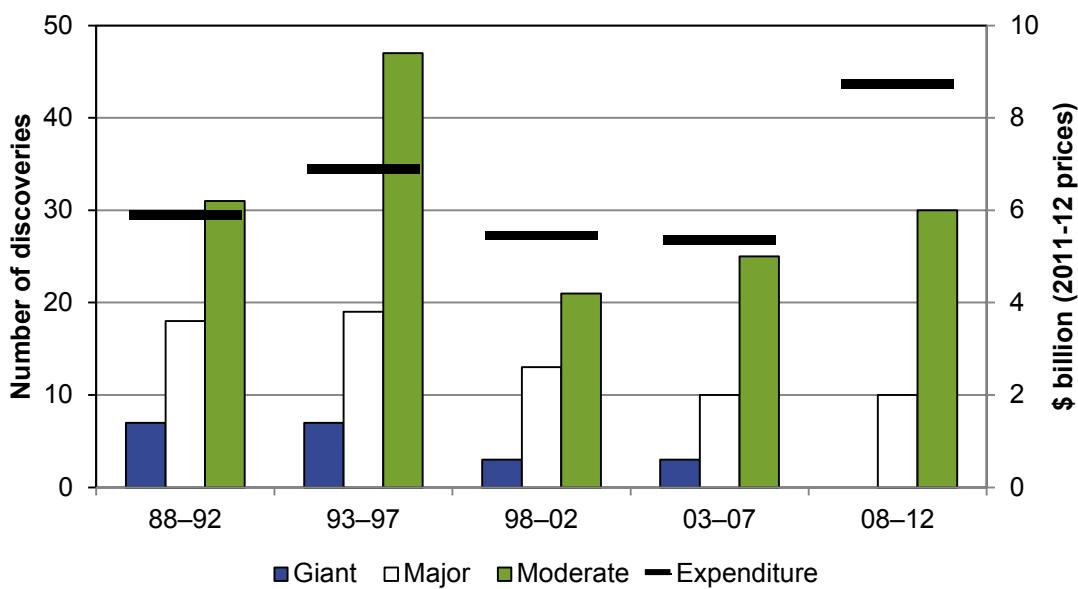
- the average cost per metre drilled has doubled in real terms since the late 1990s (figure 3). Cost rises are attributed to the need to drill to greater depths and to comply with an increased regulatory burden
- the rate of discovery of significant new resources has declined despite increased exploration expenditure (figure 4).

Additionally, Australia’s share of global exploration expenditure has declined from just under 20 per cent in the early 1990s to 9 per cent in 2011, but remains the second highest behind Canada (figure 5).

**Figure 3 Drilling costs are rising**  
Cost per metre drilled 2012 prices

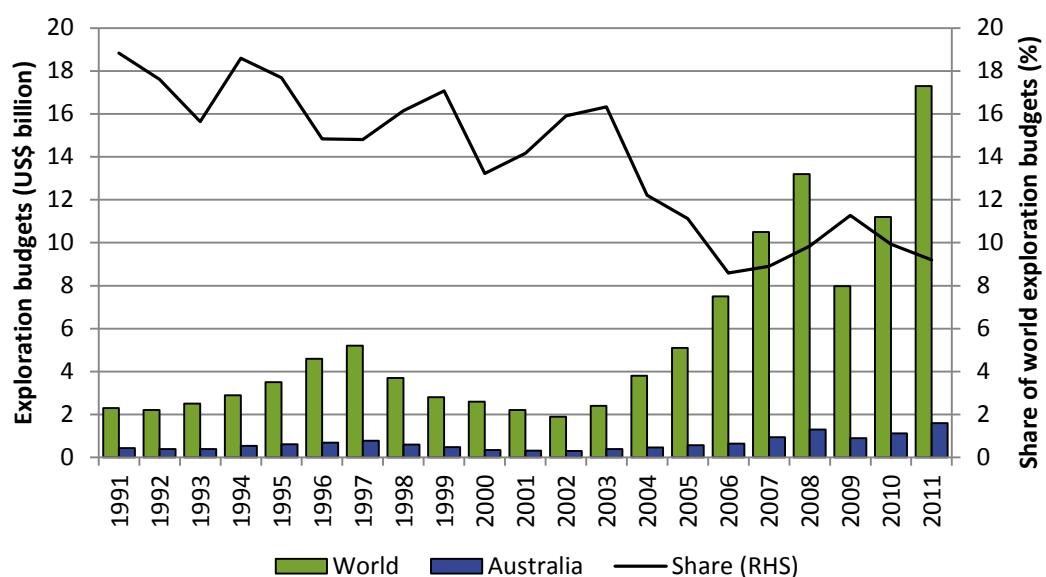


**Figure 4 The number of giant and major discoveries is falling as exploration expenditure has risen<sup>a</sup>**



<sup>a</sup> Mineral discoveries and exploration expenditures (excluding iron ore, coal and petroleum).

**Figure 5 Australia's share of global non bulk mineral exploration is falling**  
 Excludes iron ore and uranium



## Rationale for government intervention

There are three key reasons why governments regulate mineral and energy resource exploration in Australia:

- the mineral and energy resources are owned by the Crown
  - given the Crown's ownership of resources, governments have established legal frameworks which outline how competing exploration proposals are assessed (for example, tendered programs of works and cash bidding), when, where and how long exploration can occur, and with what caveats.
- exploration could directly impact on existing and future agricultural and other land uses or damage sites of environmental and heritage significance
  - much of the area covered by, or potentially available for, exploration licences has alternative economic uses
  - more intensive exploration activities can impinge on other land uses
  - an important role for government is to establish property rights and legal systems to allow parties to negotiate outcomes and/or to enforce their rights in such circumstances.
- exploration may have effects beyond the area being explored

- 
- exploration may have effects on the regional environment and nearby communities.

While all jurisdictions have procedures in place for resolving competing land use requirements, the frequency and intensity of conflicts has recently increased. This has predominantly arisen because of the impact of exploration on prime agricultural areas. Exploration in other areas, such as on low intensity grazing land, is considerably less contentious. Exploration activities can similarly impact on items or areas of heritage significance (most notably Indigenous heritage) or have environmental impacts by disturbing or destroying flora or fauna of significance.

## **Scope of government intervention**

State and territory governments have economic rights to all mineral and energy resources onshore and offshore within the first three nautical miles of the territorial sea. Beyond this, the resources are owned by the Commonwealth. The scope of intervention by governments in resource exploration extends to:

- the availability of, and access to, land (including the sea bed)
- exploration licence allocation and approvals processes
- environmental management
- heritage protection
- pre-competitive geoscientific information
- the availability of skilled labour and worker safety
- the taxation treatment of exploration activities
- support for exploration activity.

One of the consequences of this broad scope of policy and regulatory intervention is a complex framework of legislation — generally separated into onshore and offshore legislation, and mineral and petroleum resource legislation. Most jurisdictions, therefore, have at least four key Acts and associated regulations. Further complexity arises from the interface between Commonwealth and state and territory regulation and the differential treatment of specific mineral resources, such as coal, uranium, and more recently, the treatment of coal seam gas (CSG).

Some industry bodies have called for the consolidation or harmonisation of state and territory resource legislation, given that some explorers operate in multiple jurisdictions. The Commission considers that it is uncertain whether such an approach would be more efficient than the current arrangements, given the time and resources that would be necessary to achieve this outcome, and the possibility of

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only achieving a ‘lowest common denominator’ outcome. Moreover, most resource explorers are not exposed to the full force of this legislative complexity as they do not operate in every jurisdiction or explore for a combination of mineral and energy resources.

Government policies, the design of regulation and the governance of regulatory agencies all play important roles in shaping the structure of incentives faced by explorers. The Fraser Institute, a Canadian research group, surveys companies to measure the attractiveness of different jurisdictions for exploration. Their survey indicators suggest that the regulation of exploration activity by Australian jurisdictions is contributing to the decline in Australia’s international competitiveness as a destination for exploration.

## **Concerns with the regulatory framework**

The main concerns raised in this inquiry have been the lack of transparent and consultative processes when adding or changing regulation, the poor communication of some regulators and the limited use of evidence-based decision making and proportionate risk management in some regimes.

There can be strong opposition to mineral and energy resource exploration from some in the community, particularly those who are directly impacted and for whom the potential costs are high. But policy processes have sometimes failed to assess the more widely dispersed benefits for the broader community. Mitigation of community concerns appears to be driving some of the recent legislative responses.

There will invariably be some parties who are disaffected by land use decisions. This places added emphasis on the need to ensure transparent and consultative regulatory frameworks. In the Commission’s view, those frameworks, and any substantial changes to them, should be based on appropriate community consultation informed by the best available environmental, social and economic understanding of the local and community-wide risks of impacts, and benefits, from specific exploration activities.

## **Exploration licensing**

Licensing processes for resource exploration are primarily the responsibility of state and territory governments. The Australian Government has a role in relation to access to Commonwealth land, most offshore approvals and when the *Environment Protection and Biodiversity Conversation Act 1999* (Cth) (EPBC Act) is triggered.

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How governments allocate exploration licences and their strategies for land release play an important role in shaping exploration incentives.

### *Allocation of exploration licences*

There are three main ways of allocating exploration licences in Australia — first-come first-served, work bidding and cash bidding.

Most exploration licence allocations are on a first-come first-served basis if there is likely to be only one party interested in exploring a tenement.

Where multiple parties may be interested, governments often request bids of work programs — basing the allocation decision on the nature and extent of each explorer's planned program of exploration. Under both work bidding and first-come first-served, the rights are allocated free (apart from administration fees).

Work bidding can distort decisions on the nature and timing of exploration activities. Explorers will tend to adopt techniques, plan drilling activity or assign exploration expenditures to those activities that match the criteria used by governments to allocate a tenement, even though these choices may not be the most cost effective for the explorer. Where work bidding leads to exploration activity that is not cost effective, this creates an opportunity cost as at least some of the funds could have been used for other purposes.

The third approach, cash bidding, has been used in the past for offshore energy exploration licences — with the Australian Government and some states recently re-introducing cash bidding, predominantly for the allocation of selected oil, coal and CSG exploration licences. Auctioning enables governments to receive an upfront payment — effectively a share of any rents that may be created by the exploration activities.

Cash bidding has greatest merit for highly prospective exploration tenements. These will usually be in areas where pre-competitive geoscientific and other evidence indicate that an exploration tenement will almost certainly contain sizable mineral or energy resources and there is likely to be greater interest from multiple bidders.

Exploration firms are opposed to the auctioning of licences, arguing that any funds expended on cash bidding are funds that cannot be used for exploration, thus lowering the chance of discovery and the generation of public information. They also claim that despite the introduction of auction arrangements, some governments decide on the successful bidder according to both the cash bid and proffered work program.

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The Commission considers that no single method of allocating exploration permits is likely to suit all situations in Australia.

Regardless of the allocation mechanism employed, exploration licences are rights to the potential discovery of valuable resources. Administrative decisions on the allocation of those licences are therefore at risk from undue influence from interested parties. The use of transparent processes when allocating exploration licences is good regulatory practice and reduces the risk of inappropriate decisions or corruption.

#### *Main types of licences*

There are three main licence types: exploration; retention; and production.

Exploration licences are time-limited (for example, generally five years for mineral resource exploration). After that time, the licence will expire unless a renewal is granted. One of the grounds for renewal is a justifiable reason for lack of exploration activity, such as poor weather preventing access to land. In most cases a substantial proportion of the licence area must be ‘relinquished’ as part of the licence renewal. This enables explorers to focus on the most prospective areas and frees up the remaining areas for other explorers to apply for exploration licences.

Exploration licences can only be sold or transferred with Ministerial approval, as all licences require an assessment of the suitability of the holder. However, transfer of title should not be an opportunity to reassess licence conditions that were established when the licence was initially granted. Reassessment creates uncertainty for the business model of the initial explorers and for subsequent investors.

Holders of exploration licences can apply for retention licences in order to maintain an interest in land that is not yet commercially viable for resource extraction.

Production licences are, by convention, granted to holders of exploration or retention licences when commercially viable resources have been discovered — however, they are subject to more stringent conditions that reflect the greater impact of resource extraction. These issues are covered in the Commission’s concurrent benchmarking study of Australia’s major project development assessment processes.

#### *Time taken to issue exploration licences*

The length of time taken to allocate exploration licences can be an unnecessary (and costly) impediment to exploration. In Queensland and Western Australia — two

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jurisdictions that track and publicise approval times — the average time to obtain an exploration licence is measured in years (box 1). While the Commission has no evidence to suggest that the times taken in other states and territories are significantly different from Queensland and Western Australia, the lack of transparency of those other jurisdictions is a cause for concern in itself.

**Box 1      Delays in allocating exploration licences**

Over the last decade, there has been a dramatic increase in the length of time taken to issue exploration licences in some jurisdictions. As a result, explorers can often wait years for a licence to be awarded. For example, the average length of time to obtain a mineral exploration licence in Queensland was over two years for licences issued in 2011-12. In Western Australia, most exploration licences are now approved by the Department of Mining and Petroleum within a target of 65 working days, but this target does not include processing times by other agencies or the time taken to resolve native title requirements or to resolve objections to an exploration application. These factors result in most exploration licences taking longer than a year to be approved. The situation in other jurisdictions is unclear because information on assessment times is either not collected, or not published.

Not only do excessive delays cause difficulties for explorers in managing their work programs, but the uncertainty surrounding timeframes can exacerbate these difficulties. For example, through public hearings, the Commission received evidence of an explorer who, over a five year period, applied for a number of exploration licences but was then awarded six exploration licences at the same time. Given the dearth of exploration opportunities since the applications for exploration licences were made, the company's workforce had been reduced before being awarded the licences. The company then needed to seek funding and extra staffing to enable exploration work to be undertaken simultaneously on six tenements.

The surge in activity in the minerals and energy sector since 2006 is likely to have contributed to longer approval times. Regulatory agencies have acknowledged these problems and both the Queensland and Western Australian governments have invested in IT systems to expedite the processing of mining and exploration applications (among other IT initiatives). Other governments have also invested in IT systems, for example South Australia commenced online tracking of applications in 2013.

Implementing such systems will also improve transparency and accountability and thus encourage more efficient and timely processing of applications. However, there is a substantial backlog of applications in some states that will take time to resolve.

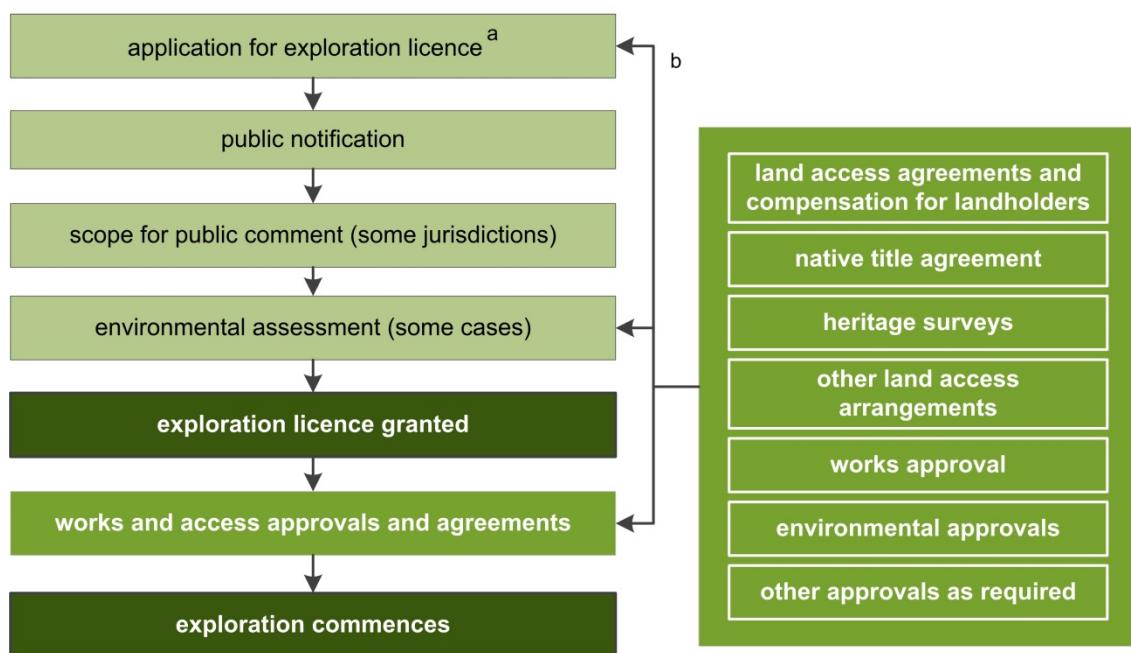
## Approval processes

There is a great deal of variation between jurisdictions in the paths that need to be taken, and the time involved, from applying for a licence to commencing exploration. A high degree of variation also exists within jurisdictions, depending on the location of the exploration and the mineral or energy resources being sought.

### *Post-licence approval requirements*

Following the granting of an exploration licence, explorers may be required to gain a number of regulatory approvals on a range of issues (as set out in a somewhat stylised form in figure 6). The manner in which applications are assessed can affect the time which elapses between the issuing of the licence and the commencement of exploration. Poor regulatory practices, such as duplicated assessment processes and a lack of clear guidance on the criteria being used to assess exploration projects, can cause unnecessary delays.

**Figure 6 General process for exploration approvals in Australian jurisdictions**



<sup>a</sup> A work program must be submitted with the application, but may not be part of the decision-making process. <sup>b</sup> Jurisdictions require different environmental, heritage and land access agreements to be completed at different stages of the exploration licence approval process.

Regulatory delays (even of a few months) can mean that explorers may lose an entire exploration season (as the exploration window in Northern Australia is limited due to the seasonal conditions), or lose the availability of costly equipment

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(such as drilling rigs or sonar equipped vessels). In many instances, the first year of a licence period can be exhausted by the need to gain the necessary regulatory approvals. This truncates the time left for actual exploration activity.

All jurisdictions have their own ‘lead agency’ model for coordinating approvals for resource exploration. The various agencies have markedly different roles, ranging from a central point for the lodgment of required material, to proactively guiding applicants through the entire process, or to having authority to assess and approve proposals on behalf of other agencies.

The Commission’s view is that, at a minimum, a lead agency in each jurisdiction should proactively guide exploration proposals through the agencies responsible for regulatory assessments and approvals (such as environment and heritage agencies). It should provide guidance on how to navigate the approvals process, track the status of applications and monitor and publish reports on how timely the regulatory agencies are in discharging their responsibilities.

### *Regulatory processes*

The regulatory framework aims to balance the competing demands of exploring for resources, using the land for other purposes such as agriculture, and the preservation of heritage and environmental values. This can create a wide and diverse stakeholder interest in the exploration approvals process. A transparent regulatory system is needed to demonstrate to all stakeholders that their interests are being considered in a fair and objective manner. The following three processes raise issues of concern.

### *Regulator discretion*

State and territory mineral and energy resource legislation creates significant discretion over decisions that restrict, facilitate or transfer ownership of exploration activities. For example, coal is not treated differently from other mineral resources in New South Wales legislation but, by using legislative powers, the Minister declared a ‘mineral allocation area’ for coal over the whole of the state. This had the effect of triggering a tender process for all coal exploration applications.

Some decision-making powers require reasons to be given. Transparency could be improved if this requirement was applied more broadly. A number of stakeholders from a diversity of interest groups — including explorers, conservation and Indigenous groups — all support such an approach.

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### *Notification*

Various stakeholders, as noted above, are affected by decisions to allow or prevent exploration. The Commission notes that current requirements to notify communities of proposed or existing exploration licences are minimal, and that both proponents and opponents of exploration have called attention to the lack of transparency with notification procedures. As a general principle, the Commission considers that information on the location of existing and prospective licences should be made available to those who wish to access it. It would be appropriate for all jurisdictions to provide online public databases that allow users to enter an address and find out or be alerted when exploration licences exist or have been applied for in that area.

### *Appeals*

There are two types of legal appeals: judicial and merits reviews. Judicial review looks at the legality of the decision-making process. It is always available for administrative decisions, but the scope for judicial review is narrower when legislation confers broad powers on decision makers. Merits review considers whether the outcome of the decision was correct or preferable. The availability of merits review for exploration decisions is highly restricted. Internal escalation or review is a lower cost and less formal alternative to provide redress in the majority of decisions disputed on their merits.

### *Regulators*

Some jurisdictions set administrative targets for their agencies and publish their performance against those targets. An example is the Western Australian Department of Mines and Petroleum, which publishes performance reports that include the number of applications processed and the percentage that met target timeframes. The Commission considers this approach to be leading practice. Reporting that includes clear information on how timeframes are calculated and the total elapsed time (including when the clock is stopped for any reason) would promote transparency.

Another leading practice that promotes regulatory transparency and administrative efficiency is the use of online lodgment and tracking of applications. As previously outlined, the use of IT systems facilitates the monitoring and reporting of the average time taken for approvals and can assist regulatory agencies to identify any areas of administrative weakness. Western Australia, Queensland and South Australia have implemented online lodgment or tracking or both for some applications, and are using or planning to use those systems to report on the time

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taken for assessments and approvals. The Commission recommends the adoption of these leading practices by other jurisdictions.

## **Land access**

The objective of governments when regulating land access is to balance the property rights of both the land holders and explorers and to address externalities, including any community-wide costs and benefits, arising from exploration activities. Regulatory approaches include placing land off-limits to exploration or specifying conditions on land access. In the main, state and territory governments are responsible for regulating most land access, while the Australian Government regulates access to Commonwealth owned land and to offshore areas.

### *Crown land*

An increasing proportion of Crown land has been declared as reserves and parks. Some jurisdictions proclaim parks, having first assessed the value of the underlying resources, but this practice is not universal. Knowledge of the potential value of mineral and energy resources under potential reserves and parks can inform the community of one of the opportunity costs of decisions to establish them.

While exploration activities can create environmental or heritage damage, the extent of any damage will vary greatly depending on the nature of exploration activity and fragility of the areas being explored. In certain instances, it may be necessary to prohibit invasive exploration to protect the environmental and heritage values of an area. In other circumstances, many exploration activities, particularly in the early stages when they may only involve aerial mapping or soil sampling, are able to be carried out with little or no disturbance to the land.

In the Commission's view, government decisions to declare a new national park or conservation area should draw on the guiding principles of the Draft Multiple Land Use Framework developed by the Standing Council on Energy and Resources, including the analysis of the costs and benefits of shared or alternative land uses.

### *Private freehold land*

Conflicts can arise in areas with competing land use requirements when the holder of exploration rights impacts on the property rights of a land holder (the owner or lessee and holder of the surface rights). Such conflicts are more likely to arise in high value agricultural areas, but can also occur in or around urban centres and other areas of high intensity land use.

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In general, across jurisdictions, these issues are resolved through negotiation on the conditions of access and the compensation payable to the land holder. The requirement to provide compensation for any damage or loss of earnings (or amenity) gives the explorer a financial incentive to minimise the impact of their activities.

Although this is a business-to-business transaction, most rural land holders can be at some disadvantage due to: their limited experience in undertaking such negotiations compared to explorers, who may have negotiated hundreds of such agreements; the asymmetry of information regarding the potential impact of the exploration activity; and an imbalance of power, as in most cases, rural land holders are legally required to allow explorers to access their land.

Some state and territory legislation explicitly provides for legal and other expenses incurred by land holders in negotiating an agreement to be compensable and paid by the explorer. In other jurisdictions, such expenses are not explicitly ‘ruled out’, or are limited to legal fees. All jurisdictions should ensure that compensation for reasonable legal and other expenses, such as for accounting and land valuation services, is available and that land holders are explicitly aware that these expenses are compensable by explorers.

The regulatory frameworks governing CSG exploration in particular have been changing quickly. These changes stem from the pressures generated from the rapid expansion of the industry, uncertainty as to the nature and scale of impacts of CSG activities and concerns and opposition from some land holders and others in the community.

Further changes, to improve the regulation of CSG, should be based on the best available evidence of the impacts and be appropriate to the level of risk. Regulation of CSG exploration activities should be directed towards maximising the economic, social and environmental benefit of the use of the land for the whole community.

Changes to regulations, however, are not the only way that management of land access issues can be improved. While explorers have an incentive to build good relations with land holders and the wider community, the practices of some resource explorers (and some subcontract drilling operators and others) have tainted the reputation of the industry. Many explorers are now working to restore and build community support by exceeding the minimum legislative requirements and by engaging and supporting local communities. This is often referred to as earning a ‘social licence’ to operate (box 2).

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## **Box 2      Acquiring and retaining a ‘social licence’ to operate**

Mineral and energy resource companies have undertaken a number of activities to gain community acceptance and ongoing approval of their project or acquire and retain their ‘social licence’ to operate. These primarily involve funding community services and community groups in the areas in which they operate and establishing consultative groups and community committees to engage with and inform the local community. Early engagement with the community is seen as a key factor in acquiring and retaining a ‘social licence’ to operate.

They have provided financial support for: health-related services such as aero-medical evacuations and hospital based accommodation for relatives of inpatients; local volunteer emergency services groups; theatre, dance and other cultural activities; and local sporting teams. Other activities include scholarships for local Indigenous students in secondary and tertiary education, development of partnerships with communities to undertake environmental projects and support for one-off or annual community festivals or events.

Consultative community committees have also been established to inform and engage with the local community. These committees are used to inform the community as to the company’s activities in the area and allow the community to raise issues of concern and provide feedback. Other forums for community engagement include speaking engagements at corporate, school and community group functions, and the establishment of information centres in major regional towns.

## **Heritage protection**

The Australian Government and all state and territory governments have legislation to protect, preserve or mitigate damage to heritage sites. While all forms of heritage — historical, natural and Indigenous — can be impacted by exploration activities, policy challenges are most pronounced in relation to Indigenous heritage.

### *Indigenous heritage*

All states and territories protect Indigenous heritage sites and objects which meet specified standards of ‘significance’. However, there is substantial variation in what those standards are, including: what heritage is protected; how it is protected; and who decides whether an activity can go ahead when harm to an Indigenous heritage site could not be avoided if an exploration activity were to be approved.

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### *The relative merits of duty of care and cultural heritage agreements*

There are various actions an explorer must take to manage a heritage site, depending on the jurisdiction and nature of the activity. Some jurisdictions provide exemptions for activities that are considered to have a low impact. In most instances, Indigenous heritage is managed during exploration through duty of care processes, permit systems and agreements embodying Cultural Heritage Management Plans.

There are several leading practices that can be identified for managing the potential heritage impacts arising from exploration. The most cost-effective approach is the one that is appropriate to the activity's level of risk and the likely heritage significance of a site. Where there is a low likelihood of heritage significance and the exploration activity is low risk, a streamlined process and 'duty of care' will reduce the explorer's regulatory burden. Conversely, where Indigenous heritage is highly significant, approval expediency should be secondary to balancing the protection of Indigenous heritage and the benefits of exploration activity.

In most jurisdictions, explorers can apply for a permit or certificate (from a minister or other body) to proceed with exploration even when it is likely to harm Indigenous heritage. However, leading practice management agreements between traditional owners and resource explorers, such as those used in Queensland, have the potential to produce better outcomes for both exploration and heritage protection than do permit systems. Heritage management agreements place the onus on the traditional owners and explorers, rather than a government agency, to decide how to best protect heritage from being damaged or destroyed.

Negotiated agreements can be difficult to achieve if the issues are contentious and parties are unwilling to compromise. When agreement cannot be reached, dispute resolution procedures are required. All parties should have access to an affordable facilitation process. The facilitator should be a neutral third party such as a land court or an independent facilitation service. Importantly, the facilitation process should not unnecessarily increase approval timelines for exploration.

If facilitation is unsuccessful, governments should make decisions about heritage protection based on clear decision-making criteria, transparency and consultation with the proponent and Indigenous parties that have authority to speak for country.

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### *Cost and delay in preparing cultural heritage surveys and the development of heritage registers*

The cost and time involved in undertaking cultural heritage surveys are issues that are frequently raised by explorers. Some potential sources of delay and unnecessary burden are the replication of cultural heritage surveys and the overlap between Commonwealth and state and territory Indigenous heritage legislation.

Many participants consider that the requirement to undertake heritage surveys in some jurisdictions has created an industry for archaeologists, anthropologists and lawyers. A related concern is that inconsistent and inadequate listing of heritage sites can lead to the re-examination of the same site by successive explorers. Generally, information from previous surveys cannot be accessed because of Indigenous privacy concerns and copyright restrictions on the survey report. Improved access to existing information would reduce the time taken for heritage decisions and avoid the unnecessary cost of re-surveying the same site.

The Commission supports leading practices, such as in the Northern Territory, which require the development and updating of Indigenous heritage registers so that resource explorers can gain access to information about the location and nature of Indigenous heritage sites. The practice of requiring resource explorers or other parties to lodge all heritage surveys with the relevant heritage authority should be adopted in all jurisdictions. Appropriate protocols should be established to ensure that sensitive information, collected as part of the survey, is protected.

### *'Unnecessary' overlap in Commonwealth and state/territory heritage legislation*

Overlap between the Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (ATSIHP Act) and state and territory Indigenous heritage legislation may result in the duplication of processes and delays for explorers. The ATSIHP Act allows the responsible Commonwealth Minister to make a declaration to preserve or protect an area from injury or desecration if the Minister is satisfied that 'the area is a significant Aboriginal area' and there is a 'serious and immediate threat'. The Act allows for intervention if state and territory laws do not provide effective protection.

The ATSIHP Act was designed as a temporary measure to encourage the states to protect sacred sites as part of a plan to introduce national land rights legislation. When the plan failed, the Act was made permanent, largely in its original form. It was not repealed or amended following the recognition of native title in Australian law.

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There are several concerns, including that the ATSIHP Act:

- is considered ineffective and costly to administer
- is seen by some as being redundant, as they argue that all states and territories now have legislation protecting Indigenous heritage. Others, however, question whether legislation is effective in some states
- could result in ‘jurisdiction shopping’, causing delays and duplication for explorers.

The Commission proposes that, to address overlap between Commonwealth and state and territory legislation, the ATSIHP Act should be amended to allow state and territory arrangements to be accredited if Commonwealth standards are met.

## **Environmental management**

The potential environmental impacts of exploration range from those that are minor and temporary to those that are large and longer-term. The policy challenge for governments is to achieve an appropriate balance between the benefits afforded by mineral and energy resource exploration and the potential for any associated environmental costs.

State and territory governments are the main authorities responsible for environmental management. The Australian Government has authority over exploration on Commonwealth land and waters and in relation to defined matters of national environmental significance.

Some key themes have been identified that unnecessarily delay environmental approval processes or that increase compliance costs for explorers over and above those that are necessary to meet the underlying environmental objectives of governments.

### *Streamlining state/territory and Commonwealth regulatory arrangements*

The principal concern relating to duplication within the Commonwealth environmental regulatory framework has been in the regulation of offshore exploration activities by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and the Australian Government’s environment department (formerly the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)).

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In the draft report, the Commission proposed that the Australian Government accredit NOPSEMA to undertake environmental assessments and approvals under the EPBC Act for petroleum activities in Commonwealth waters. On 27 May 2013, the Australian Government announced its intention to endorse NOPSEMA's process for approving certain petroleum activities under the EPBC Act, including exploration activities and appraisal drilling, consistent with the Commission's draft report recommendation. The Commission encourages the Australian Government to proceed accordingly.

In relation to duplication of environmental regulatory processes between the Commonwealth and the states and territories, the EPBC Act allows for bilateral agreements between governments that would reduce this duplication. In 2012, COAG agreed to expedite the accreditation of state and territory environmental approval processes for matters of national environmental significance under the Act. Progress towards achieving this reform has halted.

In the Commission's view, a program of work to establish bilateral approval agreements and to strengthen existing bilateral assessment agreements should be: properly scoped to identify the necessary steps; agreed by all jurisdictions; and published with a timetable of key implementation milestones. State and territory processes that meet existing Commonwealth standards should be accredited. Further, to ensure that environmental outcomes do not become compromised over time, the accreditation of state and territory assessment and approval processes should be followed up by rigorous, transparent and regular monitoring and review by the Australian Government.

### *Increasing the use of strategic assessments*

The Australian Government is increasing the use of strategic assessments under the EPBC Act. In the Commission's view, greater use could be made of these landscape-scale assessments as they can be valuable tools for the Australian and state and territory governments, the resources industry and other stakeholders. For instance, they can address cumulative environmental impacts and give industry greater upfront certainty about where, and under what conditions, development can occur. In some situations, strategic assessments can also reduce the need for individual project assessments — for example, where they approve a class of activity. However, the limited experience with strategic assessments in Australia has highlighted some concerns, including long timelines and difficulties with aligning the assessments to state-based processes. In view of their relatively untested nature, the different models of strategic assessment should be reviewed

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periodically by governments to assess their record in delivering gains in efficiency and effectiveness.

### *Coastal waters*

The regulatory powers exercised by state and territory governments in coastal waters do not represent a streamlined approach to managing offshore petroleum exploration. The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGS Act) includes provision for the states and Northern Territory to individually opt in and confer upstream petroleum responsibilities for their coastal waters on NOPSEMA. Such conferral of powers is broadly supported by the offshore petroleum industry.

In view of the potential for efficiency gains, the Commission suggests that state and territory governments re-examine the case for conferral of their petroleum exploration-related regulatory powers in their coastal waters on NOPSEMA. If conferral is not supported, there may still be scope to improve efficiency through greater use of memoranda of understanding and other administrative arrangements.

### *Regulatory requirements that are not commensurate with the likely level of impact and are not performance-based*

Most environmental impact assessment processes comprise levels of assessment that are of increasing rigour according to the environmental significance of the proposed exploration activity. However, participants in this inquiry reported numerous instances where regulatory requirements are not commensurate with the likely environmental impacts. Such measures increase the compliance burden on explorers without improving environmental outcomes. Regulatory requirements should be commensurate with the risk and significance of environmental impacts of the proposed exploration activity and, where appropriate, the requirements should be performance-based outcome measures in order to efficiently manage these risks.

Broad-based reforms such as the Queensland Government's recent 'Greentape Reduction' policy have the potential to deliver an efficient, streamlined and risk-based approach to the environmental regulation of exploration activities. Under the new Queensland arrangements, where a proposed low risk exploration activity meets specified eligibility criteria — and the proponent can comply with specified standard conditions for the activity — the proposal goes through an administrative process rather than a technical assessment. These arrangements implicitly recognise that most exploration activities have low environmental risks. Of course, ineffective assessment of these risks could invalidate these improvements, but experience with

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the assessment of similar activities should minimise this likelihood. The changes are intended to reduce compliance costs for explorers and allow regulatory agencies to devote more resources to monitoring and enforcement activities.

*Use of the internet can improve transparency and access to information*

An area of improved administrative efficiency in recent years has been the use of the internet to publicise regulatory requirements. As noted above, Western Australia's Department of Mines and Petroleum has implemented an online Environmental Assessment Regulatory System that allows the lodgment, submission and tracking of applications for exploration approvals on-line. The system is accompanied by guidelines to assist applicants.

There is room for other jurisdictions to improve transparency and administrative efficiency, particularly regarding how regulatory requirements are interpreted and enforced by agencies. Such changes would enhance understanding of regulatory requirements and may improve the quality of applications. In turn, this could facilitate a more efficient and timely flow of applications through the assessment process.

Compliance costs for explorers can also be reduced and potentially duplicative environmental surveys avoided or mitigated by governments placing archived environmental plans and environmental impact statements on the internet. Protocols should be developed to protect any confidential or other sensitive content.

*Subjective decision making, especially when environmental impacts are uncertain*

Where there is uncertainty about the impacts of exploration, there tends to be greater risk of policy change being driven by subjective judgements. By way of example, there has been scientific uncertainty — and considerable community concern — surrounding the possible environmental impacts of CSG exploration (box 3). Environmental policies for CSG have been in a state of flux in some jurisdictions (box 4).

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### **Box 3      Concerns with coal seam gas activities**

A significant concern with coal seam gas (CSG) activities relates to the potential impacts on groundwater resources. As the extraction process involves pumping out groundwater to depressurise the coal seam, there are concerns about the possible depletion and contamination of groundwater resources and impacts on existing groundwater users. A further issue is the handling and disposal of the often brine and brackish waste water produced in CSG activities and its potential impact on the surface environment.

The placement of CSG-related infrastructure — such as wells, pipelines, pumping stations and access roads — in and around agricultural land can have impacts on existing and future farming operations. There are also concerns about ground subsidence and the potential impact and disposal of chemicals used in CSG production, including those used in any hydraulic fracturing.

There are also concerns that CSG activities can result in a loss of amenity for surrounding residents, for example, noise from drilling equipment, additional traffic, compressor stations and related infrastructure.

Uncertainty about the science should not lead to poor regulatory processes or decisions. Where there is potential for substantial or permanent damage, a lack of certainty should not be used to justify a lack of action to mitigate or prevent such damage. But nor does uncertainty reduce the need to identify the benefits and costs of exploration activities. Rather, scientific uncertainty is one factor that should be considered when deciding whether resource exploration can be reasonably expected to increase the community's wellbeing. Decision makers should weigh up the risks and impacts (both positive and negative) of an exploration proposal. This process can evolve and be revisited as uncertainty is reduced.

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#### **Box 4 Policy responses to coal seam gas exploration**

Coal seam gas (CSG) exploration has been subject to a range of policy responses by governments over the last two years. For example:

- In August 2012, the Victorian Government announced a hold on the issuing of new exploration licenses for CSG, a hold on hydraulic fracturing under existing exploration licenses and a ban on the use of certain chemicals used in hydraulic fracturing.
- Over 2012 and 2013, the New South Wales Government implemented a number of measures (chapter 5) that specifically target CSG exploration. These include a requirement for an Agricultural Impact Statement to be undertaken at the exploration stage and the imposition of a two kilometre exclusion zone around residential areas and horse breeding and viticulture sites for all new CSG exploration activities.
- In June 2013, the Australian Government introduced an amendment to the EPBC Act to define a significant impact on a water resource involving CSG development or large coal mining development as a matter of national environmental significance.

The Commission is not aware of any regulatory impact analysis for these policy changes, despite their potential for significant impacts on business. For example:

- a regulatory impact statement did not accompany the Victorian Government's decision to introduce a hold on issuing new exploration licenses for CSG or to ban the use of certain chemicals used in hydraulic fracturing
- a better regulation statement did not accompany the New South Wales Government's decision to introduce exclusion zones and require Agricultural Impact Statements
- a regulation impact statement was not prepared for the Australian Government's introduction of the 'water trigger' — rather, a Prime Minister's exemption was granted.

Several of these policies have been announced with little consultation or communication with key stakeholders.

The lack of regulatory impact analysis and consultation runs counter to the agreed COAG principles of best practice regulation.

## **Non-regulatory issues**

A number of non-regulatory exploration issues are within the Commission's terms of reference. One of the more important is the provision of pre-competitive geoscientific information. Other issues which are considered in the body of the report include the supply of skilled labour and workplace relations. The Commission has not made recommendations in respect of these issues.

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## **Pre-competitive geoscience**

Pre-competitive geoscience information records data on the physical and chemical properties of the earth, as obtained through survey techniques, mapping, data compilation and interpretation of geophysical data. The collection of pre-competitive information by Australia's geological survey organisations enables explorers to target potential mineral and energy resources.

The case for public funding of pre-competitive geoscientific information is widely accepted on the grounds of its partial public good characteristics. In particular, the use of the information does not reduce its availability to others (it is non-rivalrous), and therefore the level of private investment may not be socially optimal. The information can also enhance the management and value of a public resource — in this case the Crown's ownership of minerals and energy.

Australia's geological survey organisations and databases are highly regarded by industry. The quality of, and accessibility to, pre-competitive data is a source of attractiveness for investment by domestic and foreign investors in exploration. However, the Commission considers that the coverage of the data could be improved through public disclosure of discoveries by foreign companies operating in Australia and private exploration companies.

While the national organisation — Geoscience Australia — recently moved to full appropriation funding for its pre-competitive geoscience, a substantial share of funding for some of the activities undertaken by several of Australia's geological survey organisations has historically been provided through short-term, fixed duration and outcome-specific program funding. The Commission is of the view that such an approach has a number of drawbacks compared to a more stable funding base — including lesser certainty and flexibility and poorer longer-term planning capability.

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# Recommendation List

## RECOMMENDATION 3.1

*Governments should ensure that their authorities responsible for exploration licensing:*

- *prepare and publish information on the government's exploration licensing objectives and the criteria by which applications for exploration licences will be assessed*
- *publish the outcome of exploration licence allocation assessments, including the name of the successful bidder and the reasons why their bid was successful.*

## RECOMMENDATION 4.1

*Regulators of exploration activity should create public databases which would allow any interested user to know where exploration licences exist or have been applied for. The public database should be map-based and facilitate address-based searches. The system should allow interested parties the option of being automatically notified if exploration licences are allocated or applied for in a particular area.*

## RECOMMENDATION 4.2

*The maker of exploration licensing decisions should provide the relevant party or parties with a statement of reasons for decisions such as to: allocate or renew a licence, or not to do so; revoke a licence; impose conditions on licences; or allow or disallow a transfer of title.*

## RECOMMENDATION 4.3

*Where not already implemented, governments should ensure that at a minimum their lead agencies responsible for exploration proactively guide exploration proposals and related approvals (such as environment and heritage approvals) through the agencies responsible for regulatory assessments and approvals.*

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#### RECOMMENDATION 4.4

*Governments should ensure that their regulators set target timeframes for their assessment and decision-making processes for exploration licensing and related approvals (such as in relation to environment and heritage). The lead agency for exploration should publish whole-of-government performance reports against these timeframes on their website.*

#### RECOMMENDATION 4.5

*Regulators of exploration activity should expand the use of online lodgment and tracking technologies and develop systems that support integrated performance reporting to the extent that the benefits in their jurisdiction exceed the costs.*

#### RECOMMENDATION 5.1

*Governments should, when deciding to declare a new national park or conservation reserve in recognition of its environmental and heritage value, use evidence-based analyses of the economic, social and environmental costs and benefits of alternative or shared land use, including exploration. In doing so, they should draw on the guiding principles of the Draft Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources.*

*Governments should, where consideration of exploration activity is allowed, assess applications by explorers to access a national park or conservation reserve according to the risk and the potential impact of the specific proposed activity on the environmental and heritage values and on other uses and users of that national park or conservation reserve.*

#### RECOMMENDATION 5.2

*State and territory governments should ensure that:*

- *reasonable legal and other costs incurred by land holders in negotiating a land access agreement are compensable by explorers, including where the explorer withdraws from the negotiations prior to finalising the agreement*
- *land holders are made aware that such compensation is available.*

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#### RECOMMENDATION 5.3

*Governments should ensure that the development of coal seam gas exploration regulation is evidence-based and is appropriate to the level of risk. The regulation should draw on the guiding principles of the Draft Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources to weigh the economic, social and environmental costs and benefits for those directly affected as well as for the whole community, and should evolve in step with the evidence.*

#### RECOMMENDATION 6.1

*The Australian Government should establish a system to accredit appropriate state and territory Indigenous heritage protection regimes, thus reducing the potential for regulatory duplication. Accreditation could only occur once Commonwealth requirements and standards are met.*

#### RECOMMENDATION 6.2

*Governments should ensure that their heritage authorities:*

- *require that resource explorers or other parties lodge all heritage surveys with that authority*
- *Maintain registers which map and list all known Indigenous heritage sites*
- *adopt measures to ensure that sensitive information collected by a survey is only provided to approved parties (and only as necessary for the purposes of their activities), on the basis of agreed protocols.*

#### RECOMMENDATION 6.3

*State and territory governments should manage Indigenous heritage on a risk assessment basis.*

- *Where there is a low likelihood of heritage significance in a tenement and the exploration activity is low risk, a streamlined ‘duty of care’ or ‘due diligence’ process should be adopted.*
- *Where there is a high likelihood of heritage significance and the exploration activity is higher risk, agreement making should be adopted.*
- *When negotiated agreements cannot be reached, all parties should have access to a facilitation process.*
- *When facilitation is unsuccessful, governments should make decisions about heritage protection based on clear criteria, transparency and consultation with the proponent and Indigenous parties that have authority to speak for country.*

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RECOMMENDATION 7.1

*The Commonwealth Minister should endorse the National Offshore Petroleum Safety and Environmental Management Authority's process to assess and accept environmental management arrangements for petroleum exploration activities in Commonwealth waters for the purposes of the Environment Protection and Biodiversity Conservation Act 1999 (Cth).*

RECOMMENDATION 7.2

*The Australian Government should improve the efficiency of environmental assessment and approval processes under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) by strengthening bilateral arrangements with the states and territories for assessments and establishing bilateral agreements for the accreditation of approval processes where the state and territory processes meet appropriate standards. The necessary steps to implement this reform should be properly identified, scoped and approved by COAG and published with a timetable of key milestones.*

RECOMMENDATION 7.3

*The Australian Government should give priority to undertaking and publishing a review of the benefits and costs of the 'water trigger' amendment to the Environment Protection and Biodiversity Conservation Act 1999 (Cth), including the exclusion of water trigger-related actions from bilateral approval arrangements.*

RECOMMENDATION 7.4

*The Australian Government, in cooperation with state and territory governments, the resources industry and other stakeholders, should make greater use of strategic assessments under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) and, where appropriate, reduce reliance on project-based assessments.*

*The different models of strategic assessment should be reviewed periodically by governments to assess their overall efficiency and effectiveness.*

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RECOMMENDATION 7.5

*Governments should ensure that their regulatory agencies only set requirements relating to exploration that are:*

- *the minimum necessary to meet their policy objectives*
- *proportionate to the impacts and risks associated with the nature, scale and location of the proposed exploration activity.*

RECOMMENDATION 7.6

*Governments should adopt performance-based environmental regulation of exploration activities wherever practicable, in order to better manage risk and achieve environmentally sound outcomes.*

RECOMMENDATION 7.7

*Governments should ensure that when there is uncertainty surrounding the environmental impacts of exploration activities, regulatory settings should evolve with the best available knowledge (adaptive management) and decisions on environmental approvals should be evidence-based.*

RECOMMENDATION 7.8

*Governments should clearly set out in a single location on the internet guidance on the range of approvals required.*

RECOMMENDATION 7.9

*Governments should ensure that their authorities responsible for assessing environmental plans and environmental impact statements (and equivalent documents) make their archived environmental information, including all information used in a decision-making process, publicly available on the internet, while operating within agreed protocols to protect commercially sensitive information.*

RECOMMENDATION 8.1

*The Australian Government should require foreign exploration companies operating in Australia and private exploration companies to publicly disclose information about resource discoveries in Australia on the same basis as the current requirements for exploration companies listed on the Australian Stock Exchange.*



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# 1 About the inquiry

On 27 September 2012, the Assistant Treasurer asked the Productivity Commission to undertake an inquiry into the non-financial barriers to mineral and energy resource exploration. The Commission was given 12 months to undertake this inquiry and submit a report.

## 1.1 Background to the inquiry

The origin of the inquiry stems from the findings of the Policy Transition Group's (2010) Report to the Australian Government — Minerals and *Petroleum Exploration*. The report acknowledged the regulatory barriers faced by resource exploration businesses:

A range of approvals are required before exploration can begin, including land access, native title, indigenous and non-indigenous heritage, environmental, conservation estate and planning and infrastructure approvals. Approvals processes can be costly and time-consuming. Governments at all levels can unintentionally put in place conflicting policies that simultaneously promote and inhibit exploration. (PTG 2010, p. 17)

As part of the effort by the Council of Australian Governments (COAG) to improve the regulatory environment faced by explorers, the Policy Transition Group recommended:

... the Australian Government should commission the Productivity Commission to undertake an examination of the regulatory barriers faced by exploration companies and present its report to COAG for action by Australian jurisdictions. (PTG 2010, p. 17)

## 1.2 What the Commission has been asked to do

The Commission has been requested to outline high priority reforms to address *non-financial barriers* to exploration for mineral and energy resources in Australia. The terms of reference define the scope of this inquiry (as set out on pages v-viii). In particular, the Commission has been asked to:

- determine if there is evidence of unnecessary regulatory burden and, if so, make recommendations on how to reduce or eliminate these burdens

- 
- examine the complexity and time frames of government approvals processes for exploration, and potential for delay due to appeals both within and across jurisdictions
  - examine areas of duplication between and within local, state, territory and Commonwealth regulation that can be triggered throughout an exploration project
  - examine costs of non-financial barriers (including regulatory and related costs)
  - consider options to improve the regulatory environment for exploration activities, having regard to regulatory objectives
  - assess the impact of non-financial barriers on international competitiveness and economic performance of Australia's exploration sector.

The Commission's terms of reference preclude examination of issues relating to taxation, financial incentives, charges and royalties and examination of the Government's response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*. The inquiry is also not to examine processes under the Commonwealth's *Native Title Act 1993*, the *Aboriginal Land Rights (Northern Territory) Act 1976* or state Indigenous land rights regimes. This report does, however, describe the operation of these arrangements so as to provide a necessary context within which other regulation can be examined.

The Commission has undertaken this inquiry from a community-wide perspective, as required by the *Productivity Commission Act 1998* (Cth). That is, the Commission has assessed the effectiveness and efficiency of government policies, programs and regulations, as well as the Commission's proposed reforms, and assessed their net benefits to the wider community.

To scope the inquiry the Commission has defined the activities which comprise exploration and which issues were to be examined. Chapter 4 sets out what is meant by an 'unnecessary regulatory burden'.

## **Defining resource exploration**

The focus of this inquiry is on those activities that relate to the gathering of knowledge as to the location, quantity and quality of mineral and energy resource deposits. This includes the exploration activities of all organisations, encompassing both the large mining companies engaged in resource exploration and extraction and the smaller (junior) organisations engaged primarily in exploration activities.

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Resource exploration uses a wide range of techniques. At one end of the spectrum, aerial photography and soil sampling can be used. They generally have negligible environmental impact, particularly at the early stage of exploration where the target resources are being identified. At the other end, intensive pattern drilling can be used, usually at the final stages of exploration where the explorer is attempting to develop a comprehensive assessment of any resources discovered during earlier exploration activities. The nature of activities during this latter stage of exploration for some resources, such as coal seam gas, may differ little from extraction activities.

A guide to the stages involved in the resource exploration process is presented in figure 1.1. For the purposes of this inquiry, the Commission has determined that exploration activity commences with the undertaking of public geological surveys, which are then utilised by private explorers to select areas for more intensive exploration. Exploration is taken to conclude when a decision is made about the economic viability of extracting any resources that may have been found.

#### *The relationship between resource exploration and extraction*

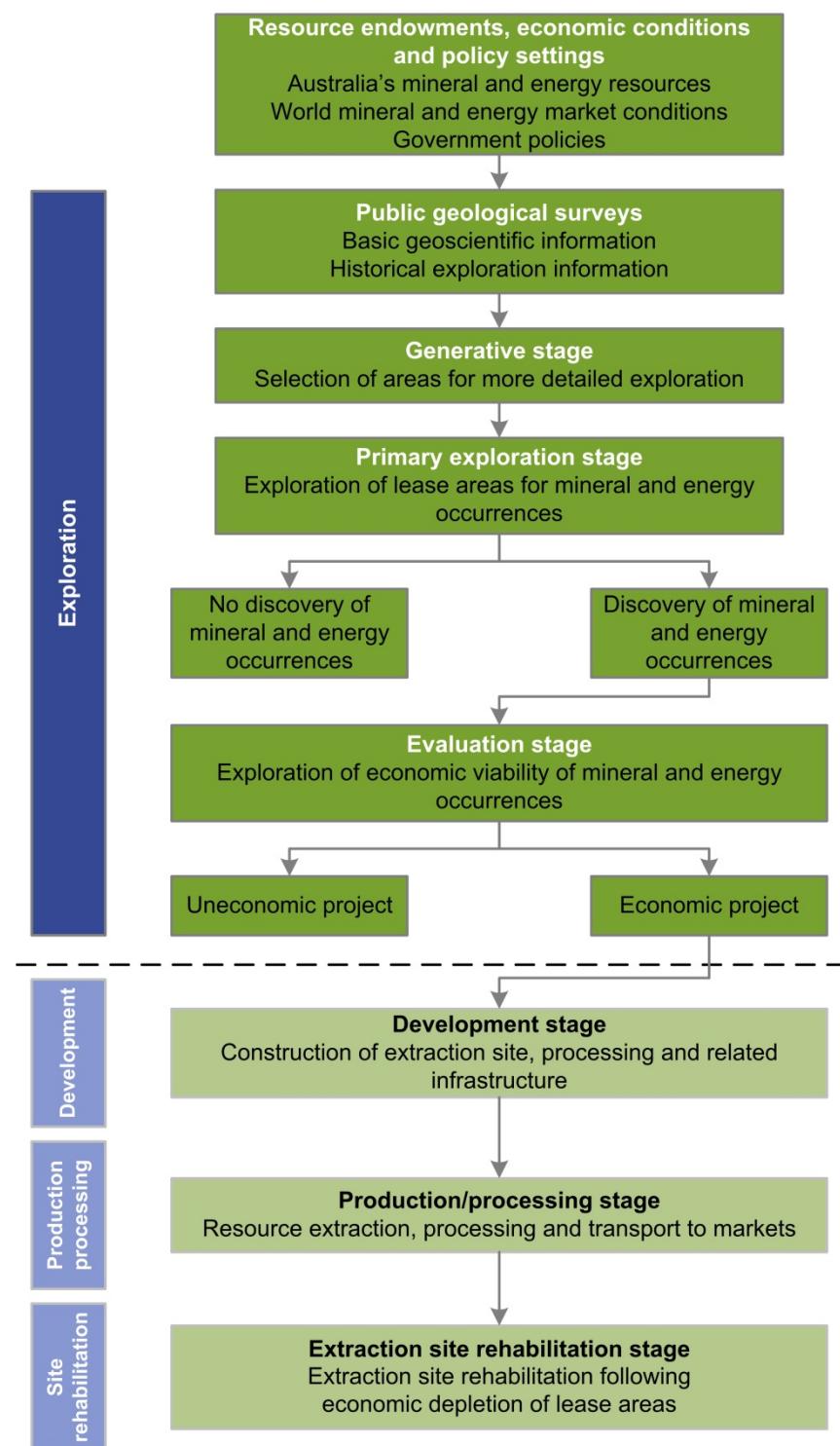
In practice, the distinction between resource exploration and extraction is more complex. Resource exploration is a precursor to resource extraction, and substantive barriers ‘downstream’ in the extraction and sale of resources may deter exploration. A concurrent study being undertaken by the Commission — benchmarking Australia’s Major Project Development Assessment Processes against international and domestic best practice — is investigating these downstream regulatory barriers for resource and other major projects.

While many in the community see exploration as leading inevitably to extraction activities, this is rarely the case for most mineral resources. It has been said that:

... it takes 500-1000 grassroots exploration projects to identify 100 targets for advanced exploration, which in turn lead to 10 development projects, 1 of which becomes a profitable mine. (Eggert 2010, p. 4)

The discovery rate for resources such as oil is generally higher, but it is still a high risk activity. For example, the Australian Petroleum Production and Exploration Association point out that in Australia over the last six decades, around 14 per cent of conventional exploration oil wells have led to production (sub. 22, p. 5). On the other hand, exploration for coal and coal seam gas often consists of determining the extent of the resources that are known to exist in a given area, with resource extraction highly likely to follow.

**Figure 1.1 Key stages in mineral and energy resource exploration and mining/production processing**



Source: adapted from Hogan et al. (2002).

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## **Issues that have been examined**

The regulatory frameworks governing the operations of resource explorers — across Commonwealth, state and territory jurisdictions — that have been examined include the granting of exploration licences, the negotiation of land access agreements, the assessment of heritage and environmental impacts, and planning and infrastructure approvals.

In addition, the Commission has examined other non-financial, non-regulatory barriers to exploration. These barriers can further affect the performance of the exploration industry. For example, if the provision of public geoscience information is inadequate, it may discourage explorers from undertaking more intensive geological surveys on their own accord. Similarly, skills shortages may restrict the ability of the industry to undertake exploration activities in a timely and efficient manner.

### **1.3 Conduct of the inquiry**

To ensure broad community feedback and transparency, the Commission actively sought feedback by:

- advertising the commencement of the inquiry on the Commission's website and in *The Australian Financial Review* on 3 October 2012 and issuing a circular to advise interested parties of the inquiry
- releasing, in December 2012, an issues paper to assist interested parties in making a submission
- releasing a draft report in May 2013 which contained 20 draft recommendations and 6 requests for additional information
- holding public hearings in Perth, Brisbane and Canberra in late June and early July 2013
- requesting submissions prior to and in response to the draft report. The Commission has received 73 submissions from stakeholders, with 34 received prior to the release of the draft report.
- meeting with a range of stakeholders including resource explorers and their peak bodies, farmers, conservation groups, Indigenous heritage organisations and government departments at the state and Commonwealth level.

The Commission thanks all of the participants who have provided input into this inquiry.

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## **1.4 Structure of the report**

This report is structured as follows:

- chapter 2 provides a description of resource exploration and the role of governments
- chapter 3 examines the exploration licencing process
- chapter 4 summarises the regulatory approvals that explorers are required to obtain in order to undertake mineral and energy resource exploration
- chapters 5–7 examine specific components of the approvals process:
  - chapter 5: land access
  - chapter 6: Indigenous and non-Indigenous heritage
  - chapter 7: environment.
- chapter 8 assesses the provision of public geoscience information
- chapter 9 assesses non-financial barriers relating to workforce issues — labour skills, workplace relations and workplace health and safety.
- appendix A documents the organisations and individuals that the Commission consulted with in undertaking this review, including those who provided submissions.

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## 2 The nature of resource exploration and the role of government

### Key points

- Minerals and energy resource exploration represents a small share of the economy (0.5 per cent of GDP in 2011-12), but is a prerequisite for mining and energy resource extraction (9 per cent of GDP in 2011-12).
- Expenditure on exploration has increased substantially over the last half decade to reach \$7.8 billion in 2012-13.
  - Much of this increase has been driven by brownfield exploration (exploration in established reserves), although brownfield mineral exploration fell in 2012-13.
  - Greenfield exploration (exploration in unexplored and less explored areas) has remained relatively stable.
- The competitiveness of the exploration sector has been declining due to higher costs and lower rates of discoveries. One indication of the decline in exploration productivity is the increase in cost per metre drilled (in real terms). Moreover, there have been fewer discoveries over the last decade than in previous periods, despite exploration expenditure rising. This is particularly the case for the discovery of 'giant' deposits.
- If the downward trend in significant discoveries continues, resource extraction will increasingly rely on deposits which may be of lower grade, deeper in the ground and/or require more 'effort' to extract. This will impact adversely on Australia's competitiveness in resource extraction.
- The exploration sector is increasingly globalised, with 'frontier' countries gaining a rising share of expenditures. While Australia's share of global exploration expenditures ranks second behind Canada, Australia is seen increasingly as a 'mature environment' with less prospectivity.
- The rationale for government involvement in resource exploration stems from:
  - its ownership of the mineral and energy resources
  - the need to balance competing land uses
  - the requirement to manage spillovers from exploration
- There is a growing belief within the resource exploration industry that regulatory changes are contributing to the decline in attractiveness of many Australian jurisdictions as destinations for exploration.

This chapter describes the role of mineral and energy resource exploration in Australia and outlines the industry's size, structure and recent performance. It

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discusses the rationale for government involvement in resource exploration, and provides a summary of the regulatory environment in which exploration operates.

## 2.1 The importance and scope of resource exploration

The Australian and New Zealand Standard Industrial Classifications (ANZSIC) relating to resource exploration activities and firms engaged in those activities are set out in box 2.1.<sup>1</sup> On this basis, mineral and energy resource exploration in Australia is a small part of the economy, equivalent to 0.5 per cent of GDP in 2011-12. It has accounted for just 0.2 per cent of employment since the mid-1980s (ABS 2012).

### Box 2.1 ANZSIC classifications surrounding exploration

Mining activities are identified in Division B of the Australian Bureau of Statistics (ABS) Australian and New Zealand Standard Industrial Classification (ANZSIC). The ANZSIC divides mining into two basic activities — mining operations and exploration and other mining support services.

Firms engaged primarily in exploration — or providing services to other resources or other exploration companies — are in subdivision 10 of Division B. Exploration activities (group 101) are further divided into petroleum exploration and mineral exploration.

Petroleum exploration (class 1011) includes units engaged in:

- natural gas exploration
- petroleum exploration.

Minerals exploration (class 1012) consists of units mainly engaged in exploring for minerals (except for crude petroleum or natural gas).

There are also companies primarily engaged in resource production who undertake exploration activities. These companies will be found under the following ANZSIC subdivisions:

- subdivision 06 coal mining
- subdivision 07 oil and gas extraction
- subdivision 08 metal ore mining.

Source: ABS (2008).

However, these statistics fail to fully capture the importance of exploration. Exploration is a prerequisite for the extraction of commercially valuable mineral and energy resources. Resource extraction is a major contributor to Australia's

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<sup>1</sup> For the purposes of this inquiry, extractive and quarrying industries (ANZSIC subdivision 09) are out of scope and have been excluded from the statistical analysis.

overall economic activity, accounting for 9 per cent of GDP in 2011-12. As current reserves are depleted, the long term viability of resource extraction and its contribution to Australia's economic growth will be underpinned by the ongoing discovery of high quality deposits.

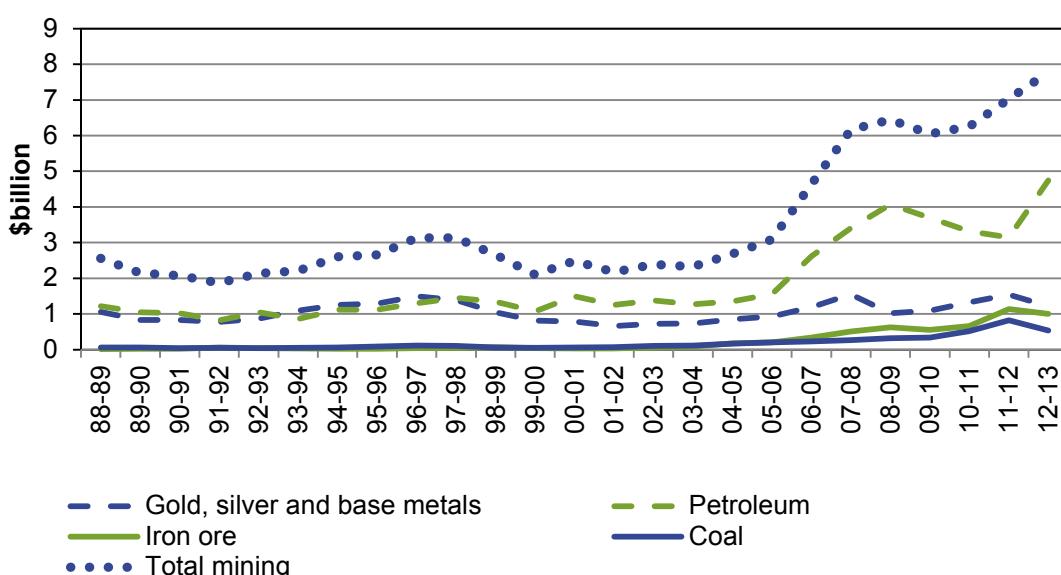
The Minerals Council of Australia highlighted the importance of exploration by referring to comments by the chief of Geoscience Australia's Energy and Mineral Division:

While Australia's resource stocks are healthy overall, the country's position as a premier minerals producer is dependent on continuing investment in exploration to locate high quality resources and upgrade known deposits to make them competitive on the world market. (sub. 27, p. 17)

## Resource type

Australia is endowed with a wide range of mineral and energy resources, with active exploration occurring across the spectrum of resources. Expenditure on mineral and petroleum exploration has tripled over the past decade to reach \$7.8 billion in 2012-13 (figure 2.1). Petroleum exploration is the largest component and, apart from the period between 2008 and 2012, was the main driver for the substantial increase in overall exploration expenditure.

**Figure 2.1 Exploration expenditure has increased substantially<sup>a</sup>**  
1988-89 to 2012–13, \$billion (2011-12 prices)



<sup>a</sup> Exploration expenditure for coal seam gas is included within coal exploration expenditures.

Data source: ABS (2013b) (Time Series Workbooks for tables 5 and 6).

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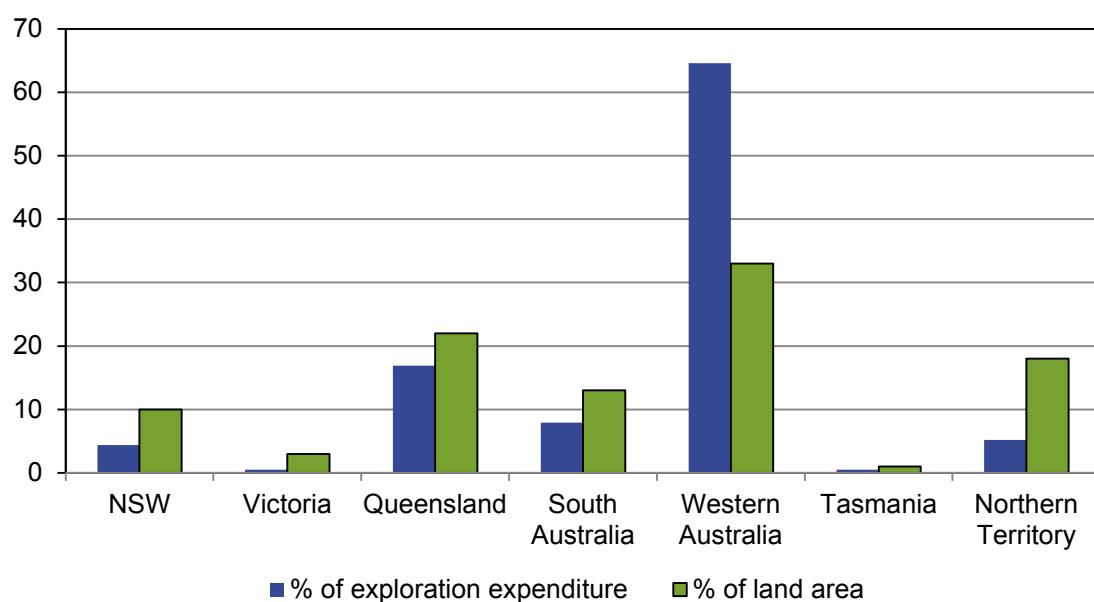
In 2012-13, expenditure on exploration for gold, silver and base metals returned to the peak level experienced prior to the global financial crisis. Exploration spending on iron ore and coal also substantially increased in recent years, albeit from a low base. However, in 2012-13 there was a decline in minerals exploration expenditure (figure 2.1).

## Location

Exploration activity is unevenly distributed across Australia (figure 2.2). Western Australia and Queensland dominate, accounting for just over 80 per cent of total spending. Tasmania is at the other extreme, with the smallest share, at less than 1 per cent. While the disproportionate shares of exploration expenditure across states primarily reflects disparities in mineral endowments, differences in policies and regulatory practices may also play a part.

**Figure 2.2 Exploration activity is unevenly distributed across Australia**

Per cent of total Australian land area and mineral and petroleum exploration expenditure in 2013



Data sources: ABS (2011, 2013b).

## The structure of exploration firms

Mineral and energy resource explorers are businesses of all sizes. At one end of the spectrum are companies with established production operations, billions of dollars in assets and multinational operations. At the other end are small exploration

companies with only a few million dollars of capital. It is common practice to divide these companies into those which primarily source their exploration funding from income derived from established mines or wells (the ‘senior’ miners<sup>2</sup>) and those which raise their exploration funding directly through the stock market (the ‘junior’ explorers).

A recent review of resource companies listed on the stock exchange (table 2.1) highlights that even though junior explorers far outnumber the senior miners, the latter account for the vast majority of resource company market capitalisation.

**Table 2.1 Junior explorers are numerous, but have limited capitalisation**  
Resource explorers listed on the Australian Stock Exchange in June 2012

Sector	<i>Junior<sup>a</sup> explorers</i>	<i>Senior explorers</i>	<i>Junior explorers’ share of all listed resource companies</i>	<i>Junior explorers’ share of total resource company market capitalisation</i>
	number	number	per cent	per cent
Oil and gas	110	17	87	8
Coal and consumable fuels	63	21	75	22
Aluminium, steel and diversified miners	275	78	78	5
Gold and other precious metals	189	64	75	19
<b>Total</b>	<b>637</b>	<b>180</b>	<b>78</b>	<b>7</b>

<sup>a</sup> The cut-off between junior and senior companies is based upon a market valuation of \$200 million.

Source: Williams (2012).

While the market capitalisation of junior explorers is only seven per cent of all explorers listed on the Australian Stock Exchange (ASX), they make important contributions to exploration. The Australian Petroleum Production and Exploration Association (APPEA) stated:

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. (sub. 22, pp. 5–6)

Further, junior explorers accounted for just over half of all exploration expenditure for non-ferrous metals over the last half decade (Schodde 2011).

<sup>2</sup> While senior miners also obtain funding through the stock market, this is typically for developing new mines or acquiring other companies rather than to fund an exploration program.

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There are foreign owned and privately owned exploration firms operating in Australia which are not listed on the ASX. These are discussed further in chapter 8 in relation to the public release of their mineral and energy discoveries.

## 2.2 The resource exploration process

Explorers rely on geological theories, together with evidence of the physical, geological, electromagnetic and chemical characteristics of locations (including data from previous exploration and extraction activities), to assess the relative geological potential (or prospectivity) of different exploration locations.

The first stage of exploration is a review of existing geoscientific data to identify locations to explore (generative stage). Techniques such as aerial surveys, surface level chemical testing and geological mapping are then used to identify the most prospective areas for drilling.

The second stage is usually target drilling — which is an attempt to intersect with a mineral or energy resource. Given the low probability of successfully identifying resources in most cases, target drilling is usually lower cost (given that this drilling is dispersed and to limited depths).

Where a resource has been located, the third evaluation stage involves more concentrated drilling (known as pattern drilling) and/or deeper drilling along with drilling techniques that enable better estimates about the depth, grade and consistency of the deposit. If the results are positive, explorers will then begin feasibility studies to determine if a profitable mine or well can be established.

At each stage, explorers use the information they have gathered to make judgements about the risk-weighted costs and benefits of continuing to the next stage and about whether they should hold or relinquish tenements or delay their exploration and development activities. A particular site may be explored multiple times by different licence holders using different techniques and approaches before a discovery is made.

For some resources, such as coal or gas in recognised geological basins where the scale and quantity of the resource is known, exploration is primarily undertaken to prove up the size and quality of the deposit.

Most exploration activities can be categorised as greenfield or brownfield exploration:

- 
- *Greenfield exploration* occurs in unexplored or incompletely explored areas and is directed at discovering new resource deposits. This exploration is a high risk, and potentially high reward venture with large returns possible for those which successfully discover substantial viable deposits. This approach appeals to junior mining companies which often on-sell significant commercial discoveries, or form joint ventures to exploit the resources.
  - *Brownfield exploration* relates to activity in areas with established reserves. This is often undertaken by ‘senior’ companies adjacent to their existing mines to better define the quantity or quality of known resources. This may enable them to extend the operating life of an existing mine and better utilise their infrastructure or use it for longer.

## 2.3 Performance of resource explorers

Industry group submissions raised a number of concerns about the competitiveness of the exploration sector in Australia (QRC-QEC, sub. 13; APPEA, sub. 22; AMEC, sub. 24; AMMA, sub. 32; Chamber of Minerals and Energy of WA, sub. DR62), including:

- the rapidly rising cost of undertaking exploration (subs. 13, 22, 24, 32)
- the declining rate of discovery of significant new resources (subs. 22, 24, DR62), which is resulting in doubts over the long term sustainability of resource extraction (subs. 13, 22)
- a decrease in greenfield exploration as a share of the total (subs. 22, 27)
- that exploration activity in Australia is not keeping pace with overseas activity (subs. 22, 32).

Each of these concerns is examined below.

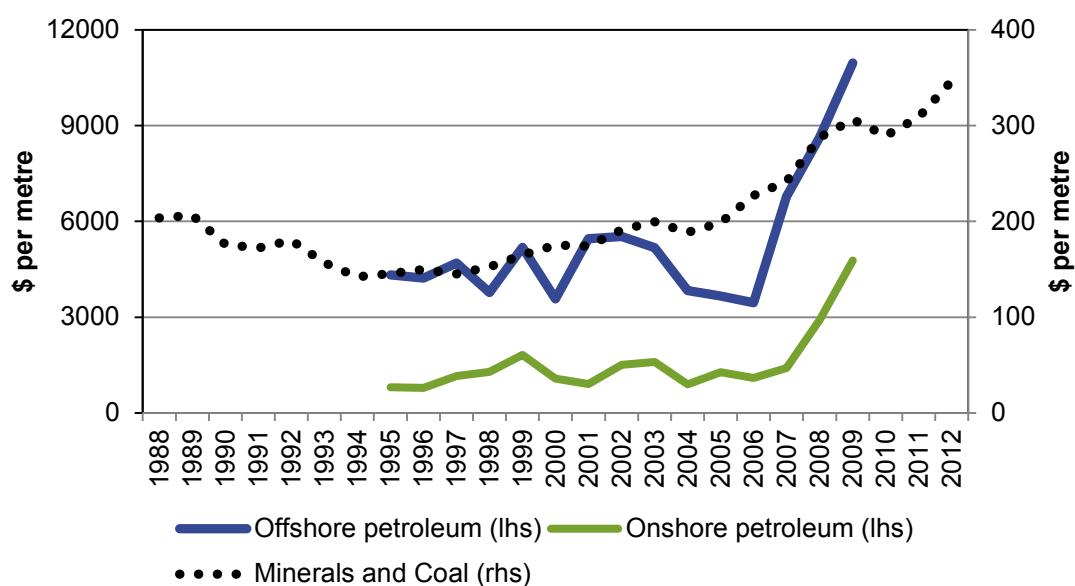
### **Exploration has become increasingly costly**

The competitiveness of resource exploration is a key factor in attracting investment and improving the potential for discovering resources. Australia has always been a costly location to explore due to high transport costs, a harsh and limited exploration season in many places and a very weathered terrain which can result in deposits being covered by a large overburden. Offshore petroleum exploration also suffers from Australia’s distance from the world’s major petroleum centres which inflates the costs of mobilising drilling rigs and equipment.

A simple partial measure of the cost competitiveness of exploration activity is the cost per metre drilled. In this regard, as noted earlier, exploration expenditure in real terms has increased significantly over the past decade, but the actual metres drilled have not increased at the same rate. The cost per metre drilled for minerals and coal has risen since 1997, and for petroleum exploration it has been rising since the mid 2000s (figure 2.3). This points to a decline in exploration sector productivity. AMEC also referred to the declining cost competitiveness of exploration against international counterparts (sub. 24, p. 5).

**Figure 2.3 The cost of drilling is increasing**

1988 – 2012 \$ per metre drilled (2012 prices), year ending June



Data sources: ABS (2013b); Geoscience Australia (2011b).

### The rate of significant new resource discoveries is declining

An indicator of successful exploration activity is the number and size of discoveries that result from a given level of exploration expenditure. On this measure the performance of the sector has been declining. The Minerals Council of Australia stated:

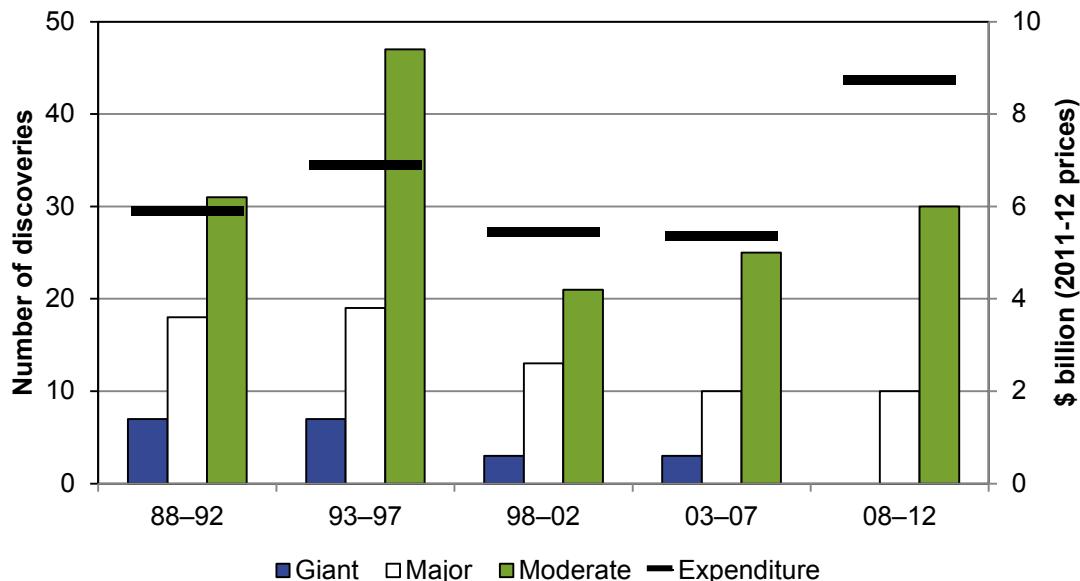
Whereas in the 1980s and 1990s more than 10 significant deposits were found each year on average, only 43 significant deposits were found over the decade between 2000 and 2010. Excluding bulk commodities, Australia's discovery rate has roughly halved over the decade despite increased exploration expenditures. (sub. 27 p. 17)

The decline in giant and major mineral discoveries has been particularly marked over the most recent decade (figure 2.4), and has occurred despite a sharp increase

in exploration expenditure (while recognising that the increased expenditure has been directed to brownfield exploration).

**Figure 2.4 The number of giant and major discoveries has fallen as exploration expenditure has risen**

Number of giant, major and moderate mineral discoveries<sup>a</sup> and exploration<sup>b</sup> expenditure: 1988–2012



<sup>a</sup> Moderate — Greater than: 100koz Au; 10kt Ni; 100kt Cu equivalent or 5kt U3O8.; Major — Greater than: 1 million oz Au; 100kt Ni; 1 million tonnes Cu equivalent or 25kt U3O8; Giant — Greater than: 6 million oz Au; 1 million tonnes Ni; 5 million tonnes Cu equivalent or 125kt U3O8. <sup>b</sup> Excludes iron ore, coal and petroleum.

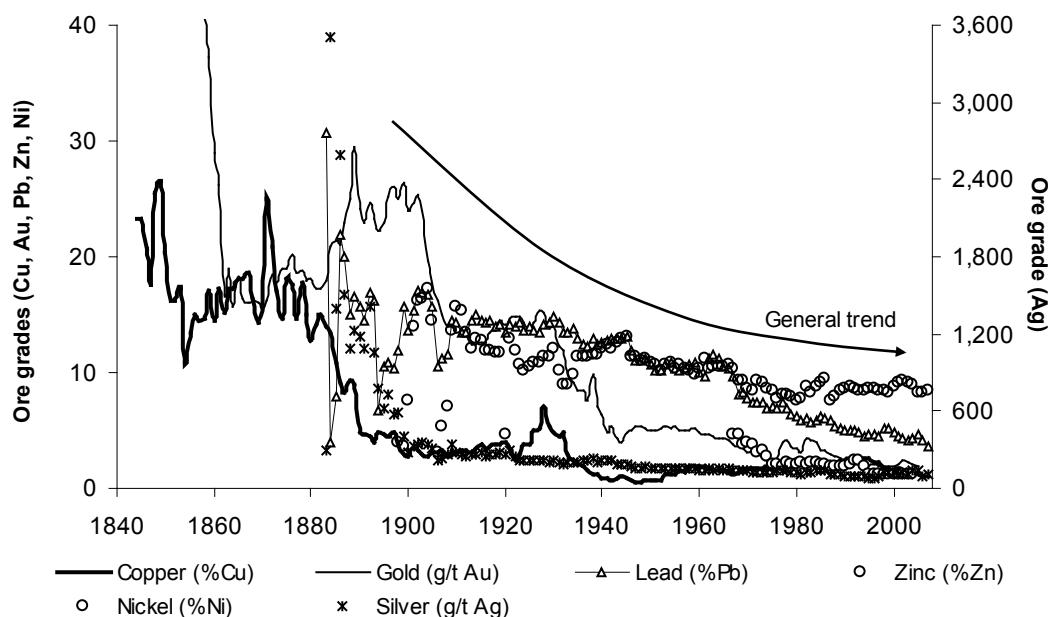
Data sources: ABS (2013b); Schodde and Guj (2012).

The Minerals Council of Australia submission presents evidence that the decline in discoveries is not a global trend. According to the MinEx analysis (quoted in the Minerals Council of Australia submission: sub. 27), Australia's share of the western world's giant discoveries has fallen from around 17 per cent in the 1980s to around 6 per cent in the 1990s. Given the increasing emphasis in recent decades on exploration in Africa and central Asia, it is likely that the MinEx analysis understates the decline in discoveries in Australia relative to the rest of the world.

This decline has implications for future resource extraction. Based on current levels, nearly half of the larger operating mineral mines — those mines with extraction levels of over one million tonnes per year (18 of 41 mines) — would exhaust their resource deposits by 2025 (Schodde 2011). This pattern is more pronounced in sectors such as gold and less in sectors such as coal or bauxite. The significant new gas discoveries would not be exhausted by that date.

The life of known reserves does not represent an absolute limit to economic viability. While reserves may last many years, remaining deposits may be of lower grade, in more remote locations, deeper in the ground, mixed with greater impurities and/or require more difficult extraction techniques. This trend in falling ore grades across several metals is demonstrated in figure 2.5.

**Figure 2.5 Combined average ore grades over time for base and precious metals, Australia**



Data source: Adapted from Mudd (2007, p. 119).

More input ‘effort’ is needed to produce a unit of output from lower grade reserves. This has been identified as one reason for the fall in productivity growth in Australian mining over the last decade (Topp et al. 2008).

The main factor put forward to explain the decline in the rate of discoveries is Australia’s mature exploration environment. The Policy Transition Group (2010) observed:

In Australia there has been a decline in success rates and in the average size and quality of deposits discovered. This could reflect Australia’s ‘mature’ environment, with very few major near-surface mineral deposits remaining, and new ‘buried’ deposits involving a lower chance of discovery and a higher cost of extraction. (pp. 10-11)

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The Australian Academy of Science (2012) explained the decline in exploration success in similar terms:

The decline in exploration success is in large part due to the difficulty in exploring what lies beneath the regions of highly weathered rock (known as regolith) and sedimentary basins that cover approximately 80 per cent of Australia. (p. i).

AMEC supported this view of Australia's declining prospectivity:

The industry is also facing an environment where discoveries are reducing, getting deeper and harder to find ... (sub. 24, p. 5)

As did APPEA in relation to petroleum:

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. (sub. 22, pp. 4-5)

### **A decreasing share of greenfield exploration**

Concerns have been raised about the relative shift to brownfield exploration (figure 2.6). Some participants consider that the declining share of greenfield exploration is structural and will reduce the likelihood of making major resource discoveries. APPEA stated:

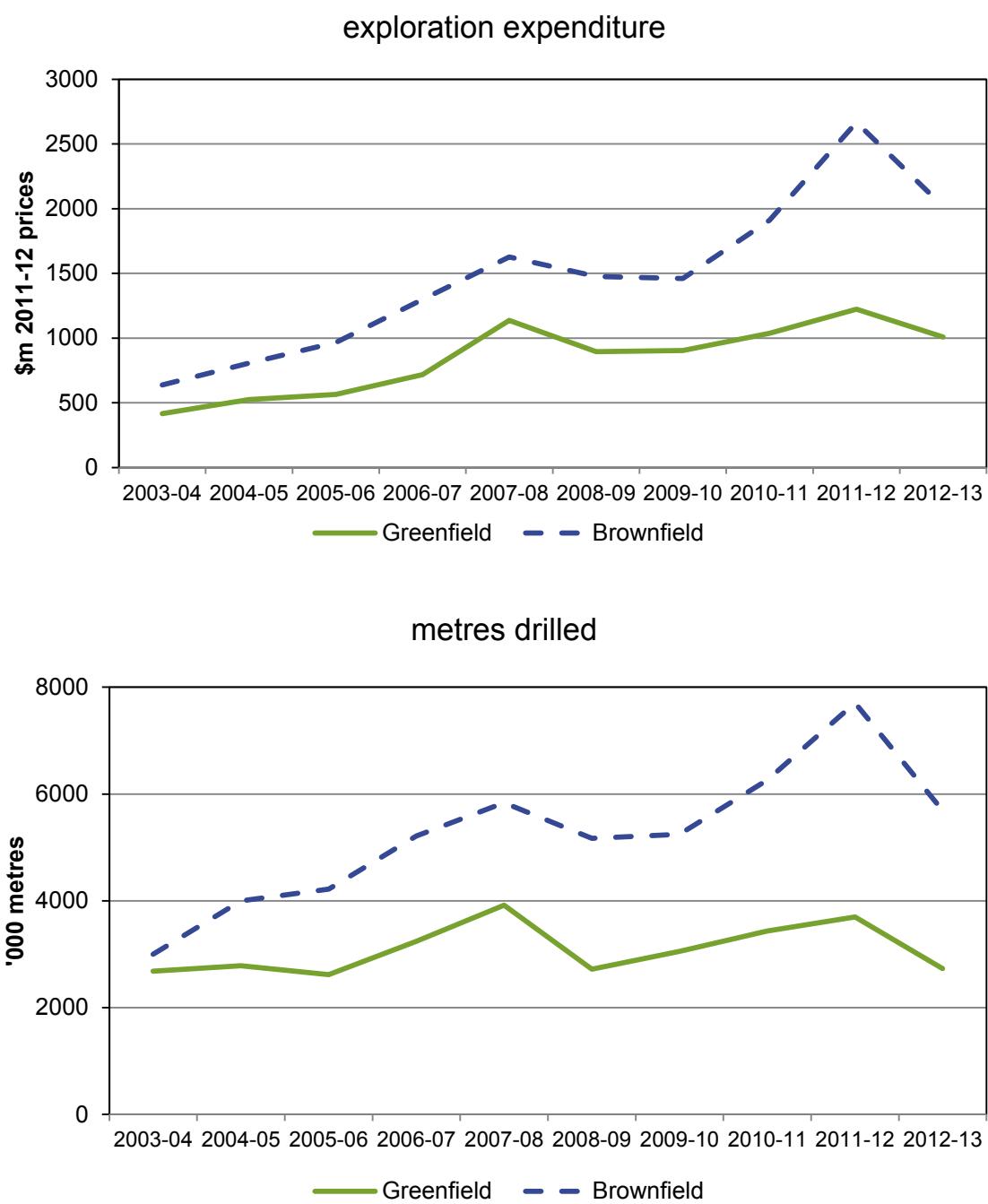
By not exploring or drilling wells in more remote and frontier areas, companies are much less likely to find the larger and material discoveries. Overall, this will lead to a longer term decline in field development and production through the discovery of smaller and smaller fields. (sub. 22, p. 9)

The Minerals Council of Australia referred to 'a "profound decrease" in the ratio of exploration dollars committed to greenfield compared to brownfield programs' (sub. 27 p. 18). The Council went on to quote Schodde and Guj (2012) stating:

The gradual shift of funding from greenfield to brownfield exploration, while understandable in terms of short-term profitability, is worrying as in the long-run it will affect the metal contribution to the national resource inventory and with it the sustainability of the Australian mining industry. (sub. 27, p. 18)

Other participants attributed the relative decline in greenfield exploration to cyclical factors and despite the 2012-13 decline in all exploration expenditure, greenfield exploration expenditure is higher in real terms than a decade ago and the number of metres drilled has not declined over that period (figure 2.6).

Figure 2.6 Mineral exploration<sup>a</sup> — greenfield and brownfield<sup>b</sup>



<sup>a</sup> ABS data on metres drilled is not available for petroleum exploration. <sup>b</sup> Exploration in existing areas includes evaluation drilling on production leases.

Data sources: ABS (2013b); Geoscience Australia (2011b).

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The increase in the level of brownfield exploration (and therefore its share of total exploration) is a rational response to the sharply higher commodity prices during the last decade. As the Australian Conservation Foundation (ACF) said:

From an economic perspective, at least one potential (and rational) reason why Australia may have seen relatively greater increases in brownfield exploration compared to greenfield exploration reflects the mature nature of the industry. When prices begin to rise due to increased demand, the simplest way to capture profits is to expand capacity within or close to existing deposits and infrastructure. (sub. DR41, p. 6)

Whiting and Schodde (2006) have hypothesised, given the long lead times for developing a new mine, that it is difficult for miners to exploit booms in commodity prices by making new greenfield discoveries:

Given that the average business cycle is of the order of five to seven years, it is very difficult to confidently schedule the start of a grassroots exploration program to deliver metal into the market at the top of the business cycle. (p. 48)

### **International competition for exploration expenditure and activity**

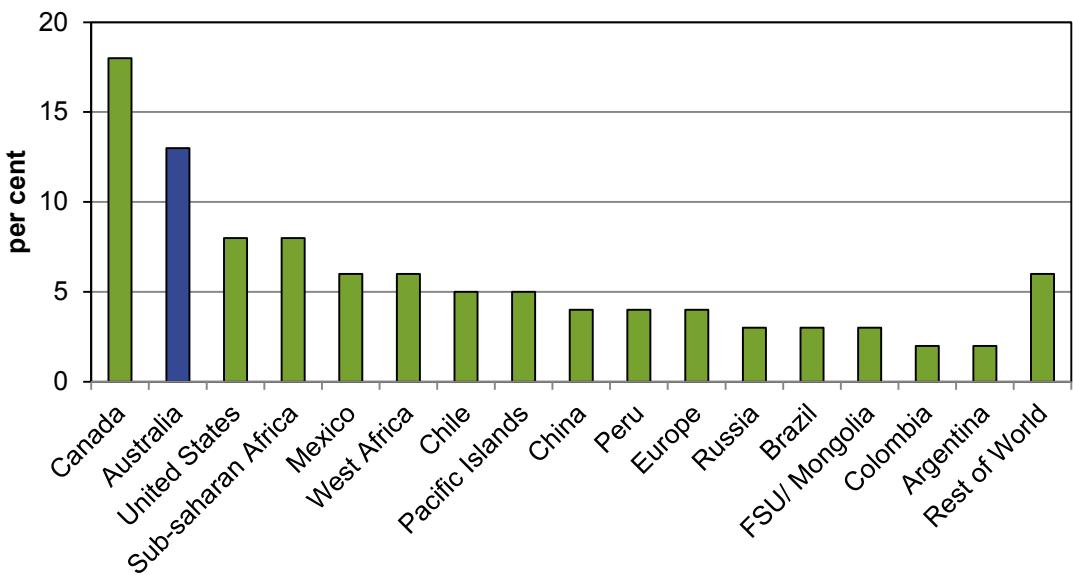
Australia accounted for the second largest share of exploration expenditure for non-ferrous minerals in 2012 (figure 2.7). Despite this high ranking, there is evidence that Australia has become a relatively less attractive region to explore over the last decade. For example, Australia's share of world non-ferrous mineral exploration expenditure has fallen from almost 20 per cent in the mid-1990s to less than 10 per cent in 2011 in non-ferrous mineral exploration (figure 2.8).

The Policy Transition Group (2010) also noted a trend towards overseas exploration rather than exploration in Australia. It referred to perceptions that Australia was becoming less prospective relative to 'frontier' countries and that the higher cost of doing business in Australia was due in part to higher operating costs and to an increasing regulatory burden (PTG 2010).

The ACF's view was that competition for exploration expenditure and activity would increase as countries with resource endowments similar to Australia 'opened up' to foreign investment:

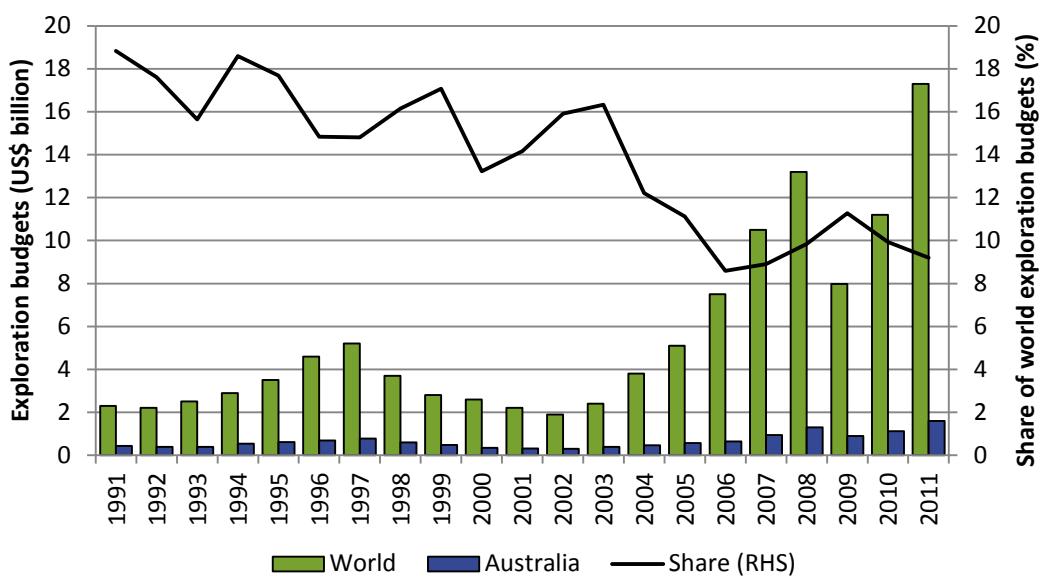
... many of the countries Australia is competing against have undertaken significant reforms in recent years from an economic base that was much less amenable to trade and investment. That is, they have 'opened' up to foreign investment and so, minerals exploration. Given their size and low entry barriers, it is reasonable to expect that they will receive a greater share of the total pool of global investment. (sub. DR41, p. 9)

**Figure 2.7 Canada and Australia are global leaders in mineral exploration**  
 Share of world non-ferrous mineral exploration budgets, 2012



Data source: Marshall (2012).

**Figure 2.8 Australia's share of global non-ferrous mineral exploration**  
 1991–2011, excludes iron-ore and uranium



Data sources: ABS (2013b) (Time Series Workbooks for tables 5 and 6); Huleatt and Jaques (2009); Metals Economics Group (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013).

Australian exploration companies have themselves become more involved in overseas locations, as junior explorers consider they have increased ‘stock market appeal’ if they are seen to be active in Africa or South America (EIGWG 2012).

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The Minerals Council of Australia estimated that half of the locally raised exploration funds are now spent overseas, particularly in developing countries that have stable governments and attractive mining and taxation policies (sub. 27, p 19).

## 2.4 Government involvement in the exploration sector

### Rationale for government regulation of exploration

There are three broad reasons why governments regulate the exploration industry.

#### *Resources are owned by the Crown*

Mineral and energy resources are owned by the Australian people through their governments (the Crown). As such, the Australian, state and territory governments have a responsibility to ensure that the nation's mineral and energy resources are managed in a manner that promotes the community's wellbeing.

Governments require information about the location and nature of these resources in order to make informed decisions about their best use. Governments undertake their own data gathering (pre-competitive geoscience), in part to have a broad understanding of the extent of those resources. They have also established legal frameworks outlining when and where exploration by others can occur, and on what basis.

#### *Competing land uses*

Exploration licences provide explorers with exclusive rights to search areas for the presence of (typically sub-surface) mineral or energy deposits. Exploration often occurs on land that is currently being used for other purposes, such as farming, or that has heritage and/or environmental importance.

While some exploration activities are minimally invasive (most notably satellite or aerial analysis), more intensive exploration activities can impinge on local communities and on the activities of other land users. For example, exploration activities can temporarily disturb farming activities in the immediate vicinity (such as increasing the level of dust that is lodged in grain and fibre, which could lower the grade and price of the produce) or impact on surface and ground water.

Governments have established regulations and procedures to resolve or arbitrate on issues arising from competing land uses.

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### **Negative spillover effects**

Exploration for mineral and energy products can have undesirable consequences on third parties (or other spillover effects), beyond the immediate area of exploration, including:

- environmental damage
- reduced amenity value for nearby residents
- damage to sites and objects of heritage value
- adverse impacts on the operation of other commercial enterprises.

The likelihood and extent of the spillover effects from exploration are likely to vary according to the flora, fauna, heritage, landscape and geological characteristics of each potential exploration site. The proximity to human habitation or businesses will alter the likely impact on amenity values (such as noise and dust emissions) and/or the risk of interrupting other business activities. Much of the regulatory framework under which exploration activity occurs is designed to address, avoid and rectify or otherwise manage such consequences.

### **Policy levers available to governments**

Governments have a number of policy levers by which they influence the level and nature of exploration. These levers can act to either increase or lower the ‘reward to risk ratio’ for exploration activities. The levers include:

- *Availability of, and access to, land.* Governments, in controlling large tracts of Crown land and in regulating the use of private land, can influence what land is available for exploration activity and what access conditions apply where exploration is allowed. There are also legislative requirements set by governments relating to access to land where native title exists.
- *Regulation of exploration.* This involves providing licences to undertake exploration and establishing the terms and conditions of these licences as well as regulation of environmental impacts and heritage protection.
- *Geoscience.* Government provision of pre-competitive geological information such as geoscience maps, databases and information systems can facilitate exploration by identifying potentially prospective locations.
- *Skilled labour.* Governments can influence the availability of skilled labour through the tertiary education system and migration programs.
- *The taxation treatment of exploration activities.* Taxation concessions and other incentives relating to exploration activities can reduce the cost and raise

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expected returns. Taxation of extraction may also impact on the level of exploration.

- *Subsidies to exploration activities.* Governments can provide direct subsidies to exploration activities, for example, through government funded drilling programs and co-drilling programs in partnership with exploration companies.
- *Support for innovation.* Governments can provide support for innovation in exploration activities, such as through the funding of Cooperative Research Centres associated with developing exploration technologies.

### **An international comparison of the views of the exploration industry**

The nature of the regulatory framework and regulator conduct can play important roles in shaping the incentives faced by explorers.

A Canadian research group — the Fraser Institute — undertakes annual surveys of mining companies to examine the attractiveness of different jurisdictions for exploration and has developed a Policy Potential Index (PPI)<sup>3</sup> (Wilson, McMahon and Cervantes 2013).

The Fraser Institute surveys suggest that regulatory change and governance in Australia are impinging on the attractiveness of many Australian jurisdictions as destinations for exploration. Compared to the 60 jurisdictions that have been included in every Fraser Institute survey, New South Wales (ranked 33/60 in 2012-13), South Australia (18/60) and Tasmania (38/60) have failed to maintain their relative attractiveness for mining companies over recent years. Only Western Australia (13/60) has unambiguously improved its ranking. The rankings of the Northern Territory (20/60 in 2012-13) and Queensland (27/60) have been steady over recent times.

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<sup>3</sup> The PPI is a composite index that captures the opinions of managers and executives of mining companies on issues such as uncertainty concerning the administration, interpretation, and enforcement of existing regulations, environmental regulations, regulatory duplication and inconsistencies, taxation, uncertainty concerning disputed land claims and protected areas, infrastructure, socio economic agreements, political stability, labour issues, the geological data base, and security.

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The Fraser Institute highlighted the following quote about resource exploration in Australia:

Across Australia, political and regulatory panic is seriously impacting the quality and timeliness of decisions, and certainty about access to land is very concerning. The ‘Twitter’ factor is determining political attitudes and actions, and regulators are reacting to minimize the perceived ‘risk exposure’ of their ministers.

— An exploration company, Company president. (Wilson, McMahon and Cervantes 2013, p. 39)

Industry concerns with the regulatory framework are highlighted in box 2.2. The views of other stakeholders as to the adequacy of the regulatory framework to deliver on social, economic and environmental objectives are discussed in the relevant chapters of this report.

#### **Box 2.2 Exploration industry concerns with the regulatory framework**

Concerns with the regulatory framework are canvassed in several submissions from explorer peak bodies:

AMEC said:

The underlying theme in AMEC’s submission is that regulatory barriers through time and cost reduce the quantity of minerals exploration in Australia. If governments can reduce these barriers Australia would be able to increase efficiency and productivity and ultimately the amount of exploration. (AMEC sub. 24, p. 7).

The New South Wales Minerals Council noted:

Recent years have brought NSW explorers a significant increase in legislative and policy requirements, as well as administrative expense. There is evidence that these issues have already deterred exploration in NSW, with explorers moving to other states and more favourable international jurisdictions. (NSW Minerals Council sub. 11, p. 3)

AusIMM pointed to opportunities to improve Australian regulatory practice:

There is considerable opportunity to update Australian regulatory practice to reflect the significant advances in industry performance and capability that have occurred in recent decades. (AusIMM sub. 12, p. 5)

The Minerals Council of Australia highlighted the opportunities to improve the regulatory process:

... there is considerable potential for reducing the volume, complexity and transparency of red-tape binding explorers without compromising environmental and heritage values to which the industry and the community are rightly committed. (Minerals Council of Australia sub. DR63, p. 3)

### 3 Exploration licensing and approvals

#### Key points

- Explorers have voiced concerns that the regulatory environment in Australia is discouraging exploration by unnecessarily increasing compliance costs, approval times and regulatory uncertainty.
- Some of the requirements for obtaining an exploration licence, which differ by jurisdiction, include:
  - public notification of an application
  - tenure is typically limited to between 3 and 5 years
  - on renewal explorers typically must relinquish part of the tenement.
- By convention, explorers are able to convert an exploration licence into a mining lease, but the granting of a mining lease is subject to further regulatory requirements.
- Three types of exploration licence allocation mechanisms are currently in use — first come first serve, work program and cash bidding. No single method of allocating exploration licences is likely to suit all situations in Australia.
  - In areas of low prospectivity, the most appropriate allocation mechanism is likely to be first come first served.
  - The most appropriate form of allocation mechanism for other areas would depend on the circumstances relevant to the tenement.
  - Cash bidding appears to be the most appropriate allocation mechanism for areas that are highly prospective.
- A lack of transparency in the decisions relating to the allocation of exploration licenses can lead to poorly designed and implemented policies, uncertainty for explorers and in extreme cases, corrupt practices.
- Governments can increase the transparency of their exploration licence allocation decisions by:
  - publishing the exploration licensing objectives and assessment criteria
  - naming the successful bidder as soon as practical after the decision has been made
  - explaining why bids were successful.

This chapter outlines the exploration licensing regulatory system. It starts with an overview of the regulatory framework for exploration licences and then considers issues relating to tenement allocation and uranium exploration.

## 3.1 The regulatory framework

The sheer volume of legislation governing mineral and energy resource exploration makes the system difficult to describe and synthesise. Legislation is generally delineated according to whether exploration activity is conducted onshore or offshore, and whether the resource category is minerals or petroleum. Accordingly, most jurisdictions have at least four key Acts (listed in table 3.1) and associated regulations.

Table 3.1 Key legislation governing mineral and energy exploration

	Onshore mineral	Onshore petroleum	Offshore mineral	Offshore petroleum
NSW	<i>Mining Act 1992</i>	<i>Petroleum (Onshore) Act 1991</i>	<i>Offshore Minerals Act 1999</i>	<i>Petroleum (Offshore) Act 1982</i>
Vic	<i>Mineral Resources (Sustainable Development) Act 1990</i>	<i>Petroleum Act 1998</i>	<i>Underseas Mineral Resources Act 1963</i>	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2010</i>
Qld	<i>Mineral Resources Act 1989</i>	<i>Petroleum Act 1923</i> <i>Petroleum and Gas (Production and Safety) Act 2004</i>	<i>Offshore Minerals Act 1998</i>	<i>Petroleum (Submerged Lands) Act 1982</i>
WA	<i>Mining Act 1978</i>	<i>Petroleum and Geothermal Energy Resources Act 1967</i>	<i>Offshore Minerals Act 2003</i>	<i>Petroleum Submerged Lands Act 1982</i>
SA	<i>Mining Act 1971</i>	<i>Petroleum and Geothermal Energy Act 2000</i>	<i>Offshore Minerals Act 2000</i>	<i>Petroleum (Submerged Lands) Act 1982</i>
Tas	<i>Mineral Resources Development Act 1995</i>	<i>Mineral Resources Development Act 1995</i>	<i>Mineral Resources Development Act 1995</i>	<i>Petroleum (Submerged Lands) Act 1982</i>
NT	<i>Mineral Titles Act 2011</i>	<i>Petroleum Act 1984</i>	<i>Mineral Titles Act 2011</i>	<i>Petroleum (Submerged Lands) Act 1982</i>
Cth	na	na	<i>Offshore Minerals Act 1994</i>	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>

Further complexity arises from the differential treatment of specific resources. Some resources, for example coal and uranium, have separate legislative regimes in most jurisdictions. In the case of coal, the separate legislation reflects the fact that existing knowledge on the location of coal seams dramatically reduces the uncertainty of exploration and allows different requirements to be applied. Uranium is treated separately because international treaties regulate its sale and use.

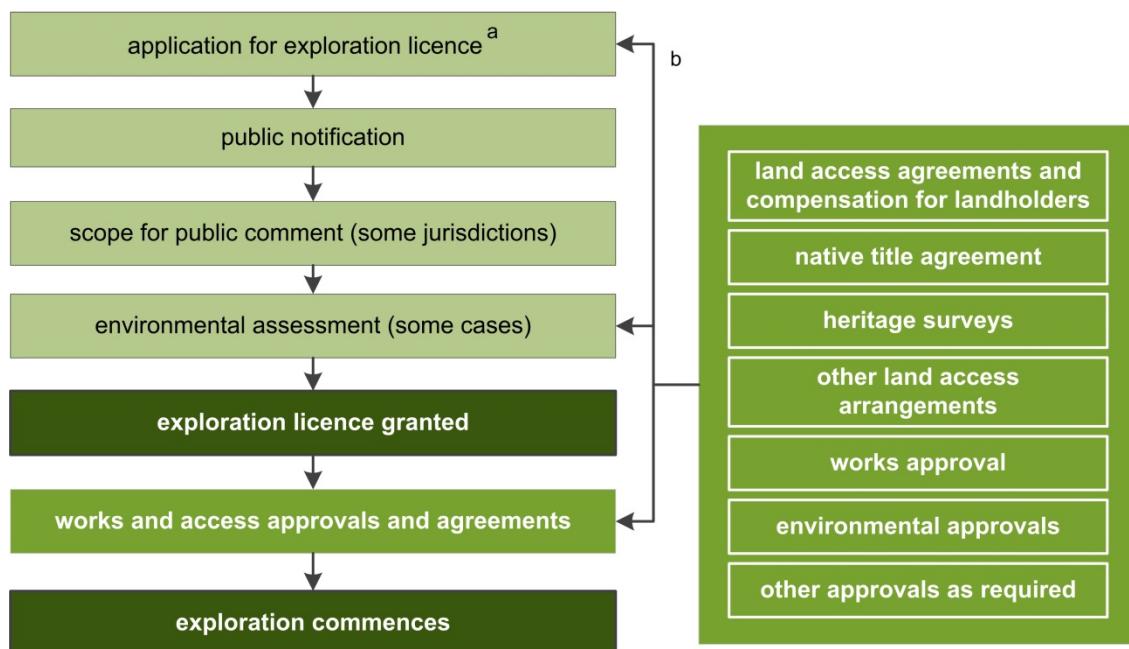
The legislation that may apply to a particular exploration venture may, depending on the location and the nature of the proposed exploration activities, also include Indigenous heritage, natural heritage, environmental, water, land clearing, health

and safety and planning regulation. In this regard, the Minerals Council of Australia estimated that there is a total of 144 pieces of primary legislation and 119 pieces of subordinate legislation or guidelines across Australia (sub. 27, p. 39). Of course any one explorer would be subject to only a subset of this regulation.

## Key stages in the licence application and assessment process

In each jurisdiction there is a multitude of processes for gaining approval to explore. There are, however, broad similarities and figure 3.1 outlines a stylised description of the key stages in the exploration licence approval process.

Figure 3.1 Exploration licensing and approvals



<sup>a</sup> A work program must be submitted with the application, but may not be part of the decision-making process. <sup>b</sup> Jurisdictions require different environmental, heritage and land access agreements to be completed at different stages of the exploration licence approval process.

## Licences and licence conditions

The legislation of the various jurisdictions provide for different licences for mineral and resource exploration and extraction. Licences must comply with basic legislative conditions, for example relating to the land area that can be covered, the duration of the licence and the terms for renewal. These basic conditions are discussed below.

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### *Size of exploration tenement and duration of licence*

The area which an exploration licence may cover (minimum and maximum size) varies by jurisdiction, by location (onshore or offshore), by resource type (mineral or petroleum) and by other factors such as prospectivity. Most Acts give the Minister power to grant licences outside the stated maxima.

The setting of the duration of licences (and rules for licence renewal) aim to balance the time needed by the explorer to assess an area against the opportunity for new explorers to have access to the land for exploration. Licences are usually granted for three to six years, depending on jurisdiction, location and resource type (table 3.2). The statutory maximum licence period is not always granted, for example, NSW typically allows two or three years for onshore mineral exploration, rather than the maximum of five.

**Table 3.2 Maximum duration of an exploration licence<sup>a</sup>**

	<i>Onshore mineral</i>	<i>Onshore petroleum</i>	<i>Offshore mineral</i>	<i>Offshore petroleum</i>
NSW	5 years (s. 27)	6 years (s. 31)	4 years (s. 88)	6 years (s. 30)
Vic	5 years (s. 13)	6 years (s. 84)	5 years (s. 13)	6 years (s. 84)
Qld	5 years (s. 146)	Minister determines (s. 18)	4 years (s. 88)	6 years (s. 29)
WA	5 years (s. 61)	6 years (s. 39)	4 years (s. 88)	6 years (s. 29)
SA	5 years (s. 30A)	5 years (s. 26)	4 years (s. 88)	6 years (s. 28)
Tas	5 years (s. 24)	Minister determines (s. 24)	5 years (s. 24)	6 years (s. 28)
NT	6 years (s. 27)	5 years (s. 22)	6 years (s. 27)	6 years (s. 29)
Cth	N/A	N/A	4 years (s. 88)	6 years (s. 102)

<sup>a</sup> Reference to legislation in brackets: refer to Acts in table 3.1.

### *Relinquishment of land upon renewal of exploration licence*

All jurisdictions have different rules around renewal, including the duration of a renewed exploration licence, the number of times a licence can be renewed and the ‘relinquishment’ requirements, which entail the surrender of a certain percentage of the original tenement area (table 3.3). These rules are in place to promote turnover of the tenement and provide opportunities for exploration by other explorers.

**Table 3.3 Exploration licence renewal conditions<sup>a</sup>**  
Onshore minerals

	<i>Maximum duration</i>	<i>Relinquishment</i>
NSW	<b>five years</b> (s. 114); the Act does not specify how many renewals are permitted	half the area, unless the decision maker decides otherwise (s. 114)
Vic	<b>five years</b> (s. 32); maximum of two renewals, the second only in exceptional circumstances (s. 31)	25% after two years, a further 35% after four years, a further 20% after seven years and a further 10% after ten years (s. 38A) adding to a total of 90% of the original allocation.
Qld	<b>five years</b> (s. 147A)	no relinquishment requirements in legislation (s. 147A)
WA	<b>five years</b> and then for two further years (s. 61)	40%, for tenements over 10 blocks (s. 65).
SA	<b>five years</b> (s. 30A), and five years for a subsequent renewal (s. 30AB)	the Minister may reduce the licence area (s. 30A)
Tas	the Minister may determine the length and conditions of renewal (s. 25)	the Minister may determine the length and conditions of renewal (s. 25)
NT	<b>two years</b> (s. 30); no stated maximum number of renewals	the licence area is reduced by half every two years of operational exploration (s. 29)

<sup>a</sup> Reference to legislation in brackets: refer to onshore mineral legislation in table 3.1.

Relinquishment policies reflect the nature of exploration activities, which can start across the whole area of a tenement. After initial survey and drilling, activity tends to focus on the area of the tenement most likely to yield commercial resource deposits. However, there are many reasons why exploration might stall, such as drawn out land access negotiations, poor weather or delayed availability of exploration equipment.

Jurisdictions, therefore, tend to retain flexibility in granting licence extensions and renewals, both in the law and how it is applied, so that explorers can maintain their good standing and not be penalised for events beyond their control. The Association of Mining and Exploration Companies (AMEC) favours a substantial compliance approach to assess whether the proponent has met the work program requirements:

... the application may state that ... the proponent's goal is to spend \$4 million and drill 25 holes. However, due to unforeseen circumstances the proponent spends \$4 million and only drills 10 holes. While in strict breach of the conditions, AMEC argues they have substantially met them. In this case there would be no penalty. (sub. 24, p. 11)

AMEC recognises that the timeframes are a compromise between the need for turnover by the government and the need for certainty for the explorer. However, there needs to be flexibility in the system to allow extensions of tenements under extenuating circumstances and unforeseen events. (sub. 24, p. 9)

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Flexibility in the law is generally maintained by listing considerations for renewal and including a ‘catch all’ factor such as ‘unforeseen circumstances’ (an example is in box 3.1).

**Box 3.1      Grounds for licence renewal in Western Australia**

The requirements for renewal of exploration licences are set out under the *Mining Act 1978* (WA) and associated regulations:

... the Minister may, if satisfied that a prescribed ground for extension exists, extend the term of an exploration licence ... (s. 61).

The following are grounds for extension:

- difficulties or delays — caused by regulations, heritage surveys, weather, etc.
- the work already carried out under the licence justifies further exploration
- the Minister considers the tenement has been unworkable for a significant duration of time, for any reason. (*Mining Regulations 1981* (WA) s. 23AB)

### *Retention licences*

Retention licences (sometimes called assessment leases or mineral development licences) allow an explorer to maintain an interest in land where they have identified a mineral or energy deposit that is not yet commercially viable for resource extraction. For example, the New South Wales legislation dealing with onshore petroleum states:

An assessment lease is designed to allow retention of rights over an area in which a significant petroleum deposit has been identified, if mining the deposit is not commercially viable in the short term but there is a reasonable prospect that it will be in the longer term. The holder is allowed to continue prospecting operations and to recover petroleum in the course of assessing the viability of commercial mining. (*Petroleum (Onshore) Act 1991* (NSW) s. 33)

Rules concerning the length of tenure and other requirements vary across jurisdictions. Policy makers face the same trade off in making retention licences short enough to discourage land banking and long enough to enable companies to make commercial decisions to maximise the value of their asset.

### *Transition from an exploration licence to a production licence*

An exploration or retention licence does not permit commercial scale extraction of resources. Production licences (or mining licences) require further impact assessment and controls that are appropriate to the generally more invasive nature

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of resource extraction activities. An exploration licence does not guarantee that the conditions will be met for a production licence to be granted.

Only Western Australia provides legal certainty for an explorer wanting to convert an exploration licence into a production licence. In other jurisdictions this happens by convention, to the point that it is generally treated as an effective property right. For example, when uranium exploration and mining was banned in Arkaroola, South Australia, the company with exploration tenements in the area received \$5 million compensation from the government (Kelton 2012).

Another example occurred at Adamsfield in Tasmania, where an exploration licence was granted in an area classed as a Conservation Area under State law. The area was subsequently listed as World Heritage by the Australian Government, which then declared that there would be no mining or mineral exploration allowed (pers. comm. Mineral Resources Tasmania 24 April 2013). The Australian Government compensated the company for its exploration expenditures and exploration was abandoned.

Both the Western Australian formalised model of linking exploration rights to production rights, and the ‘convention’ model used elsewhere, appear to be working effectively. The Commission received no information to suggest the contrary.

### **Types of exploration licence allocation mechanisms**

The rights to mineral or energy discoveries are potentially valuable assets. As such, governments have processes for allocating exploration licences so that there is a clear basis for determining who owns the rights to any such discoveries. In Australia, the three main ways of allocating exploration licences are: first come first served, work bidding and cash bidding (box 3.2). There are also fossicking and prospecting licences, but since these are small scale and low impact, they are not considered in this inquiry.

Regardless of the tenement allocation mechanism, every jurisdiction currently requires applicants to submit a work program as part of a licence application, even when it is not used as a deciding factor in allocating licences. Work programs allow regulators to monitor the exploration that is undertaken and where it is done, which facilitates the administration of environmental, heritage and other regulatory control over exploration activity.

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## **Box 3.2 Three main approaches used to allocate exploration licences**

### **First come first served**

First come first served is the most common approach and operates in one of two ways. For areas where exploration is permitted, but there are no active exploration licences, interested parties can apply for an exploration licence. This is most common for the search for minerals in underexplored (or frontier) areas. Alternatively, areas may be released for exploration (either for the first time, or after previous tenements have been surrendered). In such instances, first come first served is typically used if little competition for the tenements is anticipated. The first explorer to apply for an exploration permit will be awarded the licence, so long as they can satisfy the necessary conditions, such as demonstrating the financial and technical capability to undertake the exploration.

### **Work program bidding**

Work program bidding is an allocation mechanism where companies outline the exploration activity they propose to undertake on a tenement. The decision is based on how well each company's work program meets policy and regulatory objectives. Work program bids can be complex to assess, given that they can cover many exploration activities including drilling, electrical and chemical testing, and geo physical and remote sensing surveys, and can generate different levels of public information about the prospectivity of an area.

### **Cash bidding**

Under cash bidding — the least used allocation mechanism — explorers are invited to bid an amount for an exploration licence. Cash bidding has typically involved the simultaneous release of multiple exploration blocks. Under a pure cash bidding mechanism, the explorer with the winning bid is able to formulate and develop what it considers to be its optimal exploration program. On some occasions, the conditions for the licence include minimum exploration requirements. Cash bidding has been used intermittently by jurisdictions and has almost exclusively been used for energy exploration licences in areas of high prospectivity (table 3.4).

As part of the arrangements being introduced by the Australian Government for offshore petroleum, the first round of cash bidding to commence in 2014 will not require explorers to submit a work program along with their cash bid. As noted by the Department of Resources Energy and Tourism (DRET):

Titleholders will not be required to undertake field work in the first term of the permit. Whether this applies to further permit terms will be finalised as part of the cash bidding guidelines. (nd, p. 2)

**Table 3.4 Use of cash bidding in Australia**

Jurisdiction	Cash bidding commenced	Cash bidding ceased
Commonwealth (offshore petroleum)	1985	1992
South Australia (petroleum)	2001	2001
New South Wales (coal only)	2006	2010
Queensland (both mineral and energy)	2012	continuing
Commonwealth (offshore petroleum)	2014 <sup>a</sup>	

<sup>a</sup> Announced policy change.

Sources: Alexander and Morton (2002); Cripps (2012); DRET (nd); Hughes, W. (NSW Trade and Investment, pers. comm. 29 April 2013).

#### *Public notification and comment*

As part of the licence allocation process, the public notification of an application for, or intended grant of, an exploration licence is required in all jurisdictions except Queensland, usually by notification in the government gazette or in a local newspaper (table 3.5). In most jurisdictions, the public notification occurs when the exploration licence is applied for, but in South Australia and Tasmania, notification occurs when there is an intended grant of a licence. In Queensland, public notification for mineral titles is only required under native title procedures.

Legislation establishes when, how and to whom notification should be given. This may be:

- at the application stage or when it is intended to grant a licence
- by the applicant or the Minister
- by government gazette, newspaper or directly
- to the public at large or to those with a special interest in the land subject to the exploration licence, for example landowners, occupants or native title holders.

**Table 3.5 Notification requirements for exploration licences**

Onshore minerals

	NSW	Vic	Qld	WA	SA	Tas	NT
Notice of application for licence in state and local newspaper	✓	✓		✓			✓ <sup>a</sup>
Notice of intended grant of licence in state and local newspaper					✓ <sup>a</sup>	✓ <sup>a</sup>	
Notice to landowner and occupier of the application for licence <sup>b</sup>				✓ <sup>c</sup>			✓

<sup>a</sup> The government (for example the Minister) publishes the notification, paid for by the applicant. <sup>b</sup> Notice of intention to access private land is addressed in chapter 5. <sup>c</sup> Notices published online.

Source: LexisNexis (2013).

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In relation to onshore minerals, all jurisdictions other than Queensland provide for public comment either at the stage of Ministerial consideration of an application or as an objection to the granting of a licence (table 3.6).

**Table 3.6 Scope for public comment on exploration licensing decisions**  
Onshore minerals

<i>Jurisdiction</i>	<i>Scope</i>
NSW	Public comments are requested before new coal and petroleum tenements
Vic	Comments are taken into account by the Minister when considering the application
Qld	No provision for public comment
WA	Public hearing of objections made by any party
SA	Comments are taken into account by the Minister when considering the application
Tas	Public hearing of objections; objector must have an estate or interest in the land concerned. Pre hearing mediation is encouraged
NT	Comments are taken into account by the Minister when considering the application

Sources: LexisNexis (2013); NSW Trade and Investment (pers. comm., 13 August 2013).

In some jurisdictions, explorers are required to obtain environmental approval for exploration prior to being granted an exploration licence. The nature of any required environmental assessment will depend on the specific regulations that apply and the environmental sensitivities present at the exploration site.

All jurisdictions require the owners of exploration licences to obtain approvals, where necessary, for such matters as land access (chapter 5), heritage (chapter 6) and environmental protection (chapter 7), prior to commencing exploration.

## **3.2 Issues relating to the allocation of licences**

Industry groups have raised concerns that the rules governing the allocation of, and property rights attached to, exploration licences may be unnecessarily impeding exploration. The concerns relate to:

- the transparency of licence allocation decisions (sub. 13)
- the choice of tenement allocation mechanism (subs. 12, 13, 24 and DR51)
- competing resource uses (sub. 11).

A further issue raised in the draft report was the release of small or irregular shaped tenements that would not provide for efficient exploration or subsequent extraction of minerals or energy. Based on feedback from various participants, the Commission has decided that the issue is not of sufficient importance to warrant a recommendation. Concerns about the deliberate creation of small or irregular

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shaped tenements to distort the market can be overcome through greater transparency of decision-making. This matter is addressed in chapter 4.

### **The transparency of licence allocation decisions**

The allocation of mineral and energy exploration permits is vulnerable to influence from vested interests. Australia is generally considered to be a low risk country for corruption related to exploration and extraction. In the 2012-13 edition of the Fraser Institute survey of mining companies, Australia was ranked the sixth least problematic country in relation to corruption — behind Finland, New Zealand, Sweden, Norway and Canada.

While concerns over the transparency of allocation decisions in Australia are uncommon, isolated instances of poor regulatory practices can adversely impact the perception of the integrity of allocation systems — and can discourage exploration in that jurisdiction or across the country. For instance, recent dealings in relation to a coal exploration licence for Mount Penny and a mining licence for Doyles Creek have been reviewed by the Independent Commission Against Corruption in New South Wales (ICAC 2013).

A lack of transparency increases the risk of poorly designed and implemented policies and the proclivity toward corrupt practices. Corruption is most likely to occur when individuals have the means and the motive to obtain gains from misusing their authority. One participant favoured exclusive use of first come first served allocation mechanisms because their use ‘removes the latitude for corruption in any work bidding or cash bidding process’ (Gold and Copper Resources, sub. DR69, p. 1).

While not directly raising the issue of corruption, the associated concerns the public may have over the integrity of the cash bidding system is one of the issues that the Queensland Resource Council and Queensland Exploration Council have with such an allocation mechanism:

QRC does not support a cash bidding process for exploration tenures. Accepting payments for tenure generates moral hazard, compromising the Government’s ability to be seen to impartially regulate these projects. (sub. 13, p. 5)

A recent statement by the Queensland Resource Council chief executive, Michael Roche provides insight into the reasons for moral hazard concerns.

Nowhere has QRC spoken about corruption in connection to this policy but we do have grave concerns about the implications for community confidence. We have spoken of the implied ‘moral hazard’ of governments accepting large payments from a proponent

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at the exploration stage and then being expected to adjudicate objectively on a subsequent application from that same proponent for production tenure. (2013)

The Commission considers that procedures to minimise the risk of corruption should explicitly underpin the allocation of mineral and energy exploration rights. The most effective approach is to utilise transparent systems and to base decisions on objective criteria. Transparency would instil greater confidence in the integrity of the allocation system and provide unsuccessful tenderers with information to identify deficiencies in their own proposals.

The three main approaches used to allocate exploration licences in Australia are all based on objective criteria to varying extents. However, there have been isolated examples of exploration licences being allocated on subjective criteria, most notably opaque administrative assessments of the suitability of different applicants.

In responding to the transparency recommendations contained in the draft report, the Queensland Government questioned how much transparency is required. Queensland routinely publishes information on the criteria to determine successful bidders for exploration licences issued under work program arrangements. However, in March 2013, legislation was passed ‘to remove the need to publish weightings for each tender evaluation criteria’ (Queensland Government, sub. DR53, p. 7).

Queensland stated that this was an attempt to prevent explorers gaming the tender process:

This change — the removal of weightings — encourages tenderers to submit a program of work in line with their capabilities and site suitability rather than submitting a program that is designed to achieve a high assessment score under a published weightings and scoring system. In past instances, DNRM [Department of Natural Resources and Mines] has experienced cases that clearly indicated the tenderer had included an overly aggressive work program simply to win the highest score, rather than being the most appropriate for the site. The new approach counters this tactic. (Queensland Government, sub. DR53, p. 8)

Effective transparency does not require divulgence of the exact formula used to compare competing bids. However, regulators should provide as much information to potential bidders on the selection criteria as possible, and at least sufficient information for any subsequent review of the decision to determine if the allocation decision was fair and consistent with the advertised criteria.

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#### RECOMMENDATION 3.1

*Governments should ensure that their authorities responsible for exploration licensing:*

- *prepare and publish information on the government's exploration licensing objectives and the criteria by which applications for exploration licences will be assessed*
- *publish the outcome of exploration licence allocation assessments, including the name of the successful bidder and the reasons why their bid was successful.*

#### **The choice of tenement allocation mechanism**

The choice of tenement allocation mechanism may influence the overall efficiency of the exploration sector. The main concern relates to work program bidding and cash bidding. These allocation mechanisms are most commonly used in Australia when regulators anticipate competition for exploration rights. In such situations, the tenement is granted to the highest bidder. This may be the amount and nature of exploration activity that an explorer is willing to undertake on the tenement (work program bidding) and/or the amount an explorer is willing to pay (cash bidding).

The efficiency of the two allocation mechanisms revolves around the amount and nature of exploration that will be undertaken on a tenement. Some economists (ACIL Tasman 2012; Henry et al. 2010; IC 1991) argue that too much exploration will take place under work program bidding, as explorers inflate their work bids in order to secure access to the exploration tenement.

Under a cash bidding system (where the subsequent work program is unconstrained), it is considered that explorers are free to initially determine and subsequently vary what is an appropriate level of exploration. Under those circumstances, explorers would be unlikely to commit to further exploration of a tenement unless the expected results of such activity were favourable. Cash bidding also enables governments to appropriate in advance some of the rent that would be expected to flow from exploration activities.

In contrast, many industry participants are concerned that too little exploration will occur under cash bidding. Both the Australasian Institute of Mining and Metallurgy (sub. 12) and the Queensland Resource Council and Queensland Exploration Council (sub. 13) have highlighted that the expenditure incurred in cash bidding limits the funds that explorers (particularly junior explorers) can subsequently spend

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on undertaking exploration. AMEC has raised concerns that small and medium explorers will not be able to compete on financial terms with larger players.

[Cash bidding] ... simply allows the companies with the access to the largest amount of cash to warehouse tenements. In AMEC's view the proposed cash-bidding tenure process enshrines a system where those companies with the largest cash reserves win the most prospective tenure, not the company most likely to develop any discovery. (sub. 24, p. 10)

AMEC has also stressed the importance of the type of exploration being undertaken when considering cash bidding. In particular, they consider that distinctions should be made between greenfield and brownfield exploration and between mineral and petroleum exploration (sub. DR51, p. 6).

#### *Work program and cash bidding in practice*

The main information available on the outcome of *work program bidding* in Australia is for Commonwealth offshore waters. Over the period between 1985 and 1999, 48 per cent of exploration areas offered for work program bidding were not taken up (figure 3.2) and, even for tenements that did attract bids, single bids were a common occurrence. In the period between 2007 and 2012, over 40 per cent of allocated licences received only a single bid, and older evidence suggests similar trends have occurred in the past (figure 3.3).<sup>4</sup>

To date, Australia has had limited experience with *cash bidding*. Public data is available on the outcomes of cash bidding on petroleum licences in Commonwealth waters and in South Australia. Very few (if any) bids were received. There is little public information about the outcome of cash bidding in New South Wales and Queensland.

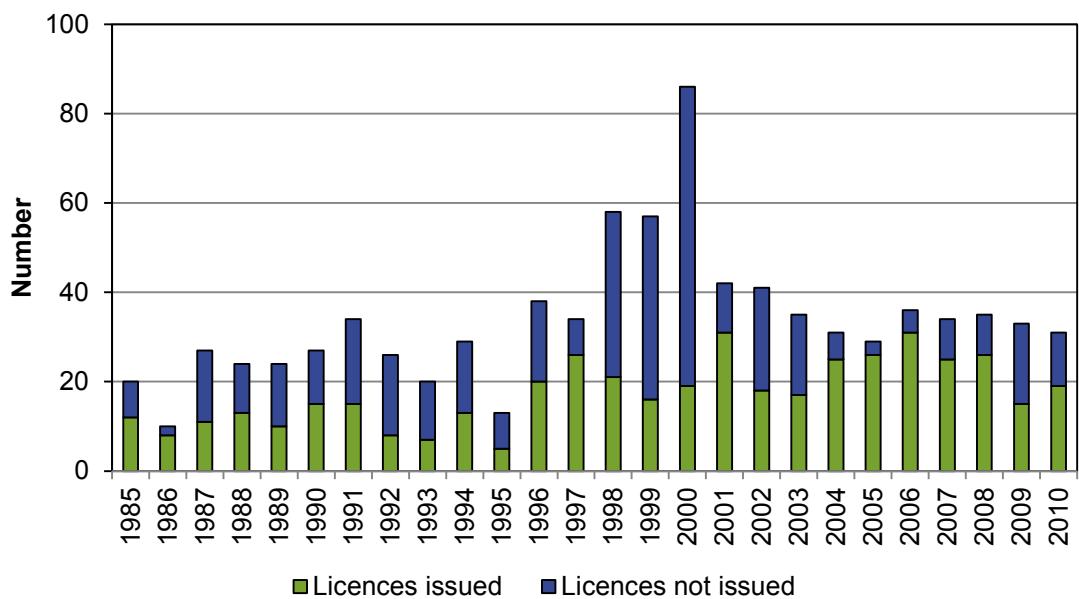
- The Australian Government utilised cash bidding for offshore oil exploration tenements between 1985 and 1992, but only eight areas were offered for cash bidding (Maritz 2003).
- South Australia offered some single well blocks in 2001 under cash bidding, but did not receive any bids (Alexander and Morton 2002).

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<sup>4</sup> The information for the period 2007 to 2012 comes from various editions of *Australian Petroleum News* published by the Department of Resources, Energy and Tourism and its predecessors. While the Geoscience Australia data does not directly indicate the number of bids received, any year in which the average number of bids per allocated release area is less than two must comprise at least one area with a single bid. For years with an average number of bids less than 1.5, the majority of allocated areas must have received a single bid.

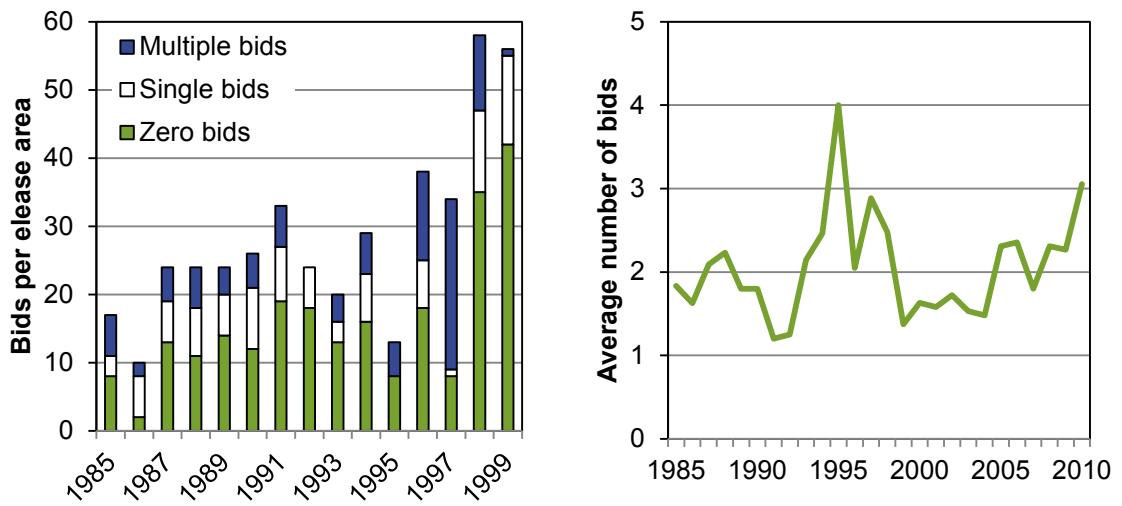
**Figure 3.2 Offshore petroleum exploration licences**

Whether released licences were issued or not



Data source: Geoscience Australia (2012).

**Figure 3.3 Bids received and average number of bids<sup>a</sup> for offshore petroleum areas**



<sup>a</sup> Average number of bids for tenements that received at least one bid.

Data sources: Geoscience Australia (2012); Maritz, Harman and Roberts (2002).

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- Between 2006 and 2010, cash bidding was used for coal exploration licences in New South Wales. While detail on the number of bids is not available, it appears that bids were received, with budget documents indicating revenue was generated from exploration licences (New South Wales Government 2010).
  - Queensland introduced cash bidding in 2012. The Queensland Government offered 147 blocks considered to be highly prospective for Coal Seam Gas in the first two rounds of cash bidding. The money raised from cash bidding is being used to fund additional pre-competitive geoscience information (Queensland Government, sub. DR53).

The generally low rate of bids for exploration licences under work program bidding and cash bidding could be symptomatic of structural problems associated with the allocation mechanisms. Previous reviews of the exploration industry have highlighted that impediments to exploration — stemming from the length of tenure of exploration licences, reporting and activity requirements, and the regulation, taxation and royalty arrangements relating to extraction industries — can reduce the effectiveness of cash bidding as an allocation mechanism (ACIL Tasman 2012; Henry et al. 2010; IC 1991).

AMEC questioned the appropriateness of cash bidding for mineral tenements, based on the likely lack of competition for such tenements.

AMEC does not consider the PC has made the case that cash-bidding for ‘minerals’ tenements is an effective allocation method for Australia. Cash bidding relies upon a significant level of competition between explorers to generate returns to the Government. AMEC argues that competition does not sufficiently exist to justify cash-bidding and that cash bidding would reduce the amount of land under minerals exploration. (sub. DR51, pp. 6–7)

A specific factor that has affected cash bidding in Australia has been that explorers need to submit a work program when tendering with a cash bid. Although it is unclear how big a barrier to exploration the work program requirement is, new evidence may soon be available. From 2014 offshore petroleum exploration licences will be allocated by cash bidding, and under that arrangement there will be no minimum exploration requirement during the first term of permits (DRET nd).

A further consideration is the link between cash bidding and subsequent royalty payments. However, given that examination of financial barriers to exploration (including royalty and tax arrangements) is excluded from this inquiry’s terms of reference, it has not been possible for the Commission to fully compare the relative merits of alternative allocation mechanisms for exploration licences.

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When assessing the relative merits of alternative allocation mechanisms, the Commission considers that the use of cash bidding (where explorers are not also assessed based on work program bids) can be appropriate in some circumstances, particularly relative to program bidding:

- while industry has raised concerns that cash bidding will increase the cost of undertaking exploration, allocations that are based on work program bidding can also increase the cost of exploration
  - explorers may tender a more expensive program of works than they believe is necessary for their purposes in order to obtain the exploration rights
- the assessment of applications under a cash bidding system should be quicker than for work program comparative assessments, but slower than for first come first served applications.

In the Commission's view, no single method of allocating exploration permits is likely to be most appropriate in all situations in Australia. Cash bidding is particularly suitable for highly prospective exploration tenements where the likely rents are more certain and there is a greater likelihood of multiple potential bidders for the exploration tenement.

#### *Announcement of successful bidders*

The Commission has been advised that there can be potential delays in announcing the outcome of competitive tendering processes (such as cash bidding or work program bidding). As noted by Mr Strickland at the Canberra public hearing:

Our company was awarded a block in ... late May from the November bid round, so it was approximately a six-month time from bid submission to bid award, and our block was awarded along with a number of other blocks in the round. There was no competing bid, so there was a single bidder on a number of blocks – not all of the blocks but on some of the blocks – and yet it still took six months to award that acreage. (trans. pp. 204–5)

The potential for unnecessary delays can be reduced if the outcomes of competitive bidding processes are announced as soon as practical after a decision has been made rather than delayed until the results of an entire round are determined.

#### **Competing resource uses**

An emerging issue is the potential for conflict between coal and coal seam gas exploration and extraction. There is no clear priority between a tenement granted for coal under the *Mining Act 1992* (NSW) or one granted for coal seam gas under the

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*Petroleum (Onshore) Act 1991* (NSW). This could have impacts on the operation of coal seam gas and coal projects.

In New South Wales and Queensland, the rights to explore for coal and coal seam gas are separately available. As there is no precedence about which rights holder has first use of the exploration tenement, the owners of exploration tenements face uncertainty. This can impact on the value of exploration rights and may unnecessarily hinder exploration activity.

The NSW Minerals Council indicated that this tension needs to be resolved in order to prevent ‘... an inefficient jigsaw fit of tenements of differing type and the unnecessary or temporary sterilisation of resources.’ (sub. 11, pp. 7–8) The NSW Minerals Council said that this is part of a review of licence conditions that has been underway for over two years (sub. 11, pp. 10).

Queensland is also reviewing policy to address the competition between coal and coal seam gas (CSG).

The Queensland Government is working with the coal and CSG industries to investigate a new framework for overlapping coal and CSG tenures. The proposed framework is aimed at creating an effective overlapping tenures framework that will deliver greater certainty, cooperation and facilitate the joint development of resources. (Queensland Government, sub. DR53, p. 12)

Given the recent expansion in coal seam gas exploration, governments should continue their efforts to clarify the rights between coal and coal seam gas rights.

### **3.3 Uranium**

The approach to issuing exploration licences for uranium differs from that used for other resources in most jurisdictions.<sup>5</sup> This uniqueness is in part due to the specific downstream regulation of uranium extraction and export.

Concerns have been raised that in some instances the procedures and approaches that are used for regulating uranium exploration are not transparent or are based on policies that appear to diverge from good regulatory practices. In particular, inquiry participants have commented on uranium exploration licensing in Victoria and New South Wales.

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<sup>5</sup> In Queensland, the method of issuing exploration licences for Uranium is identical to that used for other mineral resources with the exception of coal (Department of Natural Resources and Mines, sub. DR53, p. 7)

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### *Evolving policy positions since 1983*

The authority to regulate uranium exploration and extraction is a state government responsibility, except in the Northern Territory where the Australian and Territory Governments share that responsibility — with the Northern Territory Government being responsible for all areas outside the Ranger Project Area.<sup>6</sup> In regulating uranium exploration and extraction, State and Territory Governments have been guided by the Australian Government's policies on uranium exports, given that almost all uranium extracted in Australia is exported.

Between 1983 and 1996, the Australian Government only permitted exports of uranium from three designated mines in South Australia and the Northern Territory (Harris 2011). The first new uranium mine to be approved since the end of the ‘three mines’ policy in 1996 was the Four Mile mine in South Australia, which was approved in 2009.

While the South Australian and Northern Territory governments have permitted uranium exploration and extraction throughout the period since 1983, the approach in other jurisdictions has varied.

- Victoria prohibits uranium exploration and extraction.
- Western Australia permitted uranium exploration, but uranium extraction was banned until 2008.
- Queensland has no legislative restrictions on uranium exploration or extraction. As a matter of policy, uranium exploration has been allowed, but no uranium extraction has been approved since 1982. In 2012, the Queensland government announced they would permit uranium extraction.
- Uranium extraction and exploration in New South Wales was prohibited in 1986. The ban on uranium exploration was overturned in 2012.
- Tasmania does not prohibit uranium exploration and extraction, but there has been no extraction and little exploration undertaken in the state.
- The Australian Government has restricted which mines are licensed to export uranium and the countries to which uranium can be exported:
  - Since 1997, the Australian Government has removed the restriction on the number of uranium mines that can be licensed for export.

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<sup>6</sup> Uranium exploration and mining within the Ranger Project Area is regulated under the *Atomic Energy Act 1953*.

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- Between 1977 and 2011, the Australian government allowed uranium exports only to those countries that are parties to the Treaty on the Non-Proliferation of Nuclear Weapons. Since 2011, the policy also permits exports to countries that possess nuclear weapons if they ‘provide an assurance that AONM<sup>7</sup> will not be diverted to non-peaceful or explosive uses and accept coverage of AONM by IAEA<sup>8</sup> safeguards’ (DFAT 2012).

In responding to the draft report, the Australian Conservation Foundation (ACF, sub. DR41) and Nick Pastalatzis (sub. DR71), questioned the appropriateness of uranium exploration and mining in Australia. The ACF also called for ‘enhanced scrutiny and regulatory rigour’ (p. 20) in relation to Uranium exploration in response to Marathon’s Resources activities at Mt Gee in South Australia. The breaches identified at Mt Gee, however, related to regulations that were already in place, and underscore the importance of regulatory design and implementation, as well as review and enforcement (these issues are taken up in chapter 4).

#### *Uranium exploration in Victoria*

Victoria prohibits uranium exploration and extraction. The Australian Uranium Association (AUA) has questioned the appropriateness of the Victorian Government’s ban (sub. 4). In particular, the AUA has raised doubts as to whether the *Nuclear Activities (Prohibition) Act 1983* (Vic) (NAPA) is consistent with some of the principles of best practice regulation.

The Victorian Government (2011b) has developed a guide to regulation that covers issues that are similar to the COAG principles of best practice regulation. As such, the Commission has assessed the concerns raised by the AUA against the Victorian guide.

One of the concerns raised by the AUA (sub. 4) is that a key rationale for the Act relates to an Australian Government responsibility (the nonproliferation objectives). The stated objectives of the Act are:

... to protect the health, welfare and safety of the people of Victoria and to limit deterioration of the environment in which they dwell by prohibiting the establishment of nuclear activities and by regulating the possession of certain nuclear materials, in a manner consistent with and conducive to assisting the Commonwealth of Australia in meeting its international nuclear non-proliferation objectives. (NAPA s. 3.)

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<sup>7</sup> Australian obligated nuclear material.

<sup>8</sup> International Atomic Energy Agency.

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The AUA highlighted that there is overlap between NAPA and other pieces of legislation, specifically:

- the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- the Commonwealth *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act)
- the Commonwealth *Safeguards Act 1987*
- the Commonwealth *Customs Act 1901*
- the Victorian *Radiation Act 2005*
- the Victorian *Mineral Resources (Sustainable Development) Act 1990* (p. 2).

The operation of the Customs (Prohibited Exports) Regulations 1958 appears sufficient to implement the Australian Government's nonproliferation objectives.

Having multiple Acts cover the same issues does not necessarily indicate poor regulation. The Victorian guide indicates that the preferred outcome is to avoid duplication of regulation, but when it cannot be avoided, to ensure that the regulations are consistent. However, the existence of overlapping regulation highlights the possibility of unnecessary regulatory burden and/or inconsistent regulation — strengthening the case for a review of the legislation.

The AUA note that the NAPA has not been reviewed since it was enacted (sub. 4, p. 1). That the NAPA has not been reviewed for over 30 years is counter to the good regulatory practices outlined in the Victorian Government (2011b) guide to regulation:

Government departments and agencies are encouraged to pursue a culture of continuous improvement, and regularly review legislative and regulatory restrictions. (p. 18)

#### *Uranium exploration policies in New South Wales*

The NSW Government overturned a ban on uranium exploration in 2012 (NSW DTI 2012d). The NSW Mineral Council has raised concerns over the lack of policy guidance and transparency relating to the new policy — including a lack of information on how exploration licences will be allocated.

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It has called on the NSW Government to:

Clarify the implementation of uranium exploration and ensure it is fair and workable. Limited information has been made available following the legislative change to allow uranium exploration in September 2012. Industry was invited to submit expressions of interest in exploration licences by November 2012, but there has been no information on the progress of the applications. (sub. 11, p. 10)

Administrative difficulties can occur with new regulatory responsibilities. However, many of the concerns raised above relate to poor communication by regulators. These concerns are similar to those raised more generally in chapter 4 regarding regulatory practices and would be addressed by the recommendations proposed by the Commission to address those general deficiencies. In addition, regular reviews of policies are an effective means of identifying unexpected difficulties, and post-implementation reviews can be valuable.

## 4 Regulatory practices

### Key points

- Regulations and regulatory practices may create unnecessary burdens. This occurs when the costs they impose are higher than the costs required to achieve the desired outcomes.
- Improvements in the transparency of decision making benefit all stakeholders. Examples include:
  - consultation with key stakeholders at all stages of the regulatory process
  - public online access to interactive mapping tools that show what licences are pending or current for a given area
  - decision makers providing reasons for key licensing decisions to the relevant party or parties
  - public notification of decisions where appropriate.
- Regulator performance can have an even greater impact on the cost of doing business than the regulations themselves. Suggestions for improved regulatory practices include:
  - governments providing the funding necessary to engage adequate, skilled regulatory staff
  - lead agencies that proactively guide exploration applications, including where approvals are required from other regulators
  - effective enforcement of regulations, using various tools from information and warnings to fines and prosecution.
- Delays associated with approvals processes can impose significant costs on explorers. The Commission received numerous examples of the lengthy time taken to process exploration licence or renewal applications.
  - The first step to reducing timelines is measuring them and setting targets. This information should then be made public.
  - Timelines should be measured across government, rather than only for the lead agency, in order to promote transparency and identify regulatory bottlenecks.
- Online approval systems have the potential to reduce the regulatory burden by identifying inefficiencies in current processes and reducing the scope for confusion.
  - Online lodgment in Western Australia has reduced approval times for program of work applications by almost 25 per cent.
  - Online tracking of applications facilitates reporting of time taken by regulators and informs explorers of the progress of their applications.

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## **4.1 What constitutes unnecessary regulatory burden**

Regulation is an instrument that governments use to achieve economic, social and environmental objectives. For example, land access regulations reflect and enforce the community's values with respect to the rights of explorers and existing land holders regarding the use of land for exploration purposes. Environmental regulation is used to prevent or limit damage to the natural environment that may arise from some exploration activities. Regulation is also part of the institutional architecture of markets, enabling, for instance, the establishment of property rights and the enforcement of contracts (such as through exploration tenement allocation mechanisms).

Regulation, however, imposes compliance costs on those who are regulated — in this case resource explorers. Compliance costs include the costs of meeting the information and reporting requirements of regulators. Some of the largest compliance costs are the delays incurred by explorers when seeking approvals (for example, environmental and heritage approvals) from regulators. Regulations may also direct the way explorers operate and reduce their flexibility to respond to challenges and opportunities. The increased costs arising from the regulation may reduce the attractiveness of investing in resource exploration.

The administration of regulations also incurs costs by requiring regulators to have systems to process applications for licences, to assess the documentation provided by explorers for approval purposes and to enforce activities. These regulator costs are met either by explorers through user pay arrangements or funded by government appropriations.

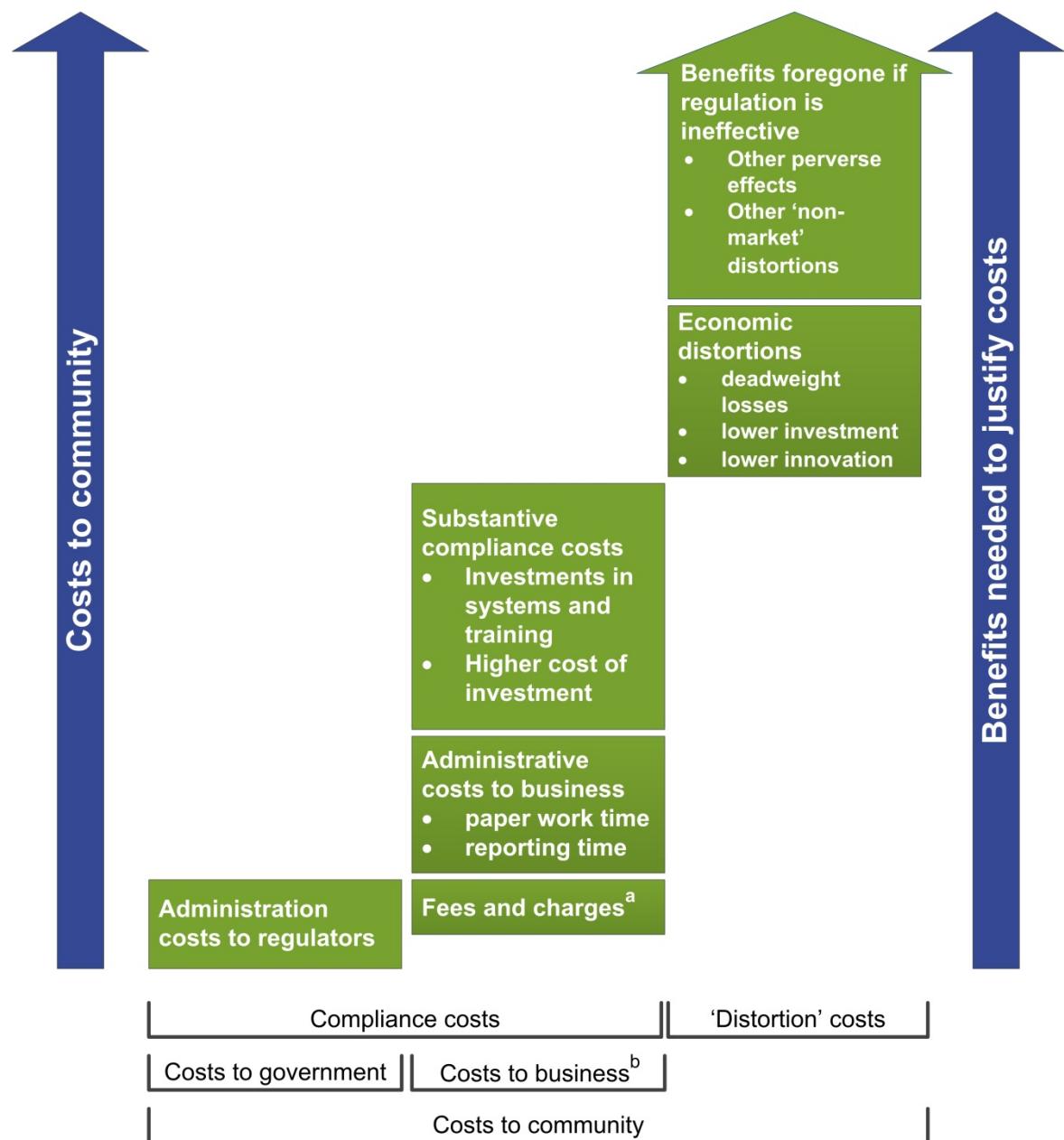
The range of potential compliance costs and distortionary effects of regulations (often referred to as the regulatory burden) and their incidence and cumulative impact on the community are illustrated in figure 4.1.

The terms of reference for the inquiry specify that the Commission is to have regard to regulatory objectives. This raises two issues.

First, it is incumbent on the Commission to consider whether the objectives it is having regard to are objectives which are in the best interests of the community as a whole. This issue is raised at relevant points throughout the report.

Second, the Commission, when examining the regulatory frameworks governing resource exploration, has had regard to whether the regulation is an effective and efficient means of achieving the policy objectives of that regulation, and whether good regulatory principles and practices are in place. This is the focus of this chapter.

Figure 4.1 **Multiple potential burdens of regulation**  
Costs to business and the community



<sup>a</sup> Cost to business depends on fees and charges passed on to business through cost recovery. <sup>b</sup> Some costs are passed through in prices, lower wages or lower returns on capital.

Source: PC (2011).

An unnecessary regulatory burden arises when the policy objectives of the regulation could be achieved at lower cost (broadly defined) to the affected parties. It is important, therefore, to differentiate those parts of regulatory costs that, while burdensome, are necessary, from those that are unnecessary to the achievement of the regulatory objectives.

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A related issue is the adequacy of existing regulation, which has been raised by a number of participants who believe the exploration and mining sectors are under-regulated. New regulations should only be introduced if the benefits, broadly defined, exceed the costs. In addition, to be consistent with good regulatory practice, both existing regulations and any new regulations should impose the minimum burden necessary to achieve the desired regulatory objective. Indeed, any inadequacy in achieving the appropriate objectives may better be addressed through non-regulatory means.

## The sources of unnecessary regulatory burdens

The sources of unnecessary regulatory burdens include:

- the objectives of regulations
- regulatory duplication
- inappropriate regulator conduct.

### *Objectives of regulation*

*Unclear or questionable objectives:* a lack of clarity creates uncertainty about what is expected of those being regulated and of the regulators. Moreover, it increases the potential for regulators to use their own discretion in determining the intent and priorities of legislators and can lead to inconsistency between regulators interpreting the same piece of legislation. Regulatory uncertainty acts as a disincentive to invest, and can increase compliance costs.

*Conflicting objectives:* sometimes regulations (possibly enforced by different regulators) have objectives that are conflicting. Examples might include safety considerations that propose generous spacing of facilities while environmental regulations seek to minimise a facility's 'footprint' and hence its environmental impact.

*Overly complex regulation:* complex laws are likely to require legal interpretation and greater administrative activity and therefore compliance is more costly and more time consuming. They also make it harder to determine the expectations of regulators.

*Excessively prescriptive regulation:* prescriptive regulation is typically more complex and onerous than objective- or performance-based regulation, is less flexible, can stifle innovation, and may not allow businesses to deliver the policy

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outcome at least cost. Excessively prescriptive regulations can be a burden on both industry and regulators.

*Redundant regulation*: regulation may remain in force despite being overtaken by changed circumstances. While providing no benefits, such regulation will still involve compliance costs and could overlap with more recent legislation, causing regulatory confusion.

*Regulatory creep*: regulations may extend over or otherwise influence more areas and activities than were originally intended or warranted.

*Inconsistent regulatory objectives*: the achievement of consistent heritage, environmental and other objectives should require that activities with similar impacts be subject to the same regulatory scrutiny. In practice, however, this is not always the case. For instance, one submission claimed that the approvals and associated regulatory cost for drilling shallow exploratory drill holes were significantly greater than for drilling water bores in the same area (David Watkins, sub. DR35).

### *Duplication of regulations*

*Duplication of regulation*: the need to provide information to multiple regulators and go through multiple processes can add unnecessarily to compliance costs.

*Inconsistency of regulation*: regulatory inconsistencies can occur within or across jurisdictions, and increase regulatory burdens. Inconsistency is likely to present particular problems for businesses operating across multiple jurisdictions.

*Variation in definitions and reporting requirements*: variation in practices can occur between regulators within jurisdictions, although it is typically a more significant problem for businesses operating in multiple jurisdictions. Such variation can increase compliance costs.

### *Regulator conduct*

*Excessive reporting or recording requirements*: requirements beyond the minimum required to enforce a regulation unnecessarily increase compliance costs.

*Inadequate resourcing of regulators (including inexperience or lack of expertise)*: this can delay the time taken for approvals, and potentially lead to poor regulatory decisions. It can also prompt regulators to seek additional, and potentially spurious,

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information because of a lack of experience or expertise, or to circumvent statutory time limits (where such limits exist).

*Overzealous regulation:* this can increase compliance costs and represents a disincentive to investment. Inadequate resourcing of regulators can lead to problems, but over-resourcing can also if regulators then impose excessive regulation or micro-manage regulated businesses.

*Regulatory bias or capture:* regulators may be ‘captured’ by particular interests that they deal with on a regular basis, and therefore make decisions favourable to those interests. Such interests could include the businesses being regulated (or a particular business or businesses), or lobby groups who actively support the regulatory regime such as environmental or community groups.

*Unwieldy approval and licensing processes:* such regulatory processes may have a significant impact on the cost and time taken to gain approvals.

*Lack of transparency in regulatory processes:* this increases the cost to business of identifying what the regulatory system requires and how to comply with it; increases uncertainty; and reduces understanding of the system and thus ‘buy-in’ from participants.

## 4.2 Issues with regulatory practices

The Commission received a number of submissions raising concerns with administrative processes. Issues included the processes adopted by governments when amending regulations, transparency of which areas are subject to pending and existing exploration licences, transparency in making decisions related to licences and processes for appealing those decisions.

### Government processes for amending regulations

Contemporary regulatory regimes do not necessarily give best effect to the underlying objectives, and governments can therefore opt to amend the regulations. However, at issue is the process by which the regulations are amended.

Frequent or unexpected regulatory change can create uncertainty for explorers. Given the intrinsically high risks of exploration and significant upfront capital investments, an uncertain regulatory environment can damage investor confidence and reduce exploration spending, as in the case of a Gunnedah coal exploration

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licence (box 4.1). While some stakeholders saw the changes as better reflecting underlying objectives, David Watkins, a geologist and company director, said:

When someone explores they do it for profit; if this motive is destroyed by changing the goal posts because of public pressure being put onto government officers and ministers it is hardly going to inspire people to spend money in an industry which is traditionally high risk ... (sub. 1, p. 1)

**Box 4.1 Investment consequences of amending regulatory requirements**

Unexpected regulatory changes can have a significant impact on perceptions of regulatory risk and on levels of investment in Australia. Changes that come after significant up-front payments and expenditures especially inhibit the ability of companies to make investment decisions based on foreseeable costs and benefits.

In August 2008, China Shenhua Energy Company paid \$300 million for an exploration licence near Gunnedah (NSW DTI 2008). The licence was for an area expected to contain shallow coal resources of domestic and export quality thermal coal.

However, in response to community concerns, the conditions on the exploration licence were changed when the company applied for a licence renewal.

Mr Hartcher's media statement at the time boasted of 'tough new conditions for the renewal of Shenhua Watermark Coal's exploration licence' in response to community concern. Farmers in the Liverpool Plains have battled against a number of mining proposals. (Aston 2012)

It was reported in 2012 that, after spending \$600 million on the Gunnedah development, the Shenhua Group reversed plans to spend a further \$9 billion across Australia.

According to mining industry sources, Shenhua told the department of the federal Resources Minister ... that it would take its money elsewhere. The energy company will instead invest in mining projects in Africa and closer to home in Mongolia. (Aston 2012)

The company chairman subsequently criticised shifting regulatory requirements, particularly around environmental approvals. He said:

From our own perspective the regulatory environment is different today than it was when Shenhua first invested in the Watermark project in 2008. (Wen 2013)

Sources: Aston (2012); Validakis (2013); Wen (2013).

COAG Principles of Best Practice Regulation (box 4.2) were agreed upon to assist and improve regulatory decision making. Consistent with these principles, the industry has expressed the need for clarity and certainty in the regulatory framework and for stakeholder consultation before legislative or regulatory changes are decided upon (and after they have been implemented, in terms of monitoring the ongoing effectiveness of the regulations).

### **Box 4.2 COAG Principles of Best Practice Regulation**

COAG has agreed that all governments will ensure that regulatory processes in their jurisdiction are consistent with the following principles:

1. establishing a case for action before addressing a problem;
2. a range of feasible policy options must be considered, including self-regulatory, co-regulatory and non-regulatory approaches, and their benefits and costs assessed;
3. adopting the option that generates the greatest net benefit for the community;
4. in accordance with the Competition Principles Agreement, legislation should not restrict competition unless it can be demonstrated that:
  - a. the benefits of the restrictions to the community as a whole outweigh the costs, and
  - b. the objectives of the regulation can only be achieved by restricting competition;
5. providing effective guidance to relevant regulators and regulated parties in order to ensure that the policy intent and expected compliance requirements of the regulation are clear;
6. ensuring that regulation remains relevant and effective over time;
7. consulting effectively with affected key stakeholders at all stages of the regulatory cycle; and
8. government action should be effective and proportional to the issue being addressed.

*Source:* COAG (2007).

These principles help to identify early on any issues with proposed changes, together with options for how they can be resolved. The Association of Mining and Exploration Companies (AMEC) put it this way:

In order to plan their exploration programs, explorers need clarity and certainty from the regulatory system. In this sense by ‘clarity’, AMEC means the government has articulated its policy position and desired outcome publically and in a manner which is not ambiguous and is easy to understand. By ‘certainty’ AMEC means the policy will remain in force for a timeframe that is relevant and appropriate to business planning and investment decisions. (sub. 24 p. 21)

The Commission has been informed of a number of cases where regulatory changes occurred without consultation. Recently, for example, a Commonwealth environmental assessment for water impacts was announced without industry consultation and without a regulatory impact statement.

... on 12 March 2013 the Commonwealth Government announced it would add a new approval trigger to the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) to require approval for a mining or CSG project with likely significant impacts on water resources. (Thomas 2013)

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Another example is the new Strategic Regional Land Use Policy in New South Wales which was also applied to applications that had already been submitted.

Significant reform was introduced following the Mining Act Regulation 2010 and the recent Strategic Regional Land Use Policy. An example was the introduction of the requirement for an Agricultural Impact Statement for activity approvals from the day the policy was announced. This applied to all approvals (even those where all the application documentation had been submitted) and guidelines on the requirements for the Statement were not released for over two months following the policy announcement. (NSW Minerals Council, sub. 11, pp. 5–6)

A related issue is that frequent regulatory changes increase the costs associated with consultation and with staying abreast of the changes. The Minerals Council of Australia said that:

Even where changes were of a technical nature, the persistent ‘churn’ of legislation means that multiple Acts need to be consulted by project proponents and operators seeking to undertake exploration and mining in Australia. Overall the pieces of primary legislation have increased by 53 per cent and the pieces of subsidiary legislation by 80 per cent [between 2006 and 2012]. (sub. 27, p. 39)

Feedback in hearings included the view from AMEC that the consultation process between government (particularly at the state level) and industry has improved significantly, for example through the use of stakeholder groups to inform government policy (trans., p. 54).

However, one non-industry group expressed the view that industry was the only sector being consulted and that government was not doing as well at engaging with Indigenous heritage bodies or other stakeholders (The Yamatji Marlpa Aboriginal Corporation, trans., p. 68). The NSW Irrigators’ Council also said there was a lack of ‘comprehensive public and stakeholder consultation’ (sub. 5, p. 9).

The Commission’s view is that all governments should adhere to principles of best practice regulation, including consultation with key stakeholders at all stages of the regulatory process. At a more detailed level, regulators also should be mindful of the compliance burden that even minor changes can, in aggregate, impose on industry participants.

### **Transparency as to which areas are subject to pending and existing exploration licences**

The Commission notes that a range of stakeholders — both proponents and opponents of exploration — have drawn attention to a lack of transparency in access

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to information about exploration, suggesting that the current requirements do not ensure a public and transparent process.

The Australian Network of Environmental Defenders Offices (ANEDO) called for improved notification, education, public participation, appeal and compensation rights. Specifically it said this should include:

... ensuring that both mining and planning laws include comprehensive and mandatory rights to public access to information, notification and consultation at all stages (licensing, environmental assessment, approval and post approval), including for major projects. (sub. 17, p. 11)

The ANEDO also raised the issue that ‘communities are not properly notified of exploration licence applications ... A small advertisement in a newspaper does not constitute proper notification’ (sub. DR52, p. 13).

Other calls for transparency have included:

- Cotton Australia, who stated, ‘there has been a lack of knowledge about projects until exploration was underway or attempts were being made to gain access’ (sub. DR58, p. 4)
- the Queensland Exploration Council, who said that ideally, electronic processes would make it possible for every landholder to be informed of the allocation of exploration licences over their land (trans., p. 117)
- the Yamatji Marlpá Aboriginal Corporation, who ‘strongly support the emphasis on the need for greater transparency and a balance between procedural fairness and expediency’ (trans., p. 61)
- AusIMM, who suggested that all Australian governments ‘should play a stronger role in ensuring the public is well informed’ (sub. DR49, p. 4)
- the Australian Petroleum Production and Exploration Association (APPEA), who commented that, ‘transparency is one of the critical things ... for regulators’ (trans., p. 201)
- AMEC, who stated more generally that, ‘stakeholder engagement and consultation is fundamental.’ (trans., p. 55)

While all jurisdictions require landholders to be notified prior to exploration activity commencing on their land, the current legislated requirements for notification if a licence is applied for or granted are minimal (chapter 3, table 3.2). New South Wales, Victoria, South Australia, Tasmania and the Northern Territory require only public notification prior to an exploration licence being granted, and only in a state and local newspaper. In Western Australia, the Director General of Mines must publish a notice of the application on the Department’s website. Only Western

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Australia and the Northern Territory also require landholders to be directly notified of a licence application. Queensland has no general notification requirements for exploration licences.

These notification requirements do not always provide communities with the ability to access further information, as noted by the ANEDO:

... once a person is aware of an exploration licence, it is very difficult to access any information about it. This is because the relevant departments often have very poor information provision, and/or because the exploration company will not answer the communities' requests for information. (sub. DR52, p. 13)

Public online access to interactive mapping tools that show what licences are pending or current for a given area would improve notification to interested parties, both of existing and prospective licences.

Systems should prioritise a user-friendly interface, allow users to enter a specific address and see a map of the status of exploration licencing and activity for that location, and should also allow any user to request automatic notification of activity in a particular area, rather than merely describing the area in words or numbers. This would also meet calls for government agencies to 'improve community access to exploration project information through their websites and offices' (ANEDO sub. DR52, p. 3).

Some jurisdictions are already developing IT systems to improve notification procedures in this way. In Western Australia, a map-based system is being developed to provide tenement, environmental and other information to industry and the public. A prototype is being developed for release at the end of 2013 (Sas 2013).

The ANEDO has called for explorers to notify councils, landowners and land occupants in writing of any exploration licence application (sub. DR52, p. 3). While this could be a difficult task for some of the current systems, a searchable database as recommended in this report could reduce the cost of notification at various stages of the application process.

Industry participants expressed concerns that there may be possible unintended consequences of direct notification.

Obviously not all [holders of land subject to an exploration licence] ... will be impacted by actual exploration activities, and hence upfront notification of the existence of an exploration permit over that land could be viewed as excessive and may even cause unwarranted community concern. (QRC-QEC, sub. DR43, p. 5)

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Improvements in the transparency of decision making, including public notification where appropriate, benefit all stakeholders by clearly articulating rights and responsibilities and highlighting regulatory processes. An online database could achieve a high level of information for interested parties, without generating unnecessary information.

However, governments must consider not only the need for publicly available information to underpin community confidence in the regulatory process, but also the cost of any such measures and how to minimise that cost. The Commission considers that public online databases would balance these costs and benefits, and would provide a clear improvement in transparency over the arrangements that are currently in force in most jurisdictions.

#### RECOMMENDATION 4.1

*Regulators of exploration activity should create public databases which would allow any interested user to know where exploration licences exist or have been applied for. The public database should be map-based and facilitate address-based searches. The system should allow interested parties the option of being automatically notified if exploration licences are allocated or applied for in a particular area.*

### Transparency in the exercise of discretion

Mineral and resource legislation grants significant discretion to decision makers to restrict or facilitate exploration activities. For instance:

- in NSW legislation, coal is not treated differently to mineral exploration, but under legislative powers, the Minister declared a ‘mineral allocation area’<sup>9</sup> for coal over the whole of the state, triggering a tender process for all coal exploration applications. This tender process is subject to an extensive and ongoing investigation of coal exploration licensing by the Independent Commission Against Corruption
- in Queensland, the Minister has exercised a power to declare a ‘restricted area’ for coal, ahead of managed release of land for coal exploration under a cash bidding system (Queensland Department of Employment, Economic Development and Innovation 2012b)

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<sup>9</sup> Under the *Mining Act 1992* (NSW), an area may be declared a ‘mineral allocation area’ in relation to all minerals or specified minerals. If land is declared a mineral allocation area, applications for exploration licences over that land are not permitted except with the Minister’s consent (section 13). The Minister may invite tenders for an exploration licence in such areas (section 14).

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- in Western Australia, the Minister for Aboriginal Affairs has discretion to allow harm to Aboriginal heritage sites under s. 18 of the *Aboriginal Heritage Act 1972* (WA)
  - in South Australia, the Minister has discretion to invite tenders for exploration licences, but only if the area is highly prospective (*Petroleum and Geothermal Energy Act 2000* (SA) s. 16).

Conversely, in Tasmania, if the Minister refuses to grant an exploration licence or renewal, or varies any conditions subsequent to granting a licence, reasons must be given to the applicant and the applicant can appeal that decision to the Mining Tribunal within 28 days. No other jurisdiction, however, requires reasons to be given for decisions to grant or refuse an initial mineral exploration licence (table 4.1).

The Commission considers that a statement of reasons accompanying decisions based on discretionary powers would promote confidence in the administrative process, enabling decisions to be properly explained and defended. A statement of reasons could also foster acceptance even among those who would have preferred a different decision. Statements also assist individuals in deciding whether to appeal a decision, and assist the appellate body in conducting the appeal.

The Commission’s draft proposal that all ministerial decisions regarding an exploration licence be accompanied by reasons has attracted widespread support from both industry and conservation bodies. Those giving explicit support included:

- AusIMM (sub. DR49, p. 5)
- South Australian Chamber of Mines and Energy (sub. DR37, p. 2)
- Chamber of Mines and Energy of Western Australia (sub. DR62, p. 2)
- Conservation Council of Western Australia (sub. DR44, p. 5)
- Queensland Murray-Darling Committee (sub. DR46, p. 6)
- Australian Petroleum Production and Exploration Association (sub. DR68, p. 7)
- NTSCORP (sub. DR73, p. 3)
- the SA Department of Manufacturing, Innovation, Trade, Resources and Energy noted that, ‘Applicants in SA already receive notification of reasons for a decision regarding an exploration licence’ (sub. DR72, p. 16).

A participant also supported the expansion of the recommendation being expanded to include decisions by other government officials (AusIMM sub. DR49, p. 5). The Commission agrees, given that transparency issues are not confined to Ministerial decisions. In applying the requirement to all decision makers, a wide range of

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decisions could be captured, and in some cases the requirement for reasons would not be appropriate. For example, some decisions are already transparent and subject to public comment, such as through the political process. These will often be systemic policy changes or changes that will affect a class of stakeholders. The Commission has provided a non-exhaustive list of decisions it considers should be accompanied by reasons, particularly in relation to licence allocation decisions.

#### RECOMMENDATION 4.2

***The maker of exploration licensing decisions should provide the relevant party or parties with a statement of reasons for decisions such as to: allocate or renew a licence, or not to do so; revoke a licence; impose conditions on licences; or allow or disallow a transfer of title.***

### Appeal processes

There are two types of legal review:

- a **judicial** review, which examines the legality of the decision-making process
- a review of the **merits** of a decision, which examines whether the outcome of the decision was correct or preferable.

**Judicial review** is available in all jurisdictions, for decisions made by the executive arm of government. Courts can then require the decision maker to remake the decision according to law. However, by its nature, judicial review is limited to procedural issues, such as whether the decision maker considered all of the matters the legislation required him or her to consider. If the decision maker made the appropriate considerations, the courts cannot review the conclusions thus arrived upon. The scope for judicial review is therefore affected by the powers granted under legislation: the more requirements imposed on the decision maker, the more potential avenues for judicial review.

**Merits review** is where a court stands in the position of the primary decision maker, and has the same powers as that decision maker to make a new decision. Limited merits review is where courts may consider only the evidence available to the primary decision maker.

#### *Availability of merits review*

The scope to dispute the merits of the decision to grant an exploration licence varies across jurisdictions (table 4.1). In Tasmania, only those whose property interests are affected can apply to prevent the granting of an exploration licence, while in

Western Australia, any party can apply for a hearing. In both Western Australia and Tasmania, the court considers the issues prior to the finalisation of a decision to grant or refuse an exploration licence. Other jurisdictions do not permit a review of the merits of a decision to grant an exploration licence, although third party objections to the grant of an exploration licence will be taken into account by the decision maker in Victoria and the Northern Territory. Once an exploration licence is allocated, there is no avenue for third party merits review in any jurisdiction.

**Table 4.1 Objections to exploration licence decisions<sup>a</sup>**  
Onshore minerals

	<i>Third party can object to grant of licence</i>	<i>Third party objection is considered by:</i>	<i>Decision maker must provide reasons for grant/refusal</i>	<i>Applicant can appeal refusal to grant licence</i>
NSW	No		No, s. 22	No
Vic	Yes, any third party, s. 24	Minister, s. 25	No, s. 25	'Disputes' are heard by the Mining Warden, ss 4, 97
Qld	No		No, s. 136	No
WA	Yes, any third party, s. 59(1)	Mining Warden, s. 59	No, s. 59(6)	No
SA	No		No, s. 28 <sup>b</sup>	No
Tas	Yes, landowners only, ss 15 and 17(2)	Mining Tribunal, s. 128(v)	Yes, to applicant if application is refused, s. 17(3)(b)	No <sup>c</sup>
NT	Yes, landowners may object and any third party may make a submission, s. 71	Minister, s. 78	No, s. 78	No

<sup>a</sup> Reference to legislation in brackets: refer to onshore mineral legislation listed by jurisdiction in table 3.1. <sup>b</sup> However, reasons are given by convention (DMITRE sub. DR72, p. 16). <sup>c</sup> A refusal to grant a licence renewal (but not the initial grant of a licence) can be appealed to the mining tribunal, s. 25.

### *Issues relating to mining wardens*

Some jurisdictions have review bodies (such as mining wardens) established under resource legislation to deal with resource specific issues. They are intended to be less formal and thus faster and less expensive than review by generic courts. However, various concerns have been raised in other reports that are yet to be resolved.

A Victorian parliamentary inquiry (State Services Authority (Vic) 2009) recommended that the functions of the Victorian Mining Warden be divided, with the dispute resolution function assigned to the Small Business Commissioner. This was partially due to the high cost and declining number of disputes and also because

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of the conflict caused by assigning both executive and judicial functions to the Warden. The Mining Warden currently continues to exercise these functions.

The WA Mining Warden was created to be fast, inexpensive and informal. However, the Keating review (Independent Review Committee 2002) found evidence of avoidable delay and unnecessarily wide jurisdiction, thus increasing the cost of litigation. Recommendations made in that report to address these concerns have not been fully addressed.

Appeals lodged through the WA Mining Warden can cause substantial delays and cost to an explorer even when the objections are out of scope. The WA ‘Ministerial inquiry into greenfields exploration’ (Bowler 2002) supported the recommendations of the Keating review, and additionally recommended a bond system to avoid frivolous litigation, with the bond refundable if the action is successful or deemed by the Warden to have been a serious action. This recommendation has not been implemented.

#### *Costs and benefits of appeals*

The regulation of exploration can allocate potentially valuable economic rights. The regulatory framework aims to balance the competing demands of exploring for resources, using the land for other purposes such as agriculture, and the preservation of heritage and environmental values. Regulatory decisions can in some cases have a significant impact on the wellbeing of individuals or the community more broadly. Review or appeal rights seek to mitigate this risk.

Formal courts can prove difficult to access for individuals or small businesses due to the cost of obtaining legal representation and the potential for long delays at various stages of the process. Thus courts, including land and environment courts, can be perceived as favouring the party with the greater financial resources and legal expertise. Litigation is, in some cases, brought before the courts to delay or frustrate a project. For example, the Australian anti coal movement has an overt strategy of ‘lodging legal challenges’ to delay projects and therefore cause companies to give up, down scale or lose investment. They describe it thus:

Our strategy is essentially to ‘disrupt and delay’ key projects and infrastructure while gradually eroding public and political support for the industry ... (Hepburn, Burton and Hardy 2011, p. 5)

Various participants have called for greater access to merits review. The ANEDO said that any person should have the right to object to the regulator to the grant of an exploration licence, and subsequently have the right to seek merits review of that

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decision (sub. DR52, p. 3). However, the main concerns raised by ANEDO relate to mining, rather than exploration:

Denying affected members of the public with access to effective and meaningful appeals fails to recognise, and take account of, often substantial impacts that mining can have on a community's wellbeing. It is not just landholders who suffer from mining — the local community may also have to endure the potential air pollution, noise pollution, water pollution, heritage impacts, health risks, increased traffic, changed economy and, of course, the impacts of climate change that fossil fuel development creates. (sub. DR52, p. 3)

Access to appeals procedures for mining-related regulatory decisions are being assessed in a concurrent Productivity Commission inquiry into major projects.

The NSW Irrigators' Council took a narrower approach of recommending appeal rights for individuals affected by the decision (sub. DR50, p. 10) although there remains the question of how this could be defined.

#### *Internal escalation or review*

Regulators should have escalation and review processes in place internally to deal with disputes about decisions. Compared to court-based adjudication, this is likely to be more timely and lower cost, and thus more accessible.

AMEC highlighted the need for escalation mechanisms within the regulator:

The ability of a proponent to escalate an assessment or approval decision in a timely and orderly manner from the assessing officer to higher levels of the agency is a key component of an efficient approvals system. The experience of AMEC members has been one of frustration at the seemingly ad hoc nature and slow manner in which regulatory agencies approach a proponent's appeal for a review of the administrative decision. (sub. 24, p. 22)

Decisions could be reviewed by a more senior officer within the regulator, by a panel of officers, or where appropriate, by the Minister. The more transparent this mechanism is (for example, by providing reasons for decisions), the more it will overcome any perception of bias or regulatory capture. The more available the mechanism is, the more it will be able to correct instances of regulator error.

#### *Mediation*

Land access disputes between explorers and other land users such as farmers are more likely to undergo mediation than formal review in the courts. Mediation is where parties discuss the issues with the help of an impartial negotiator, who does not impose a solution but rather assists the parties in reaching an outcome they can

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agree to. Land access dispute resolution mechanisms vary between jurisdictions and are discussed in chapter 5. They are designed to be faster, cheaper and less formal than review by the courts.

## 4.3 Concerns with regulator performance

The letter of the law is not the only factor affecting regulatory burden. Regulator performance can have a greater impact on the cost of doing business and regulatory burden than the regulations themselves. This section considers these issues and ways in which regulators can reduce costs on all parties by changing the way they regulate.

It is believed that this difference in culture and attitude by regulatory agencies can be at least as significant a determinant of the cost and complexity of seeking a regulatory approval as the quality of the statutory requirements (the ‘black letter laws’) themselves. (AusIMM sub. DR49, p. 5)

Duplication primarily occurs in the implementation, rather than the design of the regulation. (MCA sub. DR63, p. 24)

### Funding and staffing

Regulator staffing issues have been particularly acute in recent years due to the resources boom, which has led to a sharp rise in applications for tenements and related applications (such as for work program approval). At the same time, increased competition from explorers and mining companies for similarly skilled staff has reduced the available supply of some labour skills (see discussion in chapter 9).

The Commission heard frequent assertions that faster, lower cost and higher quality assessments would be made if regulators were better staffed. Specific complaints related to the frequent movement of staff within agencies and lack of industry experience. David Watkins, a geologist and company director, said:

Government officers now tend to be career public servants with no direct industry experience. They tend to have come straight from an education institution, know it all and do not take kindly to criticism, being shown to be wrong and not knowing the subject. (sub. 1, p. 2)

The Australian Petroleum Production and Exploration Association said:

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

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be convinced that government officials have the requisite skills to assess the types and volume of approvals that are now required. (sub. 22, p. 15)

In some cases, regulatory bottlenecks are created because specific regulators that form part of a chain of approvals are underfunded or under resourced compared to the lead agency. For example the Yamatji Marlpa Aboriginal Corporation claimed that the Department of Aboriginal Affairs is underfunded and has a backlog of 6000 sites lodged and awaiting assessment (trans., p. 65). Bottlenecks such as this mean that even if other regulators are adequately resourced and operating efficiently, significant delays would remain.

A number of participants to this inquiry commented on the underfunding of regulatory agencies. For example, the NSW Minerals Council considers the NSW Division of Resources and Energy to be underfunded (sub. 11, p. 9). Additional fees and levies introduced in New South Wales in July 2012 were partially designed to address this funding shortage. It remains to be seen whether this change has been effective.

The Queensland Government is reforming its exploration licensing system to reduce regulatory costs (both for the regulators and those who are regulated) in response to the rapid increase in exploration permits in recent years and the ‘... enormous increase in the number of variation applications’ (sub. 25, p. 11). This reform includes separating departmental resources according to coal, mineral and petroleum assessments, thus allowing for specialisation and the development of human capital. The Queensland Government said:

As an element of the Streamlining Approvals Project, the [Queensland] Government is building a refined service delivery model involving three centres (hubs) of dedicated resource expertise – for coal; minerals; and petroleum – with an exclusive focus on assessment. Dedicated staff will concentrate on the assessment of applications within their dedicated sector. This will foster the development of sector specific expertise and ensure that field officers’ time is spent working directly with industry. (sub. 25, p. 10)

The Conservation Council of Western Australia and others have called for better funding of regulators in that state.

What is disproportionate in WA is the numbers of regulatory staff as compared to the size of the regulatory task! (sub. DR44, p. 9)

... the community will be much more confident with the regulatory process if they see it actually being implemented properly. (trans., p. 20)

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In each jurisdiction there are private consulting agencies that manage applications for exploration tenements on behalf of explorers. Activities undertaken by consultants include:

- monitoring the availability of land for exploration, particularly in mature areas
- lodging exploration licence applications and managing the application processes
- appearing on behalf of clients in various forums or tribunals
- sending reminders in regards to payment and reporting deadlines.

Consultants specialise in navigating the various licensing processes and allow explorers to outsource administrative functions. They provide a market solution to actual (or perceived) complexity within the system and deficiencies of regulators.

Adequate, skilled staffing is something governments must address so that exploration proponents, communities and other stakeholders can be confident that the regulations in place are being properly administered and enforced.

## **Lead agencies**

The regulation of resource exploration can become quite complex where a project requires multiple approvals from separate regulators. Good communication and coordination among regulators, proponents and other stakeholders are essential for reducing approval times and costs and for ease of navigating the system.

All jurisdictions have adopted what is termed a ‘lead agency’ approach. The lead agency is the key regulator of exploration licences and a project proponent’s central point of contact. Explorers, particularly junior explorers, prefer to work with a lead agency. AMEC commented:

As an aspirational goal AMEC would like to see a one stop shop approvals system for exploration and that this should lie within the relevant agency for the regulation of minerals exploration and mining. (sub. 24, p. 21)

Similarly the Australian Uranium Association forwarded the following model for project assessment:

Operating ideally through a single point of contact between the company and authorities and regardless of how many governments and authorities are involved, authorities engage with the company as far as possible with a unified approach, notwithstanding the different legislative and political conditions under which they may operate (sub. 4, attachment 2, p. 1)

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The functions of lead agencies vary significantly between jurisdictions, from agencies that merely provide a single point of information, to agencies that have the power to undertake all approvals internally.

For example, in Western Australia, the Department of Mines and Petroleum (DMP) is responsible for coordinating exploration approvals and providing a single point of entry for applicants. More complex projects are assigned an individual or team to guide the applicant through the approvals process (WA DMP pers. com. 15 Jan 2013). AMEC, however, expressed the opinion that there is still room for improvement before Western Australia has a true one-stop-shop (trans., p. 49).

South Australia uses a case-management approach to provide one point of contact and to enable regulators to do assessments in parallel. This is facilitated by Memorandums of Understanding and other administrative arrangements, covering water, native vegetation, Aboriginal heritage and environment protection. (sub. DR72, pp. 4–5)

DMITRE is already responsible for coordinating exploration licencing and approvals, via a ‘one stop shop’ or case management type approach, including consultation with all relevant government departments. This process is outlined in the guidelines and information sheets available on the DMITRE Minerals website. (sub. DR72, p. 17)

AusIMM had praise for both the South Australian and Western Australian lead agency models:

South Australia is a really easy system to work with. It's fast, it's responsive. The people that work there seem to know what they're doing. They answer the phone and they answer that day. Western Australia is a close second. They have a good online tracking system so you can see where your tenements are. Just about every other state that I haven't mentioned could learn a great deal from those two areas. (trans., p. 97)

Mineral Resources Tasmania is a lead agency that is empowered to make all the relevant exploration state approvals and consults with other state agencies rather than referring stages of the approval process to those agencies.

Earth Resources Regulation Victoria advises proponents of all the necessary consents and approvals, providing a single point of information, but it does not always coordinate the approval process. The lead agency model in Victoria is currently under review and two questions being asked are whether the role should be more formalised and whether more detailed information about approval processes should be made available to proponents (Vic DPI 2011).

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Despite apparent use of a lead agency model in New South Wales, the NSW Minerals Council highlighted gaps:

Conditions of exploration licences in NSW often necessitate an explorer to sequentially notify or seek approval from a number of differing Government agencies, offices or departments. For example, an approval for a drill program is generally required from the Minister administering the Mining Act 1992. Conditions of the licence might then necessitate notification or approval from the Sydney Catchment Authority, the Office of Environment and Heritage and the Environment Protection Authority (each of which may impose further conditions on the proposed drill program). This slows down and complicates the exploration approval process as well as introducing additional uncertainty to the process. (sub. 11, p. 8)

Queensland has a lead agency and also runs an online business and industry portal that provides information on how to apply for an exploration licence as well as on other topics such as general permit conditions and restrictions. The Queensland Government is considering streamlining the processes for assessment of exploration on public land (sub. DR53, p. 13).

The practice of assigning case managers to complex projects, as in Western Australia, is favoured by explorers but may require additional funding for agencies taking on the lead role. For example, the Northern Territory lead agency does not assign case managers:

With around 600 exploration applications per year it is not possible to assign case managers to guide each exploration ... application through the system. Information on requirements can be readily obtained from the department and assistance is provided on request. There are private agencies which have contracts to case manage exploration applications. (NT Department of Mines and Energy, pers. comm., 12 April 2013)

In Commonwealth waters, the National Offshore Petroleum Titles Administrator is the lead agency and single point of contact for all title-related issues, and the National Offshore Petroleum Safety and Environmental Management Authority is the lead agency for safety and environment matters.

A lead agency is much better placed than an individual explorer to determine the range of approvals that may be required, who they may be required from and the nature of what must be done to gain approval. Inadequate guidance in this area discourages new entrants to the exploration industry in a particular jurisdiction and therefore reduces competition for tenements, by providing an informational advantage to explorers who are already familiar with the system. Up front information helps explorers to avoid delays arising from failing to satisfy unknown or unclear regulatory requirements and from being required to resubmit material to regulators. It also facilitates informed business decisions as to whether to proceed with a project.

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#### RECOMMENDATION 4.3

***Where not already implemented, governments should ensure that at a minimum their lead agencies responsible for exploration proactively guide exploration proposals and related approvals (such as environment and heritage approvals) through the agencies responsible for regulatory assessments and approvals.***

#### **Enforcement**

Regulators have many enforcement tools available to them. These include ‘soft’ tools such as persuasion, inspections and verbal and written warnings as well as ‘hard’ tools such as fines, licence cancellations and prosecution.

Leading practice in the area of regulatory enforcement looks to combine the use of these tools under the concept of ‘escalating enforcement’. Under this model, regulators focus on education and apply punitive measures only for repeated or very serious breaches.

The Commission has been provided with no evidence indicating that unnecessarily burdensome enforcement arrangements are being imposed on explorers. On the contrary, some government bodies, industry, Indigenous and environmental groups have highlighted concerns over ineffective enforcement arrangements or lack of enforcement by regulators.

Without effective assessment and enforcement, conditions placed on exploration activities become ineffective. In one example, it was reported that the regulator did not act upon community complaints of unauthorised discharges of coal seam gas (CSG) water and treated water. The Australian Network of Environmental Defenders Offices pointed out that:

In its May 2012 report, the NSW [Legislative Council] CSG Inquiry concluded:

It is inexcusable that this pollution went undetected by NSW Government authorities, despite community complaints, until [the company that took over the exploration tenement] admitted many months later that a breach had occurred. ... This incident demonstrates the weakness in Government monitoring and enforcement activities ...  
(sub. 17 p. 14)

#### **Time taken for approvals**

Delays associated with approvals processes can impose significant costs on explorers. The climatic conditions in some exploration areas can mean the time period suitable for exploration activity is limited, for example to the cooler, dryer

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months in northern Australia. Delays in approvals processes of only a few months may mean the whole exploration season is lost, and may create difficulties for explorers scheduling their equipment requirements (such as drilling rigs and sonar equipped vessels) in the least cost manner. Delay can also have significant impacts for raising capital, as indicated by a number of participants.

The adage that ‘time is money’ is nowhere more pronounced than in the exploration industry. ... Explorers have small windows of opportunity to actually explore or undertake preliminary studies. If delays ... result in them missing their window, they are often forced to wait until the same time the following year. This is in addition to issues such as inclement weather conditions, drill rig equipment and crew availability and the remote location of the tenement. (AMEC, sub. 24, p. 3)

Small companies, particularly Australian based companies, are almost completely reliant on equity markets to raise funding ... [Investors can be] prepared to take the high risk in terms of the money sometimes being lost, but they can become quite agitated when money just sits in bank accounts because approvals can't be received or there are other issues that are outside the control of the companies ... (APPEA, trans., p. 206)

The Commission received numerous examples of the lengthy time taken to process exploration licence or renewal applications.

- The average approvals time for an exploration licence in Queensland in 2011 exceeded 20 months for coal permits and 25 months for minerals permits (QEC 2012, p. 24).
- New South Wales has a target indicator of 90 per cent of exploration licences assessed within 60 days. However, the NSW Minerals Council said that the average elapsed time is close to 250 days (on the basis of a ‘stop the clock’ approach). It also indicated that even renewing exploration licences can be time consuming, with 5 to 12 months being the most common timeframe (sub. 11, pp. 6–7).
- In Western Australia in the first quarter of 2013, 98 per cent of mineral exploration licences were assessed within the target 65 business days, but none of the petroleum exploration permits met the target of 120 business days (out of five permits finalised) (WA DMP 2013a).
- The DMP has produced a Gantt chart showing that the minimum time it would take to get an approval to explore for uranium in Western Australia would be 358 days (sub. 24, p. 17).

Given the cost of delay, the Commission has made several suggestions to reduce approval times.

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### *Measuring approval timelines*

The first step to reducing timelines is measuring them and setting targets. Making that data public would improve transparency and accountability and ultimately help to improve the timeliness of decisions. The Commission, in its inquiry into upstream petroleum, found that there was:

A lack of clear and certain administrative timelines contained in laws or regulations ... Where timelines do exist for regulators there is a lack of compliance or enforcement mechanisms, and in many cases poor transparency and reporting of regulators' performance against legislative timelines. (PC 2009, p. 228)

Various regulators have introduced, or are in the process of introducing, set timeframes for various stages of approval, and reporting on them. Key examples include:

- the National Offshore Petroleum Safety and Environmental Management Authority has timelines specified in regulations or guidelines (for example, 30 days for environmental assessment, or reasons provided for delay (NOPSEMA 2013))
- the former Department of Sustainability, Environment, Water, Population and Communities (now the Department of the Environment) has statutory timeframes in relation to assessments under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)
- Western Australia provides publically available information and reports on key performance figures, including number of approvals received and processed and the percentage processed within the target timeframe (WA DMP 2013a)
- target assessment timeframes have also been introduced in Queensland, and existing timeframes have been shortened, for example for mineral or coal exploration permits (sub. 25, p. 10)
- in Queensland, environmental assessments under s. 168 of the *Environmental Protection Act 1994* must be made within 20 business days, but the regulator can unilaterally extend it to 40 days and can extend it further with written agreement from the applicant. Performance reporting was introduced in June 2013
- South Australia has expected approval timeframes for environmental assessments, and is considering new performance measures following the implementation of approvals tracking (sub. DR72, p. 17)
- the Victorian Government has committed to introducing statutory timeframes for work plan approvals and variations, and exploration licence approvals (Victorian Government 2013).

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As well as establishing targets, regulators such as the WA DMP periodically assess whether those targets are still appropriate and whether efficiency gains warrant a reduction in the length of the target timeframes.

*Methodological issues with measuring and reporting timelines, including ‘stop the clock’*

In all jurisdictions that report on their timelines, the measurement of the time taken to process an application is suspended (the ‘clock’ is stopped) when the applicant is required to provide more information or the application is being assessed by a different agency. This means that the total elapsed time to acquire a licence often remains unmeasured or at least unreported.

AMEC has called for whole of government timeframes such that the clock would not be stopped while the application was with government (sub. 24, p. 22). Some participants have raised concerns that applicants are themselves the source of a significant proportion of the delay (CCWA, sub. DR44, p. 5; ACF, sub. DR41, p. 3).

One option to improve transparency would be for whole of government reporting to be provided by the lead agency, stating the average time elapsed while applications were being assessed by other agencies, but separating out the time when the regulator was waiting for some action on the part of the applicant.

Reporting should be done as transparently as possible, with methodological information available to describe the design of performance indicators (sub. 24, p. 23). The Commission’s view is that reporting should include:

- the number of applications received and finalised, separated into types of application (for example, exploration licence, environmental approvals and work program approvals)
- percentage of applications meeting target timeframes
- average time taken, separated into total elapsed time, the time the regulator was waiting on further information from the applicant and the time taken by the reporting agency and other agencies.

There is the risk that introducing performance reporting could impose perverse incentives on regulators. For example, performance reporting may encourage regulators to prioritise the assessment of applications that are approaching target timeframes — but no incentive to expedite applications that have already exceeded the target timeframe. As such, performance reporting can be enhanced by reporting both the average and the distribution of assessment times.

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Reporting should be made available electronically on lead agency websites, to promote transparency and maximise public accessibility.

#### *Statutory or mandatory timeframes*

Some participants to this inquiry who have supported the need for target timeframes have suggested that governments go a step further and include timeframes in statutes. These could then be made mandatory, such that an application would be automatically approved if it were not assessed within the set time. For example:

Entrenching approval timeframes in legislation or regulations is required. QRC would go further to recommend that many post-grant approvals, if not decided within a specific time, should be ‘deemed as approved’. (QRC-QEC sub. DR43, p. 3)

The AusIMM supports draft recommendation 3.5 (target time-frames) and suggests a stronger approach of mandatory time-frames that if breached lead to an automatic approval of the application. (sub. DR49, p. 5)

No government in Australia has yet introduced mandatory timeframes or deemed approvals for exploration. As some participants noted in respect of mandatory timeframes:

NSWIC is concerned that the establishment of target timeframes, might reduce the time necessary to conduct thorough risk analysis and impact assessments. (sub. DR50, p. 10)

... people who do the approval and processes should have the confidence to take the time to complete the task properly. (N Pastalatzis, sub. DR71, p. 1)

Both statutory and non-statutory target timeframes already exist for some decisions. Both increase transparency and therefore regulator accountability, however, statutory timeframes have the advantage of being accessible by the community at large. Target timeframes have the advantage of being easier to change as efficiency gains allow them to be shortened.

Deemed approvals, as part of mandatory timeframe regimes, could create perverse incentives and gamed behaviour that may not be in the interests of regulators, industry or other stakeholders.

Overall, the Commission does not support the introduction of mandatory timeframes for the assessment of exploration applications.

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### *The way forward*

Given the ad-hoc progress to date for implementing target timeframes and reporting, the Commission supports the introduction of leading practices in those jurisdictions where they have not yet been fully implemented. This includes jurisdictions that have timeframes for only some processes, or jurisdictions that have stated target timeframes, but do not report on how agencies are meeting those timeframes, or where reporting is inadequate.

#### RECOMMENDATION 4.4

***Governments should ensure that their regulators set target timeframes for their assessment and decision-making processes for exploration licensing and related approvals (such as in relation to environment and heritage). The lead agency for exploration should publish whole-of-government performance reports against these timeframes on their website.***

### **Online approval systems**

Online approval systems have the potential to reduce the regulatory burden on explorers, regulatory agencies and other stakeholders by identifying inefficiencies in current processes and reducing the scope for confusion or misdirected effort. Western Australia started introducing online capabilities in 2009, and Queensland and South Australia have started to introduce online service delivery more recently (sub. 25, p. 9; sub. DR72, p. 17).

#### *Online lodgment*

Online lodgment entails more than sending application forms by email; rather it involves online forms which have ‘validation rules’ which ensure that only valid applications are submitted. For example, the rules embedded in a form would not permit an application to be lodged for an area of land that is not available for exploration. This removes the need for manual checking by the department, and reduces the number of times an application must be sent back to an explorer. Significant time savings were recorded in Western Australia after the introduction of online lodgment (box 4.3). The DMP said that:

Online lodgment provides more certainty and reduces approval timelines for proponents and reduces administrative handling and costs for government. (WA DMP 2013a, p. 2)

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**Box 4.3 Time savings from online lodgment of work programs in Western Australia**

DMP compared the average assessment time for online versus paper program of work applications over a period of nine months. The average number of business days DMP needed to complete the assessment and approval for each lodgment type was:

- online 16.8 days
- paper 21.7 days.

This represents a reduction in assessment time of 4.9 business days for mineral exploration applications. (The target assessment timeline is 30 business days.) A reduction of one week of assessment time represents potentially significant cost savings for industry.

The average time for the proponent to respond to DMP requests for additional information following the lodgment of a program of work application was also analysed. On average the number of days with the proponent was:

- online 7.9 days (time taken by proponent)
- paper 13.1 days (time taken by proponent).

Proponent turn-around time for providing additional information was 5.2 days less for online applications compared to paper applications. DMP also pointed to early indications that online lodgment was improving the overall quality of resource sector applications. This was expected to reduce the need for requests for additional information from the proponent.

Source: WA DMP (2010c).

### *Online tracking*

Tracking systems allow the identification of the stage in the process that an application is at. They also allow regulators to report on their performance, including how many applications are at each approval stage and how long it takes an average application to progress from one stage to another. This allows regulators to identify bottlenecks and redirect staffing and resources as necessary. Tracking can also identify other potential efficiency gains including: steps that can be removed; steps that can take place concurrently; and changes to legislation that are needed to remove unnecessary steps.

In terms of reporting on regulator performance, Western Australia reported that in the first quarter of 2013, only half of the 43 native vegetation clearing permits finalised met the target of 60 elapsed days for assessment. This led the regulator to note that internal restructuring ‘will be managed closely to ensure an improvement in this unacceptable level of performance.’ (WA DMP 2013a, p. 1)

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Clear methodology for calculating timeframes and regular reassessment of the appropriateness of timeframes are important aspects of a reporting system. Post-implementation reviews of timeframes and reporting measures enable stakeholder feedback on how useful and appropriate the measures are. The DMP conducted reviews and made adjustments to timeframes and reporting measures in 2010 and 2012. (WA DMP 2010a, p. 1, 2012, p. 1).

In some jurisdictions, project proponents are able to monitor the progress of their applications online. This enables proponents to organise their own resources when projects are reaching final stages of assessment, and to find out sooner if delays occur.

AusIMM provided examples where exploration licence applications lodged between two and five years earlier were all approved at once, after the company had retrenched half of its geologists, and another case where it was alleged that an application was lost because it ‘fell behind the desk’ (AusIMM trans., p. 99). Online tracking should reduce the risk of such incidents being repeated. Tracking should also significantly reduce the number of calls to regulators for updates on particular applications.

Online tracking assists in standardising assessment procedures. As noted by SRA Information Technology (sub. DR36), online tracking requires the definition of rules and procedures, which enforces consistency. This reduces the risk that assessment officers will not assess applications on the same basis or will impose different requirements on proponents.

#### *Inter-agency cooperation and integration*

Various options are available to integrate electronic systems across government agencies. In Western Australia, the lead agency (DMP) receives applications and forwards them to other agencies, who then have set times in which to respond (sub. 29, p. 9). DMP has implemented, through the approvals tracking system, the capacity to automatically:

- notify the Department of Indigenous Affairs when a mining exploration application has the potential to affect a registered Indigenous heritage site
- forward to the Department of Environment and Conservation all mineral exploration programmes of work that have the potential to affect land managed by that department.

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Ideally, online systems should allow for tracking and reporting across the whole of government. While such functionality is not yet available for exploration applications in Australia, the WA Government has committed to expanding its tracking system and allowing applicants to track the progress of their approvals, regardless of which government agency is evaluating them (WA Liberals nd, p. 5).

### *Other applications for electronic systems*

Once electronic systems are in place, they can be expanded into areas of tenement management to reduce regulatory costs for regulators and applicants. Examples include:

- safety systems that track which site inspections or other actions are required, and that notify the appropriate people and maintain a database of compliance information
- online payment systems — the DMP experienced a 85 per cent reduction in manually processed financial transactions (cheques) after introducing online payment (DMP pers. comm. 8 August 2013)
- links to titles databases, allowing input and retrieval of titles information
- online information on tenement availability and online bidding for tenement areas (WA DMP 2010b, p. 2)
- publicising environmental compliance reporting (WA DMP 2013a, p. 2).

### *Implementation lessons for other jurisdictions*

It is clear that IT systems can be used to reap efficiency gains in a variety of areas. In Western Australia, where these systems are the most advanced, various capabilities were developed and implemented over a number of years. The experience gained through implementing online systems can provide useful lessons for other jurisdictions who may be considering the use or expansion of online capabilities.

- Manual processes should not merely be automated, as the new systems can enable some steps to become redundant (such as manual checking that is replaced by automatic validation).
- Agreement is required for standard terms across divisions and/or departments, such as the meaning of ‘business days’ or ‘stop the clock’. Western Australia noted consistency in terminology as a corollary benefit of introducing public reporting (DMP pers. comm. 12 April 2013). Consistency reduces the potential for misunderstanding and thus facilitates transparency and communication.

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- For jurisdictions that do not have the economies of scale to warrant a full online service delivery, even implementing a process model and requiring stated target timeframes can increase efficiency.

Given the significant difference in the size of the minerals and energy exploration industry in different jurisdictions, the introduction of online capabilities should only progress to the extent that the benefits exceed the costs.

RECOMMENDATION 4.5

*Regulators of exploration activity should expand the use of online lodgment and tracking technologies and develop systems that support integrated performance reporting to the extent that the benefits in their jurisdiction exceed the costs.*

## 5 Land access issues

### Key points

- Governments regulate land access for exploration to:
  - manage and protect the property rights of land owners and lessees, traditional owners and explorers
  - address externalities arising from exploration activities.
- Government decisions to declare new national parks and conservation reserves should draw on the guiding principles contained in the Draft Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources to analyse the costs and benefits of alternative or shared land use, including exploration.
- Governments should, where they allow for consideration of exploration activity, assess an application by an explorer to access a national park or conservation reserve according to the risk and the potential impact of the proposed activity on the environmental and heritage values and on other users of that park or reserve.
- Land holder concerns with exploration activity tend to be greater in areas of intensive cropping and irrigation than in areas of low intensity activity, such as low density grazing.
  - These concerns are most effectively addressed through negotiated agreements between explorers and land holders regarding the terms and conditions of access and any compensation payable by explorers.
- Some jurisdictions explicitly provide for the reasonable legal and other costs of land holders, incurred when negotiating agreements, to be compensable and paid by the explorer. In others, such costs are not explicitly ‘ruled out’. All jurisdictions should ensure that such compensation is available and land holders are aware that it is available.
- Governments have adopted different regulatory approaches to land access for coal seam gas (CSG) exploration (and extraction) in response to: opposition by some groups; a rapid expansion of the industry; and scientific uncertainty as to its impacts. Some of the recent changes to the regulatory framework have been introduced with little consultation with affected parties.
  - The development of CSG exploration regulation should be informed by evidence and be proportionate to the level of risk. It should consider the economic, social and environmental costs and benefits for those directly affected as well as for the whole community.
- Although not a regulatory requirement, there is a wide acceptance that explorers should aim to acquire a ‘social licence to operate’ through the development of good relations with land holders and the wider community.

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This chapter first outlines the regulatory arrangements governing access by explorers to different types of land tenure. The chapter then discusses exploration restrictions on Crown land set aside as parks and reserves, the decision-making process employed when considering establishing parks or reserves and the processes and mechanisms for managing the competing interests of explorers and other high intensity land users, with a particular emphasis on the coal seam gas (CSG) industry.

## 5.1 Land access regimes

Land access for exploration is primarily regulated by state and territory governments. The Australian Government regulates access to Commonwealth land and offshore waters.

The state and territory governments regulate access by explorers to land to:

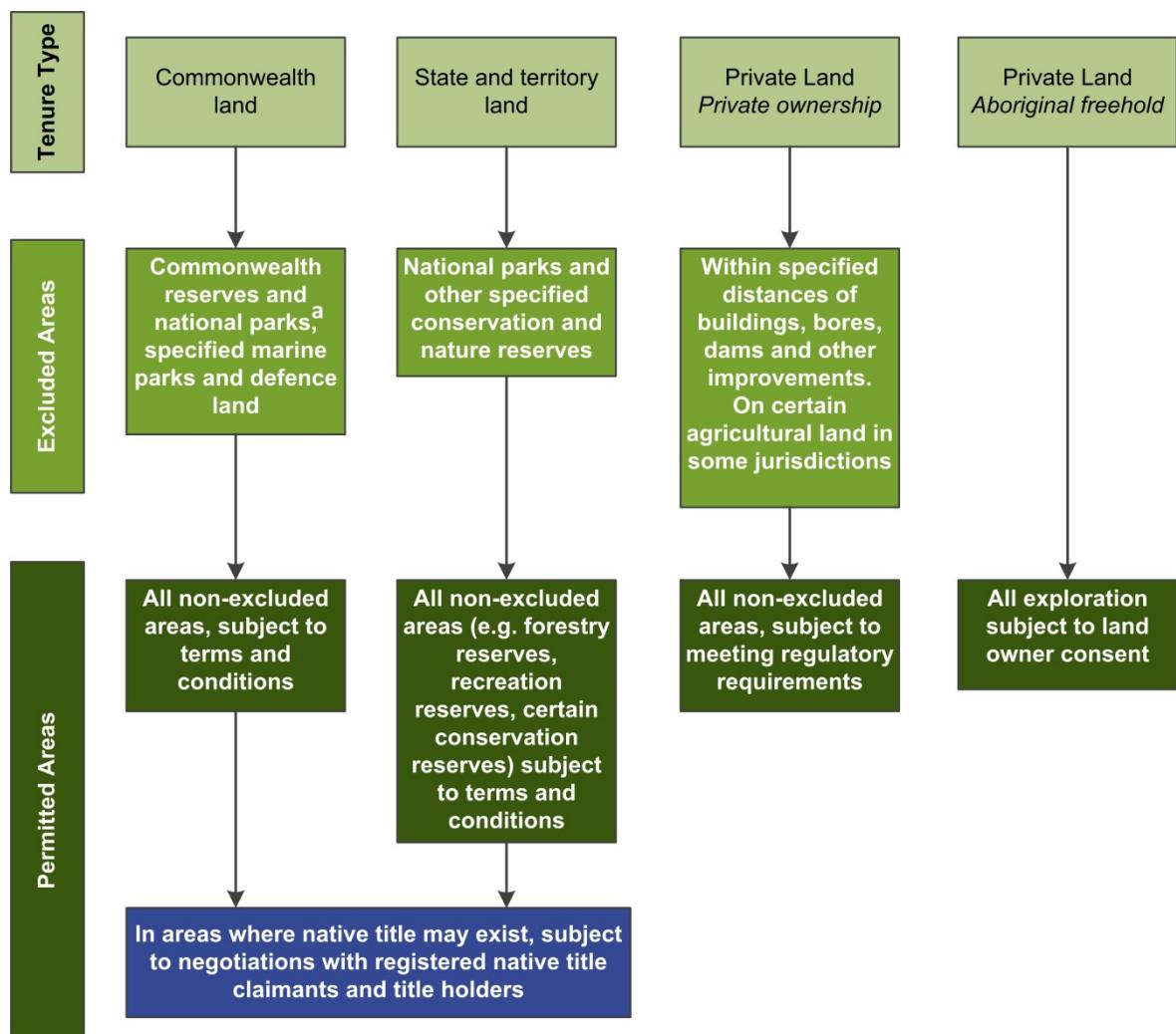
- manage and protect the property rights of land owners, lessees and traditional land owners
- manage and protect the property rights of the explorers (the conditions attached to the relevant exploration licence or permit)
- address externalities arising from exploration activities by prohibiting exploration on particular land or placing conditions on the access to land.

Land access regimes vary by tenure type — Crown land, land leased from the Crown, land subject to native title, Aboriginal freehold land and private land — and to a lesser extent they vary across jurisdictions (figure 5.1 provides an overview of land access provided to explorers by tenure type). Regulation regarding access to each of these different types of land tenure is discussed below.

### Crown Land

The majority of Crown land in Australia is under the control of the states and territories. This Crown land is used for various purposes — pastoral lease arrangements, national parks, conservation reserves, recreation reserves, state forests — or left as vacant or unallocated. Commonwealth land holdings are more limited and are primarily used for defence and aviation (airports) purposes.

**Figure 5.1 Land access for explorers by tenure type**



<sup>a</sup> Exploration is prohibited except in accordance with the management plan in operation for that reserve or national park.

### *Commonwealth land*

Access to undertake exploration activities on Commonwealth land is regulated under the *Lands Acquisition Act 1989* (Cth). This requires an explorer to apply to the Department of Finance (DoF) setting out details of the minerals sought, the intended duration of access and the proposed exploration activities.

Depending on the application, DoF may consult with other Australian Government agencies such as the Department of Defence, the Department of the Environment and/or the Department of Industry. DoF also consults with the relevant state or territory agencies responsible for exploration and resource extraction activities.

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Any terms or conditions attached to the access are typically set out in a deed of access between the Commonwealth and the explorer. The Special Minister of State is the decision maker in relation to exploration on Commonwealth land.

Access to national parks and reserves managed by the Australian Government itself or in conjunction with the traditional owners is regulated under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which prohibits exploration except in accordance with the management plan for that park or reserve.

The Australian Government also regulates access to exploration in offshore waters — this is discussed further in chapter 7.

### ***State and territory land***

The level of access provided to explore on state and territory Crown land depends on the current usage of that land.

Generally, there is a hierarchy of conservation value attached to the different types of parks and reserves, with exploration prohibited on the most environmentally sensitive land. This land is usually reserved as a national park. Key features of the regimes in regard to exploration are as follows.

- Victoria — Exploration is prohibited in national parks and state parks. Exploration in coastal parks and reserves and forest parks requires the consent of both the Minister for Energy and Resources and the Minister for the Environment and Climate Change (Economic Development and Infrastructure Committee 2012).
- New South Wales — Exploration is not permitted in national parks, but is permitted on state conservation reserves subject to the proposal having regard to the natural and cultural values of the reserve.
- Queensland — Exploration is not permitted in national parks and conservation parks, but can be permitted on nature refuges provided the exploration activity complies with the management principles of the area.
- South Australia — Exploration is prohibited in reserves dedicated under the *National Park and Wildlife Act 1972* and the *Wilderness Protection Act 1992*, in the Arkaroola protection area and on land reserved for the preservation of heritage and tourism areas (SA DMITRE 2012).
- Western Australia — Exploration leases cannot be granted in a national park or class A nature reserve without the consent of both houses of the Western Australian Parliament (Environmental Defender's Office of Western Australia 2011).

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- Tasmania — Land categorised as national parks, state reserves, nature reserves and game reserves is excluded from an exploration licence. Exploration licences can be granted on land categorised as nature recreation areas, state forests and public reserves not yet proclaimed (Mineral Resources Tasmania 2012).
  - Northern Territory — Exploration on land declared as a national park or reserve requires the Minister for Mines and Energy to consult with the Minister administering the *Territory Parks and Wildlife Conservation Act 2006* (NT) and take into account their opinion before a tenement can be issued.

Other Crown land set aside for non-conservation uses such as state forests, certain recreation reserves and quarry reserves are usually available for exploration activities. For example, in Queensland, exploration on this land will generally involve consultation and negotiations between the relevant parties to minimise the extent of any adverse impacts due to exploration activities and to maintain the intended purpose of the reserve and its current use (Department of Natural Resources and Mines Queensland, sub. DR53).

Many of the conditions placed on accessing Crown land are to minimise the impact on the activities of existing land users. In South Australia, in the Woomera Prohibited Area — most of the land in this area is South Australian Crown land — a zoning system is used which limits the number of days per year exploration activities are permitted in each zone. For example, the exclusion periods for 2012-2013 require that in the ‘continuous defence use zone’ all exploration is prohibited apart from government geological surveys collecting pre-competitive geoscientific data. In other zones, mineral and resource exploration and production is excluded from between 14 to 70 days in a year. These arrangements are agreed by a joint Australian and South Australian Government coordination office established to administer non-defence use of the Woomera Prohibited Area (Woomera Prohibited Area Coordination Office 2012).

There are codes of conduct in place for exploration on Crown land leased for pastoral purposes and provisions to make good any damages resulting from exploration activities. The conditions which are imposed more closely resemble the conditions placed on explorers to access private land (see below).

## **Native title**

The native title regime provides a further overlay to land access for explorers. The native title regime provides for Indigenous communities to claim their native title rights and interests in the land through the *Native Title Act 1993* (Cth) (NTA). Indigenous people can be granted exclusive possession of, or limited access to, their

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traditional lands for a wide range of purposes that could include hunting, fishing, medicine, accommodation, religion and culture.

The NTA also provides the mechanisms for processing future acts, such as the granting of an exploration licence which may affect native title rights. The NTA is designed to allow a cooperative regime between the Australian Government and the states and territories. While states and territories can elect to use the Australian Government's native title regime, the NTA also enables them to enact complementary regimes provided they are consistent with the requirements of the NTA.

In effect, the native title regime requires explorers to have negotiated an agreement with any native title holders and registered claimants to enable an exploration permit or licence to be issued. If the relevant parties cannot reach agreement through negotiation after six months, any party may apply to the National Native Title Tribunal (or other recognised body) for a determination. The NTA provides native title holders and registered claimants with a 'right to negotiate' with those seeking an exploration tenement, but it does not provide a right to veto exploration.

## **Aboriginal freehold land in the Northern Territory**

Access arrangements for exploration on Aboriginal freehold land in the Northern Territory provide the land owners with effective veto rights over exploration.

The *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) enables traditional owners to refuse access for exploration activities. If refused, the exploration licence is placed in moratorium for five years after which the applicant can reapply. Alternatively, the relevant Land Council can apply at any time to recommence negotiation (Northern Land Council 2012; Northern Territory Department of Primary Industry, Fisheries and Mines 2006).

## **Private land**

Access to private or freehold land for exploration varies by jurisdiction. However, in general terms, there are common features across jurisdictions. These include:

- a requirement to notify the land holder prior to the commencement of exploration
- the negotiation of an access agreement between the land holder and the explorer which determines the terms and conditions of access

- compensation payable by the explorer to the land holder for any loss arising from the exploration activities
- arbitration where land holders and explorers are unable to come to an agreement over land access and, failing that, recourse through the relevant court or tribunal.

The legislative arrangements underpinning explorer access to private land are contained in the relevant minerals and energy legislation in each jurisdiction (table 5.1).

**Table 5.1 Principal state and territory legislation dealing with access to private land**

Jurisdiction	Principal legislation	Administered by
New South Wales	<i>Mining Act 1992</i> <i>Petroleum (Onshore) Act 1991</i> <i>Environmental Planning and Assessment Act 1979</i>	New South Wales Trade and Investment Department of Planning and Infrastructure
Victoria	<i>Mineral Resources (Sustainable Development) Act 1990</i> <i>Petroleum Act 1998</i>	Department of State Development, Business and Innovation
Queensland <sup>a</sup>	<i>Mineral Resources Act 1989</i> <i>Petroleum and Gas (Production and Safety) Act 2004</i> <i>Petroleum Act 1923</i> <i>Geothermal Energy Act 2010</i> <i>Greenhouse Gas Storage Act 2009</i>	Department of Natural Resources and Mines
Western Australia	<i>Petroleum and Geothermal Energy Resources Act 1967</i> <i>Mining Act 1978</i>	Department of Mines and Petroleum
South Australia	<i>Petroleum and Geothermal Energy Act 2000</i> <i>Mining Act 1971</i>	Department for Manufacturing, Innovation, Trade, Resources and Energy
Tasmania	<i>Mineral Resource Development Act 1995</i>	Department of Infrastructure, Energy and Resources
Northern Territory	<i>Mineral Titles Act 2010</i> <i>Petroleum Act 1984</i>	Department of Mines and Energy

<sup>a</sup> The Queensland Land Access Code regulates land access under all resources legislation.

In each jurisdiction, exploration is prohibited within specified distances of buildings, bores, dams and other improvements. Land holders generally do not have the right to veto exploration activities on land outside of these prohibitions.

In some jurisdictions, however, high-value agricultural land is further protected either by providing the land holder with additional property rights over specified land or through the use of specific legislation or planning policies.

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For example, in South Australia, the *Mining Act 1971* requires land holder consent for exploration on cultivated land, orchards, plantations and vineyards. This usually requires the explorer to reach an agreement with the land holder over compensation and other conditions. Where no agreement is reached, the explorer has the option of seeking a determination through the Environment, Resources and Development Court (PIRSA 2011).

In Western Australia, farmers have an effective veto right on exploration for minerals on agricultural land. The Western Australian *Mining Act 1978* requires the written consent of both the owners and occupiers of the land before an exploration or mining tenement can be granted on land regularly used for agricultural purposes including cropping and grazing. This consent only applies to land down to 30 metres below the natural surface of that private land.

Oil and gas tenements are treated differently. The Western Australian *Petroleum and Geothermal Energy Resources Act 1967* limits the requirement to obtain the land holder's consent. Consent is only required from the land holder for exploration on those properties less than 2000 square metres in area, burial grounds and cemeteries and within 150 metres of reservoirs or substantial improvements (Bodenmann et al. nd; Western Australian Farmers Federation 2011).

In Victoria, the *Mineral Resources (Sustainable Development Act) 1990*, provides for the land holder or occupier of agricultural land to apply to the Minister to have that land excised from the licence area (for the purposes of both exploration and extraction). This can occur where the licence holder consents or the Minister decides that there is greater economic benefit to Victoria in continuing to use the land as agricultural land than in carrying out the work proposed in the licence.

In other jurisdictions, specific legislation and planning policies have been introduced to protect high-value agricultural land. For example, in Queensland, Strategic Cropping Land legislation requires that any development activities, including exploration, taking place on such land are required to be assessed by the Queensland Department of Natural Resources and Mines as to the permanent impact on the land. The Queensland Government in June 2013 released draft regional plans for the Darling Downs and Central Queensland which will seek to identify priority agricultural areas. These areas will have agriculture as the priority land use. Other proposed land uses, such as resource development, can only be approved if they do not have a material impact on agriculture (Queensland Department of State Development, Infrastructure and Planning 2013).

Key features of the land access arrangements relating to exploration on private land are summarised in table 5.2.

**Table 5.2 Accessing private land for exploration**

	NSW	Vic	Qld	WA	SA	Tas
Land access arrangement agreed to with the land holder before the explorer can access the land	Yes	Yes	Yes	Yes	No <sup>a</sup>	No <sup>b</sup>
Compensation available to land holders for loss or damage arising from exploration activity	Yes	Yes	Yes	Yes	Yes	Yes
Compensation for legal costs incurred by land holders in negotiating access agreements	Yes	No <sup>c</sup>	Yes	Yes	Yes	No <sup>c</sup>
Compensation for other costs associated with negotiating access agreements	No	No <sup>c</sup>	Yes <sup>d</sup>	Yes <sup>e</sup>	Yes <sup>f</sup>	No <sup>c</sup>
Exploration prohibited within specific distances of buildings and other improvements	Yes	Yes	Yes	Yes	Yes	Yes
Land holder veto over exploration on agricultural land	No	No <sup>g</sup>	No	Yes <sup>h</sup>	Yes <sup>i</sup>	No

Note: The Northern Territory is not included as most private land is restricted to cities and towns. Outside of the urban areas, around half of all land is Aboriginal land and the other half is Crown land under pastoral lease.

<sup>a</sup> Authorisation to enter private land can be provided through the written consent of the land holder or by serving the land holder a statutory form (Notice of entry on land) under the *Mining Act 1971* (SA). <sup>b</sup> No formal agreement is required between the land holder and the explorer before exploration commences. However, where exploration involves ground disturbance, officers from the Department of Infrastructure, Energy and Resources are generally involved in the oversight of exploration activities to ensure that these activities adhere to the work plan. <sup>c</sup> Although there is no specific reference to compensation for legal, or other, costs incurred by land holders in negotiations with explorers, the legislation does not 'rule out' the provision of such compensation. <sup>d</sup> The Queensland Land Access Code provides for the compensation of reasonable accounting and land valuation costs incurred by the land holder. <sup>e</sup> The Western Australian *Mining Act 1978* provides for reasonable legal or other costs of negotiation for private land under cultivation. <sup>f</sup> The South Australian guidelines make specific reference to compensation for legal costs and the South Australian *Mining Act 1971* provides for the reasonable costs incurred by the land holder in connection with negotiations. <sup>g</sup> The Minister can have agricultural land excised from the licence where the economic benefit of continuing to use that land for agricultural purposes is greater than the work proposed in the licence. <sup>h</sup> This applies to mineral tenements, but not to oil and gas tenements. <sup>i</sup> Exploration on cultivated land requires land holder consent. Where agreement cannot be reached, the explorer has the option of seeking a determination through the courts.

Sources: (CMEWA 2011; Department of Infrastructure, Energy and Resources Tasmania 2009; Vic DPI 2010b; Northern Land Council 2012; NSW DTI 2012b; PIRSA 2011; Queensland Department of Employment, Economic Development and Innovation 2012a; WA DMP 2013c).

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## **5.2 National parks and conservation reserves**

National parks and conservation reserves protect specific bioregions, maintain plant and animal diversity, protect rare and threatened species and preserve specific natural and cultural heritage. As noted in section 5.1, jurisdictions vary in their procedures for approving exploration access to parks and reserves.

### **Declaration of new parks and reserves**

Jurisdictions use multiple, but varying, criteria to decide whether to declare an area as a national park or conservation reserve. In general terms, however, the criteria for declaration relate to the conservation values of the area, its natural diversity, its uniqueness, existing cultural heritage features, the degree of disturbance to the area and whether the shape and size of the area are appropriate for its intended purpose.

There is also variation in how governments evaluate the wider costs and benefits of declaring a national park or conservation reserve. Similarly, there is considerable variation in the scope and focus of consultation.

- In Victoria, prior to declaring a national park, the Minister for Environment and Climate Change is provided with independent advice from the Victorian Environmental Assessment Council (VEAC) as to alternative land uses. This advice is developed following a public investigation process (VEAC 2012).
- In New South Wales, where conducted, a regional assessment provides for consideration of the impact of a new national park on the local community (NSW Parliament 2013). The National Parks and Wildlife Service consults with other government agencies that may have an interest in the land proposed as a national park or reservation. Industry bodies such as the NSW Minerals Council may also be consulted.
- In Queensland, there are consultations with interested government departments and other stakeholders before a national park is gazetted (Queensland Department of National Parks, Recreation, Sports and Racing 2011).
- The Australian Government, when establishing marine reserves, consults with industry, the community and scientific experts. They also provide for the Australian Bureau of Agricultural and Resource Economics and Sciences to assess the social and economic impact of creating a reserve (SEWPac 2012c).

Some participants to this inquiry raised concerns about some of these decision-making processes and about the regulations governing access to parks and reserves for exploration. For example, the Minerals Council of Australia (MCA)

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had general concerns with how decisions are made that limit access to land for exploration. In particular, they referred to:

- the failure of governments to appropriately assess all land values in an area and to engage relevant stakeholders in the decision-making framework;
- the lack of reference to multiple and sequential land use options in land use decision making processes. (sub. 27, p. 27)

Similar points were made of the National Heritage listing processes which placed large tracts of land in the West Kimberley within the scope of the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). AMEC said:

In taking such a broad-brush approach, the Commonwealth has made serious errors in ascribing ‘iconic’ heritage values to large tracts of land in the region without any apparent scientific rigor. (sub. 24, p. 20)

The EPBC Act and the National Heritage List are discussed further in chapter 7.

The Standing Council on Energy and Resources (SCER) has endorsed a set of guiding principles under a Draft Multiple Land Use Framework. In relation to ensuring the best use of resources, the Draft Framework states:

Governments should seek to maximise the economic and social benefits of regulated land use for all Australians and future generations through encouraging the multiple use of regulated land, while respecting and protecting environmental, cultural and heritage values. (2012c, p. 11)

The Draft Framework also recommends that decisions on land use should be evidence-based, use risk-based approaches that make clear the consequences of different land uses, and involve the participation of the community and affected land holders SCER (2012c). The Draft Multiple Land Use Framework is outlined in box 5.1.

Although some governments have good practices in place, there is scope for some jurisdictions to draw more fully on the principles underpinning the Draft Framework to inform assessments as to whether or not an area of land should be declared as a national park or conservation reserve. Any assessment should weigh up the costs and benefits to all Australians of the use of the land as a park or reserve (as well as any permitted shared use) compared to the costs and benefits of alternative land uses, including the potential value of any minerals and energy resources in the area. Again with reference to the Draft Framework, any assessment should be conducted in a consultative and transparent manner and involve the participation of local communities, land holders and other interested and affected parties.

### **Box 5.1     The Draft Multiple Land Use Framework guiding principles**

**Coexistence:** The rights of all land users and the potential of all regulated land uses should be acknowledged and respected, while ensuring that regulated land is not restricted to a sole use without considering the implications or consequences for other potential land uses, and the broader benefits to all Australians.

**Best use of resources:** Governments should seek to maximise the economic and social benefits of regulated land use for all Australians and future generations through encouraging the multiple use of regulated land, while respecting and protecting environmental, cultural and heritage values.

**Coordinated preparation informed by effective planning:** Governments should coordinate planning (involving government and industry) to recognise the community's expectations and capacity to adapt to land use change. Effective regional-scale planning establishes clear spatial parameters for multiple and sequential land use over time, providing community and investor certainty while retaining the flexibility to adapt to change.

**Tailored participation of communities and land holders in decision making on land use change:** Participation of communities and land holders should be tailored, targeted and timely. Genuine participation involves communities having the capacity to shape how land use change occurs. Directly affected land holders should be meaningfully informed and consulted in a timely way on multiple land use options and potential for coexistence to promote a greater understanding of mutual benefits and to resolve concerns.

**Engagement and education are paramount to informed debate:** Open and constructive debate and analysis of different multiple land use options should be informed by facts. Stakeholders should be genuine in their willingness to listen and appreciate the views, concerns and needs of other land use stakeholders.

**Decision making:** Evidence-based decision making on land use should be informed by risk-based approaches that make transparent the consequences of different land uses. Accountabilities regarding decision making should be clear and enduring.

**Efficient processes:** Governments should work towards streamlined, transparent and consistent legislated approvals processes in which land access for multiple use is handled in accordance with risk. This includes ensuring that processes define multiple and sequential land use of cross-cutting issues (water, heritage and cultural values) based on the best available evidence and sustainable development principles.

**Access to relevant information:** Relevant information about land and resource capability and values, current and proposed multiple and sequential land use, and land management performance should be accessible to all stakeholders.

Source: SCER (2012c).

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The Commission's draft report proposed that governments should, when deciding to declare a new national park or conservation reserve in recognition of its environmental and heritage value, use evidence-based analyses of the economic and social costs and benefits of alternative or shared land use, including exploration. In doing so, they should draw on the guiding principles of the Draft Multiple Land Use Framework endorsed by SCER.

Some participants expressed concern that the process proposed in the Commission's draft report would make it more difficult to declare national parks and conservation reserves. The Australian Conservation Foundation (ACF) said:

... ACF believes that in practice this recommendation will make it more difficult to declare new national parks and conservation reserves, due to the lack of investment in assessing and articulating environmental values, and an inherent bias in decision-making towards values which are easily monetised. (sub. DR41, pp. 2-3).

NTSCORP called for traditional owners to be recognised as stakeholders in the process of declaring land as national parks or conservation areas. It said:

... Traditional Owners are a major stakeholder group in any discussion concerning Crown Land and the dedication of land as a reserve or park and any change in policy to the way that the land is dealt with. (sub. DR72, p. 3)

Others called for the Commission's draft proposal to be used more widely. For example, the NSW Irrigators' Council (sub. DR50) argued that the process should be expanded to include an assessment of the potential impact of resource extraction on land used for agricultural purposes. The Queensland Resources Council and Queensland Exploration Council (sub. DR, 43) suggested that such assessments be applied to planning systems that sought to extend restrictive and exclusionary zoning. These zoning arrangements are discussed further in section 5.4.

Having considered the various responses to the draft report, the Commission has reaffirmed its views on the appropriate process for decisions relating to the declaration of new national parks and conservation. The first part of Recommendation 5.1, below, refers to this process.

### **Assessing proposals to explore in parks and reserves**

The Draft Framework principles can also be drawn on when assessing proposals for exploration in existing parks and reserves, where jurisdictions allow for consideration of such activity. The assessment process should undertake a risk-based analysis of the impacts of the specific proposed exploration activities on areas of environmental and heritage significance and on other uses and users of those areas.

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The Tarkine National Coalition drew attention to the significant differences in impact of the various forms of exploration activity:

Early stages of mineral exploration, including aerial reconnaissance, surveys and mapping and stream sampling, cause little environmental disturbance. However, the later stages of exploration, which involve cutting of grid lines, and drilling at certain sites, involves the clearing and disturbance of vegetation and the construction of access tracks for drilling equipment. (2012)

Gaps in geoscience knowledge can limit the ability of governments to consider the benefits of other land uses in areas where pre-declaration exploration was incomplete or where subsequent exploration is prohibited. The Association of Mining and Exploration Companies (AMEC) argued:

Restricted access to the conservation estate leaves significant gaps in our knowledge of our mineral resources. AMEC is aware of an example where a series of aerial surveys excluded a conservation estate resulting in a blank spot in the data set. Aerial surveys are a low impact exploration activity. (sub. 24, p. 19)

Assessments of proposals for exploration should recognise that the value of an area can change over time as alternative or shared land uses become more, or less, viable, and technologies evolve that can reduce the impact of different activities, including exploration. As Peabody Energy Australia said in relation to resource extraction:

The need for the resources, change or substitution of land use, technology improvements to achieve less intrusive extraction and processing etc may allow for the extraction of resources in an areas currently considered quarantined from such activity. (sub. DR39, p. 2)

Other participants, in responding to the draft report (ACF sub. DR41, Australian Network of Environmental Defenders Offices sub. DR52 and the Queensland Murray Darling Committee sub. DR46), reinforced the view that there were areas where exploration activities should never be permitted. The ACF said:

ACF submits that it is essential, in the national interest, that some lands be indefinitely excluded from exploration activities – for the good reason that resource extraction will never be permitted there. (sub. DR 41, p. 17)

The Commission considers that restrictions on exploration access to national parks and reserves should be proportionate to the likely level of impact of that activity on the environmental and heritage values of the park or reserve as well as on other shared uses and users, such as tourism operators and park visitors. The Commission endorses the view that:

Evidence-based decision-making on land use should be informed by risk-based approaches that make transparent the consequences of different land uses. (SCER 2012c, p. 11)

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A risk-based approach to access would preserve the values of the park or reserve and, where appropriate, could provide wider benefits to the community from additional activities having access to that land. The Commission is equally of the view that exploration should be excluded from national parks and conservation reserves where it poses an unacceptable risk to their environmental and heritage values.

#### RECOMMENDATION 5.1

*Governments should, when deciding to declare a new national park or conservation reserve in recognition of its environmental and heritage value, use evidence-based analyses of the economic, social and environmental costs and benefits of alternative or shared land use, including exploration. In doing so, they should draw on the guiding principles of the Draft Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources.*

*Governments should, where consideration of exploration activity is allowed, assess applications by explorers to access a national park or conservation reserve according to the risk and the potential impact of the specific proposed activity on the environmental and heritage values and on other uses and users of that national park or conservation reserve.*

### 5.3 Native title and Aboriginal freehold land

#### Native title

There have been concerns raised by explorers that the negotiation process in lands subject to a native title claim can be lengthy and complex and can often involve multiple parties, which in turn can lead to significant delays in gaining access to land.

The Australasian Institute of Mining and Metallurgy said:

Where native title agreements are in place and publicly documented, minerals explorers can successfully access land by entering into Indigenous Land Use Agreements. However, where claims are before the courts, difficulties can be experienced in accessing information and in the negotiation process. Many explorers struggle with the regulatory burden placed upon them in relation to native title. Much of the cost is borne before explorers are able to determine whether recoverable mineral resources are present. This presents a significant disincentive to minerals exploration where there is uncertainty about native title status. (sub. 12, pp. 6–7)

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AMEC commented:

Despite the fact that the *Native Title Act 1993* (Cth) is nearly 20 years old, AMEC understands there are still approximately 450 native claims throughout Australia requiring resolution. Various attempts have been made by governments to streamline the process, however more work needs to be done to reduce the current timeframes and subsequent costly delays. (sub. 24, p. 13)

The Government of Western Australia noted that while there had been a significant increase in average times taken to grant an exploration licence in Western Australia following the introduction of the native title regime, delays are now back to levels similar to those in the early 1990s:

Prior to the introduction of the Commonwealth *Native Title Act 1993* (NTA), in 1994, the average time taken for the grant of an exploration licence in WA was 205 days. After 1994, the average time increased to 542 days. Timelines are now around 200 days but there is a growing cost to industry to achieve this. (sub. 29, p. 3)

A related issue is that the interaction between the native title regime and the protection of Indigenous heritage adds further complexity to land access. This is discussed in chapter 6. The terms of reference for this inquiry specifically precludes the Commission from examining the processes set out in the native title regimes.

## **Aboriginal freehold land**

The Aboriginal freehold land tenure in the Northern Territory provides land holders with the right of veto over exploration. The Northern Territory Department of Mines and Energy said:

Resource companies seeking to work in the Northern Territory are faced with unique legislation in the form of ALRA [*Aboriginal Land Rights (Northern Territory) Act 1976* (Cth)], which applies to approximately 50% of the Territory. Under this Act, Aboriginal clan groups hold inalienable freehold rights to the land and can veto mining. (sub. 2, p. 3)

The Department was critical of the impact of this legislation on exploration:

... the *Aboriginal Land Rights [Northern Territory] Act 1976* [Cth] (ALRA) is considered to be the foremost non-financial barrier to exploration in the Northern Territory. ...

As at 31 January 2013, there were 815 outstanding exploration licence applications, of which 282 were in moratorium (compared with 212 outstanding exploration applications on non-Aboriginal freehold land). (sub. 2, p. 2)

This legislation, including Part IV of the Act which deals with exploration and mining, has been subject to several reviews which, among other things, addressed

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access to Aboriginal freehold land. In response to the various findings, the legislation was amended in 2006 to introduce negotiating periods and timelines for the negotiations between Aboriginal freehold land owners and access seekers. The amendments required a further review of Part IV after five years.

The follow up review was tabled in Parliament in June 2013 and the Australian Government advised that it will undertake consultation with stakeholders on the report's key recommendations (FaHCSIA 2013). The report did not support any change to the existing rights of traditional owners to veto the grant of an exploration licence (Mansfield 2012).

The impact of this legislation (and state indigenous land rights) on exploration activity have been excluded from the Commission's terms of reference for this inquiry.

## **5.4 Managing competing land uses**

Some groups in the agricultural sector, and elsewhere in the community, have expressed objection to explorer's rights to access land, in part out of concern that exploration will in turn result in resource extraction activities. They refer to the potential disruption of agricultural activities and negative impact on soil, water availability and water quality.

The view that exploration is a precursor to resource extraction has more validity where the location, scale and quality of the resource is known, such as large coal seams in well-known geological basins. Brownfield exploration is undertaken in these areas primarily to prove up the size and quality of the resource and there is high probability that extraction will proceed subject to gaining the relevant approvals.

However, for most resources, only a very small percentage of land on which greenfield exploration is undertaken ever proceeds to an extraction operation (NSW DTI 2012b). Resource Futures commented that:

Very few exploration licences transform over time into mining leases, possibly fewer than one in a hundred or even a thousand. (sub. 14, p. 5)

In the case of exploration and agriculture, the exploration activities of the licensee (the holder of the exploration rights) can impact on the property rights of a land holder (the owner and/or occupier of the land and the holder or user of the surface rights).

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The potential for conflict between exploration and agricultural activities tends to rise with the intensity of land use and the magnitude of the potential impact. In sparsely stocked grazing areas, land holder concerns about exploration activity on their land are not as great as in areas where land is intensively cropped and irrigated.

Resolution is normally reached through negotiated agreements between land holders and explorers as to the conditions of access (with a view to minimising disruption and loss of amenity), and the compensation payable to the land holder. Agreement-making is common in all agricultural areas. For example, nearly 3500 land access agreements had been negotiated between land holders and CSG companies across the Surat and Bowen basins in Queensland as at 2012 (APPEA 2012).

AMEC said:

Landholder rights relate to the use of the surface of the land. However access to those mineral rights often means infringing on the rights of the landholder. Therefore negotiation between the owner of the mineral rights and the landholder rights takes place such that the infringement on the rights is appropriately compensated. (sub. 24, p. 8)

One land holder in southern Queensland, Mr Peter Thompson, in dealing with resources exploration said:

The first thought was, we wished it was somewhere else. But we very quickly realised that it wasn't going to go away and that we needed to make it work, so we were actually proactive from day one or day two maybe. Decided we really need to get in there and open discussions with the company, work out what their plans were, let them know what our needs were and take it from there. (ABC 2012, p. 1)

Early consultations between the explorer and the land holder as to the scale and scope of the proposed exploration, prior to any formal negotiations commencing, can play a key role in diffusing any potential conflict. In highlighting the importance of the initial contact, the Minerals Council of Australia, Victorian Division said:

... it is accepted that the first approach to a landowner should be in person and at the front door where the project can be explained and the intentions of the explorer discussed. (2011, p. 34)

## **The land holder's perspective**

One of the sources of land holder concerns is uncertainty. Uncertainty may relate to the potential impacts of exploration activities on agricultural production, to whether

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exploration will result in resource extraction, and to how farmers plan their future agricultural activities.

There was also some concern from land holders that the legislation places limits on what the compensation payments cover. The NSW Farmers Federation, for instance, was concerned that compensation in that state for legal costs was capped and limited to the initial stages of the negotiation of an access agreement (sub. 21).

Some participants argued that the loss of visual amenity in regard to the location of exploration wells and the time and stress of dealing with explorers proposing to access their property should be compensable (sub. 18).

There are also calls by the Senate Standing Committee on Rural Affairs and Transport (SSCRAT 2011) for compensation to take into account the involuntary nature of the arrangements on the land holder's part as it is the explorer who initiates the arrangements. The Basin Sustainability Alliance (sub. 18) similarly noted the involuntary nature of the arrangements.

### **The explorer's perspective**

Some explorers argued that the restrictions on their ability to access all the available land on an exploration lease, such as land near structures and on land used for certain agricultural purposes, limits their property rights relative to those of the land holder. SACOME (South Australian Chamber of Mines and Energy) said:

Contrary to the perception that the rights of exploration companies exceed the importance of food and fibre production and that farmers have little option but to agree to this ‘interference’, mining legislation does give farmers options and does protect farmland (i.e. the exempt land provisions in section 9 of the *Mining Act 1971*). (sub. 9, p. 5)

Explorers have pointed out that exploration activities generally have a low impact on the surrounding environment. SACOME commented:

Exploration and farming are not necessarily mutually exclusive. Early exploration activities are relatively flexible and short lived, involve relatively few people, mobile equipment and can be managed so that activities occur outside critical farm programs or the cropping season. (sub. 9, p. 4)

Peabody Energy Australia said:

Generally, exploration activities have temporary and generally low impact on the land, can often be located in a position that avoids or minimizes interference with other activities on the land, and the surface disturbance heals over time. (sub. DR39, p. 2)

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The Queensland Resources Council considered that the land access framework contained in the Queensland Land Access Code (which contains both mandatory conditions for explorers as well as voluntary guidelines) focused on maximising compensation rather than on building effective working relationships between resource companies and land holders:

Unfortunately, a perverse outcome of Queensland's land access laws is that the land access process has become focused on maximizing compensation with little priority on building effective working relationships to ensure there is a minimal impact on the landholder business or enjoyment of the land. (sub. 13, p. 3)

### **Negotiations between explorers and land holders**

In general, across jurisdictions, agreements are reached between explorers and land holders through negotiations on the conditions of access and the compensation payable to the land holder. The requirement to provide compensation for any damage or loss of earnings gives the explorer a financial incentive to minimise the impact of their activities.

As noted by SSCRAT (2011), land access is based on a business arrangement between two entities, both with legal rights and reasonable expectations. Such arrangements can be assisted through early consultation between the parties to ensure the land holder is aware of the nature and extent of the proposed exploration prior to entering into negotiations. Where negotiations break down, there is recourse to the relevant Land Court or Mining Court to seek enforceable outcomes.

Land Court or Mining Court decisions are limited to the conditions of access and compensation matters and not to the explorer's access to the property as such. The rights generally conferred on land holders over their land do not provide for them to deny access to exploration activities, but only to negotiate the conditions of access.

However, it appears that only a few access-related matters end up being determined in the relevant Mining or Land Court. SACOME said:

The ERD [Environment, Resources and Development] Court has the powers to authorise access, subject to conditions and make determinations relating to compensation. However since 1994 there are very few examples of companies seeking such orders either from the ERD or Wardens Courts. (sub. 9, p. 5)

That few matters are referred to the relevant court process may indicate that, from the explorer's perspective, court action could be detrimental to establishing good relations with the land holder and to acquiring a 'social licence' to operate from the broader community. This is discussed further in section 5.5.

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Most rural land holders are at some disadvantage in undertaking negotiations with explorers. There is an asymmetry of experience as most land holders will have little or no previous experience in negotiating access agreements and compensation — such negotiations will most likely be a ‘one-off’. There is also an asymmetry of information regarding the potential impact of the exploration activity. The land holder will have limited knowledge and experience from which to evaluate the impact of exploration activities on rural land.

Further, there is an imbalance of power due to the involuntary nature of the negotiations. In most jurisdictions the legislative framework requires land holders to allow explorers to access their land, subject to the negotiated terms and conditions of the access agreement.

The NSW Irrigators’ Council commented that:

The expertise, financial capacity and time available to mineral and other energy resource entities are significantly larger than for individual land holders. (sub. DR50, p. 11)

NTSCORP said:

Stakeholder groups such as landholders, particularly Traditional Owners, are at a financial and social disadvantage compared to explorers and resource extraction proponents. As such, their capacity to seek outcomes that effectively protect their interests is extremely limited. (sub. DR72, p. 5)

The regulatory framework in Western Australia is the exception to this imbalance of power. As noted in section 5.1, Western Australian legislation requires the consent of the individual land holder to mineral exploration on land used for cropping or pasture. Bodenmann et al. (nd) claimed that the Western Australian legislation has provided an avenue for land holders to negotiate substantial payments with resource companies, with compensation more likely to reflect the value of the resources than the value of personal disturbance and the agricultural activity that has been displaced.

A number of jurisdictions explicitly require explorers to compensate land holders for the legal and other costs incurred in undertaking land access negotiations (in addition to the compensation payable by the explorer for any loss or damages resulting from the exploration activities). For example, the Queensland Land Access Code refers to compensation for the legal, accounting and land valuation costs incurred by land holders in negotiating an agreement. The South Australian guidelines make specific reference to compensation for legal costs and the South Australian *Mining Act 1971* and the *Petroleum and Geothermal Energy Act 2000* provide for the reasonable costs incurred by the land holder in connection with negotiations to be compensated. The Western Australian *Mining Act 1978* provides

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for reasonable legal or other costs of negotiation for private land under cultivation to be compensated.

In New South Wales these costs are limited to legal costs. The New South Wales *Mining and Petroleum Legislation Amendment (Land Access Act) 2010* makes financial compensation available to the land holder for reasonable legal costs (a maximum cost is set by the Director-General of the Department of Trade and Investment in concurrence with the NSW Farmers Association and the NSW Minerals Council). In Victoria and Tasmania, although there is no specific reference to such compensation in the legislation, its provision is not ‘ruled out’.

Given the asymmetries in experience and information and the involuntary nature of the negotiations for land holders, the Commission considers that compensation should be available to meet the reasonable legal and other costs, such as valuation and accounting costs, incurred by the land holder, as the owner or occupier of that land, in negotiating any access agreement. As the negotiations to develop an agreement are initiated by the explorer, were the explorer to withdraw from the negotiations prior to concluding the agreement, the reasonable costs incurred by the land holder up to this point should also be compensable by the explorer.

#### RECOMMENDATION 5.2

***State and territory governments should ensure that:***

- ***reasonable legal and other costs incurred by land holders in negotiating a land access agreement are compensable by explorers, including where the explorer withdraws from the negotiations prior to finalising the agreement***
- ***land holders are made aware that such compensation is available.***

***Aligning compensation provisions in minerals and energy legislation with land acquisition legislation***

The Australian Property Institute (API) has proposed that the compensation provisions in the New South Wales *Petroleum (Onshore) Act 1999* and *Mining Act 1992* for affected land holders should be aligned with the compensation provisions in the New South Wales *Land Acquisition (Just Terms) Compensation Act 1991*. It said:

... there need to be amendments made to the New South Wales Petroleum (Onshore) legislation and the mining legislation to reflect what is set out in sections 54, 55 and particularly 59 of the Land Acquisition (Just Terms Compensation) Act. (trans., p. 161)

Very few matters relating to land access and compensation proceed to the relevant Mining Warden’s Court or Land Court. One of the few cases that went before the

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NSW Mining Wardens Court was *Halfpenny Investments Pty Ltd v Sydney Gas Operations Limited (Mining Warden)* 2003/44. The explorer, Sydney Gas Operations, sought to obtain an access and compensation agreement with Halfpenny Investments, the owner of a property, Mt Taurus, over which Sydney Gas Operations held a petroleum exploration licence. As the parties were unable to reach agreement, the matter went to arbitration and then to the Mining Warden's Court.

The land holder put forward a compensation figure to the Court from a certified valuer which drew on compensation decisions made by the New South Wales Land and Environment Court in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW). The Mining Warden's Court noted that the objective of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) was to justly compensate individuals and others for the acquisition of their land. In contrast, the *Petroleum (Onshore) Act 1991* (NSW) stated that where it is necessary to provide compensation, the compensation is to be for the loss caused or likely to be caused by the licence holder. The Court found that these two Acts were compensating individuals in respect of entirely different circumstances (*Halfpenny Investments v Sydney Gas Operations Limited (Mining Wardens)* 2003/44).

The API's view was that the Mining Wardens Court did not have the expertise in the area of compensation:

... I would assume their expertise is in the area of mining and exploration and production. It's certainly not in an understanding of compensation. (trans., p. 159)

The API suggested that such matters be dealt with in the NSW Land and Environment Court:

So really what should happen is, the home for appeals and compensation should end up in the hands of the Land and Environment Court of New South Wales as the court of decision in relation to compensation. It's the wrong place in the Mining Wardens' courts. (trans., p. 164)

The New South Wales Department of Finance and Services is currently reviewing the Just Terms Legislation. The Commission considers this is the most appropriate forum to examine whether or not compensation under New South Wales mining legislation and onshore petroleum legislation should match that provided under that jurisdiction's land acquisition legislation. It also notes that the Mining Warden's jurisdiction was transferred to the NSW Land and Environment Court in 2009.

## **Coal seam gas**

Various land holder and other community groups have expressed concerns over land access for CSG exploration. These concerns relate to the potential for

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contamination of groundwater, reduction in groundwater and the safe disposal of waste water on the surface. Another set of concerns is the impact of gas wells and other related infrastructure on agricultural activities, particularly on intensively cropped land. In residential and urban areas, in addition to the broader impact on groundwater and the safe disposal of waste water, the concerns tend to focus on health-related issues from lower air quality and fugitive emissions, issues of amenity and the visual impact of CSG activities on the surrounding landscape (box 5.2).

Many people in the community do not differentiate between CSG exploration and CSG extraction, as both involve extensive drilling over large areas.

The CSG industry, unlike other resource activities, does not have a long history in Australia. It has been operating in Queensland since 1996 and is beginning to expand in New South Wales. In 2012, Queensland had nearly 4000 active CSG wells compared to just under 250 in New South Wales (APPEA 2012). In Victoria, the other jurisdiction with potentially large CSG resources, there has been a moratorium on the issuance of CSG exploration licences since 2012 and there is currently no CSG extraction taking place in that state (Baillieu 2012). Some exploration has been undertaken in other jurisdictions, but extraction has yet to commence.

The Energy White Paper (DRET 2012) noted that most of the areas, and therefore the land holders and communities, where CSG exploration and extraction is now occurring have had little previous involvement with the resource sectors.

In Queensland, until more recently, CSG activity has been on land primarily used for grazing and broad acre cropping activities. However, as CSG development has extended onto more intensively cropped land on the eastern Darling Downs, opposition to CSG has increased (Basin Sustainability Alliance, sub. 18). The Queensland Department of Natural Resource and Mines advised that:

In Queensland the experience has been that a boom in CSG and coal exploration in more closely settled, and higher value agricultural areas of the Darling Downs has seen concern levels heightened with agricultural stakeholders and landholders. This is also compounded by the fact that unlike some other parts of the State (North West Queensland, Bowen Basin) there is not a significant history of co-existence of the two sectors. (sub. 25, p. 17)

## **Box 5.2      Concerns relating to CSG activity**

The extraction of CSG involves depressurising the coal seam by removing water in the seam. As the water is pumped from the seam, the pressure is lowered and the gas is released. The water extracted from the coal seam, known as co-produced water, can vary in quality from potable to brackish or saline (SCER 2012c).

The impact of CSG development on groundwater resources, as noted by SCER (2012c), is ‘a significant source of community concern’. It identified the following as the key issues for water management in CSG activities:

- depressurisation of coal seams potentially affecting surrounding aquifers;
- contamination of surface water or groundwater;
- management (recovery, storage, transport, treatment and disposal) of produced water and post-treatment wastes and by-products;
- beneficial use of produced water (including reinjection); and
- safe decommissioning of wells ensuring long-term aquifer integrity (SCER 2012c).

There is also concern as to potential chemical contamination of water resources from:

- the introduction of chemicals in fracking [hydraulic fracturing] fluid or the drilling fluids and muds
- mobilisation of chemicals located within the coal seam
- transport of chemicals between strata
- spillage at the surface with leaching into surface aquifers (NSW Chief Scientist & Engineer 2013, pp. 68–69).

A further concern relates to the potential for surface subsidence to occur from the removal of water from the coal seam and the use of hydraulic fracturing (NSW Chief Scientist & Engineer 2013).

The placement of wells, access roads, pumping stations, pipelines and storage dams can impact on farms operations. Concerns relate to: CSG infrastructure impeding the efficient use of cropping machinery in cultivated areas and the movement of stock and irrigation equipment; and adverse effects on those farming operations producing organic product or promoting their product as ‘clean and green’ (NSW Parliament 2012).

CSG resources can be near to, or even under, residential areas. In addition to the potential impact on groundwater and the safe disposal of waste water, concerns relate to: impacts on health from lower air quality and fugitive emissions; the loss of amenity resulting from the noise, dust and traffic created by these activities; and the visual impact of CSG infrastructure on the surrounding landscape (NSW Parliament 2012; Willoughby City Council 2012).

A broader concern relates to the impact of continued fossil fuel use on the environment.

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In New South Wales, CSG development has been on land used for intensive agriculture activities and on closely settled land. CSG development has centered on the Hunter Valley on land that is widely used for vineyards, tourism and horse breeding as well as in south-west Sydney in proximity to residential areas. Further exploration is also being undertaken in northern New South Wales in the Gunnedah Basin as well as in north-eastern areas of the state in the Clarence Moreton basin.

#### *Different regulatory approaches*

There are different approaches to the regulation of CSG activity in Queensland and New South Wales. Queensland has mostly relied on generic resource and minerals regulation whereas in New South Wales there has been a focus on introducing regulation specifically directed at CSG exploration activities. However, both jurisdictions have established government bodies to specifically deal with CSG-related issues.

Under the Queensland Land Access Code, land holders retain veto rights over all exploration activities on land within 100 metres of buildings and within 50 metres of a stockyard, bore, dam, other water storage or place of burial. Queensland has also established urban restricted areas where all resource activity require the written consent of the relevant local government. These areas cover all towns with a population of over 1000, include a 2 kilometre buffer zone and are to be integrated into the planning system (Queensland Department of Employment, Economic Development and Innovation 2011).

In April 2013, the Queensland Parliament passed legislation to establish an independent statutory body, the Gas Fields Commission, to manage and improve coexistence between rural land holders, rural communities and the CSG industry. Its Commissioners are drawn from community leaders and rural land holders in areas where the CSG industry operates and includes gas industry representation. The Commission has no regulatory or policy role, although it can provide advice on proposed legislation for the onshore gas industry (Gas Fields Commission 2013).

The New South Wales Government, in September 2012, announced a strategic regional land use policy containing a number of specific measures to regulate land access by CSG explorers and other CSG-related activities. A Land and Water Commissioner has been created in New South Wales to oversee implementation of a standard CSG land access agreement and advise on access issues.

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Other requirements targeted at CSG exploration in New South Wales include an Agricultural Impact Statement to be undertaken at the exploration stage to detail the impact of the activity on agricultural resources, farm businesses and regional communities. An Aquifer Interference Policy has also been introduced, requiring exploration activities taking in excess of 3 megalitres of water per year to hold a water access licence, as well as new drilling codes for CSG exploration and a draft code of practice for CSG explorers (New South Wales Department of Planning and Infrastructure 2012).

In February 2013, the New South Wales Government announced additional regulatory measures. They included a 2 kilometre exclusion zone around residential areas for new CSG exploration and production, exclusion zones for specific land uses such as viticulture and horse breeding and the establishment of a specialist regulator, the Office of CSG Regulation (O'Farrell 2013).

#### *Concerns surrounding CSG regulation*

The recent changes to the regulation of CSG activities in New South Wales have attracted criticism from some participants to this inquiry.

The Australian Petroleum Production and Exploration Association (APPEA) commented that the introduction of the exclusion zones for specific land uses such as viticulture and horse breeding was reactive and without any scientific basis:

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. (sub. 22, p. 17)

Metgasco said:

- there is no scientific basis, nor is there any risk management justification to support the proposed 2 km exclusion zone – it is nothing more than an arbitrary, politically based imposition on the CSG industry and the more than one million NSW gas customers who rely on competitive natural gas supplies. (Metgasco 2013, p. 1)

However, environmental groups such as the Nature Conservation Council of New South Wales called for further action:

The government must seize the opportunity to respond to well-founded community concerns about unrestrained mining and gas expansion by placing a moratorium on CSG development and delivering real protection for public health, water resources and natural areas. (2013, p. 1)

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The NSW Chief Scientist and Engineer's initial report on the Independent Review of Coal Seam Gas Activities in New South Wales highlighted the regulatory concerns of those opposed to CSG development as well as the concerns of the CSG industry itself:

Groups concerned about CSG are often distrustful of Government's intentions and believe that Government is not concerned about the issues that worry them. They cite lack of enforcement of legislative compliance, lack of baseline and ongoing data collection, and an unwillingness to punish non-compliance. The CSG industry on the other hand is concerned about what it sees as a constantly changing regulatory and legislative regime. (NSW Chief Scientist & Engineer 2013, p. 128)

It also noted that both opponents and proponents of CSG development found the legislative and regulatory arrangements around CSG to be problematic:

The Review has heard argument from both sides of the debate that the legislation and regulations around CSG in NSW are complex and opaque. This situation can lead to considerable regulatory burden for those needing to comply and those judging compliance, and can conceivably lead to gaps, overlaps, contradictions, and wasted time in inefficient oversight. (NSW Chief Scientist & Engineer 2013, p. 27)

### *An evolving regulatory framework*

The regulatory frameworks governing CSG exploration have been changing quickly. These changes stem from the pressures generated by the rapid expansion of the industry, uncertainty as to the impacts of CSG activities and concerns and opposition from some parties. Strongest opposition to resource exploration (and extraction) is usually from a number of the land holders directly impacted and some special interest groups. Little opposition or support has been expressed by the broader community, for whom potential benefits such as taxation, royalty payments, employment and long term gas supply are also considerations.

Faced with these pressures, governments have searched for appropriate regulatory responses. The Australian, New South Wales and Queensland governments have commissioned a range of research into the impacts of CSG exploration and extraction to inform improvements with the regulation of CSG. For example, an expert Committee, the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development, has been established under the EPBC Act to provide independent scientific advice to governments. CSIRO, in conjunction with the gas industry, is undertaking a range of research on CSG activities. The Queensland Water Commission is developing regional groundwater models. Further research activities have been announced, such as the review by the New South Wales Chief Scientist and Engineer to identify any gaps in the known risks arising

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from CSG activities on human health, the environment and water catchments (O'Farrell 2013).

There is some evidence that improved regulatory frameworks in relation to CSG activities are being established, and that they could be a precursor to improved regulatory practice. The Standing Council on Energy and Resources (SCER) has developed a framework of best practice CSG regulation to guide regulators, the National Harmonised Regulatory Framework for Natural Gas from Coal Seams, as well as the afore-mentioned Draft Multiple Land Use Framework (box 5.1).

SCER's framework of best practice CSG regulation provides guidance on what constitutes leading practice in the core areas of well integrity, water management and monitoring, hydraulic fracturing and chemical use. This framework emphasises the importance of regulatory regimes to be informed by scientifically-driven evidence and reflect a risk-based approach to managing concerns (SCER 2012c).

The Commission supports efforts to improve the regulation of CSG exploration. Further regulatory changes should be based on the best available evidence of the impacts and be appropriate to the level of risk. As set out in the Draft Multiple Land Use Framework (box 5.1), land use decisions should be directed towards promoting the economic, environmental and social benefit of the use of the land for the whole community, including at the state and national level.

#### RECOMMENDATION 5.3

*Governments should ensure that the development of coal seam gas exploration regulation is evidence-based and is appropriate to the level of risk. The regulation should draw on the guiding principles of the Draft Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources to weigh the economic, social and environmental costs and benefits for those directly affected as well as for the whole community, and should evolve in step with the evidence.*

## 5.5 Social licence to operate

Throughout the course of this inquiry, the Commission has been informed of the need for explorers to achieve a social licence to operate (SLO). A SLO is not a regulatory requirement, but refers to community acceptance:

An operation is said to have a social licence when it achieves ongoing acceptance or approval from the local community and other stakeholders who can affect its profitability. (Lacey, Parsons and Moffat 2012, p. 1)

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While most explorers understand the importance of a social licence, the Commission is aware of situations where explorers or their subcontractors have lacked the skills or motivation to obtain community support. On Common Ground Consultants Inc (2007) identified a number of reasons why this may be the case.

- In the past, it has been considered unnecessary for explorers to invest in activities not central to finding resource deposits, especially given limited capital.
- The training and experience of personnel who work in resource exploration is heavily weighted towards technical and scientific knowledge, with a lesser knowledge of social and socio-economic matters. Many of the workers are also employed on a temporary subcontract basis and may have little incentive to develop and maintain relationships with the local community.
- Some (mainly junior) explorers view their work as transitory, selling on the rights to any discoveries they find, and therefore view a SLO as unimportant.
- In the past, explorers have had a need for secrecy and transparent discussions with stakeholders were viewed as being detrimental to this requirement.

Maintaining good working relations with neighbouring land holders and the wider community is good business practice, and the breakdown of such relationships can hamper exploration.

One global trend that has evolved rapidly over the last five years is the need for a new standard for the relationship between resource development and the populations directly impacted by the project. ... Communities want a voice in their future, to participate from the earliest stages and, for a variety of reasons, feel empowered to demand performance from international companies. Coupled with this is a growing awareness by major companies, banks, and the multilateral financing institutions, that social problems pose significant risks of project disruption and delay, and therefore financial risk. (Thomson and Joyce nd, p. 1)

Ernst and Young (2013) identify the maintenance of a SLO as the sixth highest risk faced by mining and metal companies in 2012-13, ahead of other risks such as price and currency volatility, capital management and access and competing demands for land use.

Through interviews with industry representatives, Lacey et al. (2012) explored whether there was a role for government in assisting firms in gaining a SLO and found that:

... government again was painted as a potentially problematic partner in SLO, with its involvement seen by respondents to complicate matters. (2012, p. 10)

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The Commission considers that the onus to develop a SLO lies with the resource explorers. However, there is merit in governments providing broad guidance on best practice community engagement.

To this end, in 2005, the Ministerial Council on Mineral and Petroleum Resources (MCMPR 2005) released Principles for Engagement with Communities and Stakeholders. These principles were designed to ‘help people in the resources sector improve their engagement skills’.

The principles centre on five core themes:

- communication — open and effective engagement that involves both listening and talking
- transparency — clear and agreed information and feedback processes
- collaboration — working cooperatively to seek mutually beneficial outcomes
- inclusiveness — recognise, understand and involve communities and stakeholders early and throughout the process
- integrity — conduct engagement in a manner that fosters mutual respect and trust.

The Commission views these principles as a useful foundation for those organisations who recognise the benefits of obtaining a social licence to operate and are seeking guidance on best practice.



# 6 Heritage protection

## Key points

- While all forms of heritage (historical, natural and Indigenous) can be impacted by exploration, Indigenous heritage policy issues are the most pronounced.
- All states and territories have dedicated legislation to protect Indigenous heritage, but there is variation in how Indigenous heritage is defined, how it is protected from the impacts of resource exploration and who makes decisions on heritage matters.
- Participants raised a number of concerns, at times conflicting, including:
  - inadequate protection of Indigenous heritage
  - overlap between Commonwealth and state/territory legislation
  - inadequate heritage registers and associated information problems
  - costs of conducting cultural heritage surveys, particularly when the area has been surveyed previously
  - delays in identifying, consulting and negotiating with Indigenous parties.
- Recent reforms by various jurisdictions include increased consultation and involvement of Indigenous representatives in heritage decision making, alignment of heritage legislation with native title and increased fines for unintentional damage.
- Overlap between the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and state/territory legislation needs to be addressed. Accreditation of appropriate state and territory regimes can resolve the issue.
- The building of better Indigenous heritage registers is necessary for greater expediency in heritage processes and for avoiding unnecessary cost.
- Indigenous heritage protection should be based on risk management processes.
  - Where the risk of harming heritage is low, a streamlined ‘duty of care’ or ‘due diligence’ process will prevent an unnecessary regulatory burden for explorers.
  - Where Indigenous heritage is of high significance, and the activity is higher risk, negotiated agreement making should be adopted.
- Negotiated agreements between explorers and Indigenous parties are likely to produce better outcomes for heritage protection than systems which rely on ministerial or departmental authorisation for exploration.
- However, agreement can be difficult to reach when issues are contentious or when either party lacks the necessary financial resources or expertise. A neutral third party facilitation process may be able to improve outcomes.
- When facilitation is unsuccessful, government decisions to allow exploration to proceed should be based on clear decision-making criteria, transparency and consultation with the proponent and Indigenous parties that have authority to speak for country.

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This chapter commences with a summary of the types of heritage and their regulatory frameworks. The main focus of the chapter is on Indigenous heritage issues that relate to exploration. The chapter also discusses historic heritage issues. Natural heritage issues are discussed in chapter 5 (exploration in national parks) and chapter 7 (in relation to the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)).

## 6.1 The regulatory framework

### What is heritage?

Heritage includes artefacts, tools, historical sites, myths surrounding natural features, stories, traditions, languages, events and experiences inherited from the past. It comprises both natural and cultural places with tangible and intangible values. Resource exploration has the potential to damage, destroy or lead to the relocation of some features of heritage or cause indirect pressures, such as loss of access to a heritage place.

The Australian heritage system identifies three types — Indigenous, historical and natural heritage (State of the Environment 2011 Committee 2011).

- Indigenous (Aboriginal and Torres Strait Islander) heritage extends over tens of thousands of years. As well as being historically important, Indigenous heritage is of continuing cultural significance. It has both tangible and intangible dimensions:
  - tangible Indigenous heritage includes burial sites, rock art, carved trees, middens and scatters of stone tools
  - intangible Indigenous heritage relates to places where there may be no physical evidence of past cultural activities. It includes places of spiritual and ceremonial significance, landscapes, important waters and trade and travel routes. Significant sites are often associated with stories of the dreamtime or with initiation, mortuary and other ceremonies. Generally, information about such places is passed down orally from one generation to the next.
- Historical heritage relates particularly, to the occupation and use of the Australian continent since the arrival of European and other migrants. It includes remnants of early convict history, pastoral properties and small remote settlements, as well as large urban areas, engineering and mining works, factories and defence facilities.

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- Natural heritage refers to land and environmental heritage. It includes areas of land which have aesthetic, historical, scientific or social significance, or other special values for the present and future community. Such places may include national parks, reserves, botanic gardens and private conservancies, as well as significant fauna and flora habitats, landscapes or geological sites.

## Laws and regulations protecting heritage

Australia has a complex set of laws governing heritage protection. As well as Commonwealth heritage statutes there are heritage Acts in each state and territory. There are also state environmental and development laws and local government by-laws that allow for the protection of heritage places and objects. While all forms of heritage — Indigenous, historical and natural — can be impacted by exploration activities, policy challenges are most pronounced for Indigenous heritage — the primary focus of this chapter.

Heritage protection is primarily the responsibility of the states and territories. Most jurisdictions have both historical and Indigenous heritage Acts while regulation relating to natural heritage is often embodied in environmental legislation.

New South Wales and the ACT are the only two jurisdictions that do not have a specific Act dedicated to Indigenous heritage. In New South Wales, the *Heritage Act 1977* allows for Indigenous places to be nominated to the New South Wales Heritage Register. Indigenous heritage is also incorporated into sections dealing with archaeological materials in the *National Parks and Wildlife Act 1974*. In the ACT, Indigenous heritage is incorporated into the *Heritage Act 2004* (ACT) (table 6.1).

**Table 6.1 Principal state and territory heritage legislation**

Jurisdiction	Principal legislation	Administered by
New South Wales	<i>National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996</i> <i>National Parks and Wildlife Act 1974</i> <i>Heritage Act 1977</i>	Office of Environment and Heritage
Victoria	<i>Aboriginal Heritage Act 2006</i> <i>Heritage Act 1995</i>	Department of Planning and Community Development
Queensland	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i> <i>Queensland Heritage Act 1992</i>	Department of Aboriginal and Torres Strait Islander and Multicultural Affairs
Western Australia	<i>Heritage of Western Australia Act 1990</i> <i>Maritime Archaeology Act 1973</i> <i>Aboriginal Heritage Act 1972</i>	State Heritage Office Western Australian Museum Department of Aboriginal Affairs
South Australia	<i>Heritage Act 1993</i> <i>Historic Shipwrecks Act 1981</i> <i>National Parks and Wildlife Act 1972</i> <i>Aboriginal Heritage Act 1988</i>	Department for Environment and Heritage  Department of the Premier and Cabinet, Aboriginal Affairs and Reconciliation Division
Tasmania	<i>Tasmanian Historic Cultural Heritage Act 1995</i> <i>Aboriginal Relics Act 1975</i>	Department of Primary Industries, Parks, Water and Environment
Northern Territory	<i>The Heritage Act 2012</i>  <i>Aboriginal Sacred Sites Act 1989</i>	Department of Lands, Planning and Environment  Aboriginal Areas Protection Authority
ACT	<i>Heritage Act 2004</i>	ACT Heritage

The Australian Government's role predominantly relates to listing and protecting places with world and national heritage significance. Principal Commonwealth heritage legislation of relevance to resource exploration is summarised in box 6.1.

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (ATSIHP Act) enables the Australian Government to act as a 'protector of last resort' for Indigenous heritage by responding to requests to preserve important Indigenous areas and objects where it is perceived that state or territory laws have not provided effective protection.

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### Box 6.1 Principal Commonwealth heritage legislation

The **Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)** allows the responsible Minister to make a declaration to preserve or protect an area from injury or desecration if satisfied that 'the area is a significant Aboriginal area' and there is a 'serious and immediate threat'. The Act allows for intervention if state and territory laws do not provide effective protection.

The Minister cannot make a declaration unless an Indigenous person or representative has made an application. In making a decision, consideration is given to all relevant information presented by the applicant, affected parties and the relevant state or territory government. The Minister takes into account a range of factors including whether a declaration is in the national interest and the financial impact on affected parties. The Minister has discretion and is not required to make a declaration, even if a significant area or object is under threat of injury or desecration.

Any party whose interests might be adversely affected by a declaration (including explorers) must have a reasonable opportunity to comment. If this opportunity is not provided, a person who is adversely affected may seek a judicial review of the Minister's decision in the Federal Court.

In 2004, heritage provisions were introduced in the **Environment Protection and Biodiversity Conservation Act 1999 (Cth)** (EPBC Act), replacing the *Australian Heritage Commission Act 1975* (Cth). The legislation is administered by the Department of the Environment.

The EPBC Act allows natural, historic and Indigenous places of significance to be recognised under the National and Commonwealth Heritage Lists. The Australian Heritage Council — an independent body of heritage experts advising the Minister on heritage matters — is constituted under the EPBC Act.

The Minister for the Environment decides whether to include a place on the list by following the consultation process set out in the Act. The Minister can also make an emergency listing if an unlisted place which is capable of meeting the criteria for National Heritage listing is under threat.

Once a site is listed, a referral to the Minister must be made under the EPBC Act for actions that are likely to have a significant impact on a declared world, national or Commonwealth (Australian Government owned) heritage site.

The **Historic Shipwrecks Act 1976 (Cth)** protects historic shipwrecks and associated relics that are more than 75 years old and in Commonwealth waters, extending from the low tide mark to the edge of the continental shelf. Each of the states and the Northern Territory have similar legislation which protects historic shipwrecks within state and territory constitutional boundaries, such as bays, harbours and rivers. The Minister can also make a declaration to protect any historically significant shipwrecks or articles and relics that are less than 75 years old.

Source: SEWPaC (2012d).

Heritage legislation at all levels of government provides for a listing process — the process of identifying and recording significant heritage sites. The overwhelming majority of listings occur at the state level, often in response to perceived threats. The main implication of a site being placed on a heritage list is that restrictions apply as to what works can be carried out on the site (section 6.4). In addition to statutory listings, some unofficial lists are recorded by non-government organisations (box 6.2).

### Box 6.2 Lists of significant heritage sites

The **World Heritage List** maintained by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) includes places of cultural and natural heritage which UNESCO's World Heritage Committee considers to have 'outstanding universal value'.

The **National Heritage List**, established under the EPBC Act, includes Indigenous, historic and natural places that are of national heritage value to Australia but which are not within a Commonwealth area, and are not owned or leased by the Australian Government.

The **Commonwealth Heritage List**, also established under the EPBC Act, includes Indigenous, historic and natural heritage places that are within a Commonwealth area, or are owned or leased by the Australian Government.

The **Register of the National Estate** lists significant natural, Indigenous and historic heritage places in Australia (originally established under the *Australian Heritage Commission Act 1975* (Cth)). In February 2012, superseded by the National Heritage List and the Commonwealth Heritage list, the register ceased operating as a statutory register but remains as a publicly available archive.

The **Australian Shipwrecks Database** commenced in 2009 and includes all known shipwrecks in Australian waters.

**State heritage registers** vary between jurisdictions. All states and territories have national parks and reserves. Each state and territory has a statutory list of historic places but the criteria and thresholds for listing vary. In addition, all jurisdictions have registers of Indigenous sites which generally include information about objects and places that have been declared as significant to Indigenous culture and information from heritage surveys such as reports, photographs and maps.

**Local heritage** identification is highly variable. There are many managed local reserves that have been identified because they have natural heritage significance. Some buildings are protected and some Indigenous places are managed by local governments. Generally, Indigenous heritage is not protected by local governments.

**Non-statutory heritage lists** are recorded by non-government organisations including the National Trust of Australia, the Institution of Engineers and the Royal Australian Institute of Architects. Despite having no statutory basis, they can be used in decision-making processes.

Source: State of the Environment 2011 Committee (2011).

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Indigenous Australians can also obtain protection for heritage through registered Indigenous land use agreements under the *Native Title Act 1993* (Cth) and under land rights legislation in each state and territory. The processes under native title and Indigenous land rights Acts, however, are outside the terms of reference for this inquiry.

## 6.2 Indigenous heritage requirements and processes

While all states and territories have enacted legislation to protect Indigenous heritage sites and objects, there is substantial variation in how Indigenous heritage is defined, how it is protected and who decides whether an activity can go ahead if harm to an Indigenous heritage site cannot otherwise be avoided.

There are penalties for unauthorised damage or destruction of Indigenous heritage. In order to avoid prosecution, explorers need to identify whether the area for the proposed activity has heritage significance and, if so, what the appropriate management options are in the relevant jurisdiction. Table 6.2 provides a snapshot of Indigenous heritage requirements for exploration in each state and territory.

### What is protected?

The definition of protected Indigenous heritage varies between jurisdictions (table 6.2). For example, in South Australia, protected Aboriginal heritage is broadly defined and includes all Aboriginal sites, objects and remains that are of significance to Indigenous prehistory and tradition, archaeology and anthropology (SA DPC 2007).

In New South Wales, protected Indigenous heritage is defined as all Aboriginal objects and declared Aboriginal places. More specifically, Aboriginal objects are defined as physical evidence of the use of an area by Aboriginal people including:

- physical objects, such as stone tools, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps
- material deposited on the land, such as middens
- the ancestral remains of Aboriginal people.

**Table 6.2 A snapshot of Indigenous heritage approval systems for exploration**

<i>Jurisdiction</i>	<i>What is protected?</i>	<i>Heritage management process for exploration</i>	<i>Consultation with Aboriginal parties</i>	<i>Decision making</i>
New South Wales	Aboriginal objects and declared 'Aboriginal places'.	Due diligence code of practice with penalties for non-compliance. Permits can be issued where harm to an Aboriginal object or place cannot be avoided.	Consultation with traditional owners, custodians and people with ties to a site.	Permit decisions rest with the Director General of the NSW Office of Environment and Heritage. Appeals can be taken to the Land and Environment Court.
Victoria	All Aboriginal places, Aboriginal objects and Aboriginal human remains.	Cultural Heritage Management Plans (CHMPs) required for 'high impact' exploration activities. Cultural Heritage Permits required for 'low impact' activities. When a heritage plan or permit is not required a voluntary Cultural Heritage Agreement between the explorer and Aboriginal party(ies) can be created.	Traditional owners or people with historical attachment to an area may be recognised as Registered Aboriginal Parties.	Permits & plans must be approved by the relevant Registered Aboriginal Party (RAP). Where no RAP exists, the Secretary of the Department of Planning and Community Development, or the Aboriginal Heritage Council, may approve the permit or plan. Decisions may be appealed at the Victorian Civil and Administrative Tribunal.
Queensland	Blanket protection for areas and objects of traditional, customary and archaeological significance.	Mandatory for explorers undertaking an Environmental Impact Statement (EIS) to also carry out heritage assessments and CHMPs.  When an EIS is not required explorers can: <ul style="list-style-type: none"><li>• comply with gazetted duty of care guidelines</li><li>• negotiate a voluntary CHMP with relevant Indigenous groups</li><li>• negotiate other cultural heritage agreement with relevant Indigenous party</li><li>• proceed in compliance with native title protection conditions.</li></ul>	Aboriginal parties are identified via the native title system and notified of proposed activities. Firstly, Registered Native Title Holders, then Claimants and then 'failed claimants' are identified. If there is no native title party, Aboriginal people with a 'particular knowledge' can be identified. Aboriginal Cultural Heritage Bodies (registered by the Minister) identify parties for particular areas.	For mandatory CHMPs, when agreement cannot be reached, a proposed CHMP can be referred to the Land Court. The tribunal will make a recommendation to the responsible Minister who makes the decision. Where CHMPs are not mandatory there is no government or ministerial decision making.
Western Australia	Automatic preservation of a comprehensive range of sites according to their importance and significance.	Due diligence guidelines (not statutory) may be used to identify activities which may impact on heritage and to assist in compliance with legislation. Consent from the Minister for Aboriginal Affairs is required to harm any 'Aboriginal site'.	No definitive list for consultation. The Aboriginal Cultural Material Committee suggests: determined native title holders; registered native title claimants; informants recorded on the Register; and other Aboriginal persons who demonstrate relevant knowledge.	Decisions on the protection, disturbance or destruction of Aboriginal sites rest with the responsible Minister after considering recommendations from the Aboriginal Cultural Material Committee.

<i>Jurisdiction</i>	<i>What is protected?</i>	<i>Heritage management process for exploration</i>	<i>Consultation with Aboriginal parties</i>	<i>...Decision making</i>
South Australia	Blanket protection of Aboriginal sites, objects and remains that are significant to Aboriginal tradition, archaeology, anthropology and/or history.	A determination decision from the responsible Minister (whether a site is an Aboriginal site as defined by legislation) is required before undertaking exploration. The Minister generally bases the decision on a cultural heritage survey and/or anthropological opinion.  Following a determination a proponent can seek authorisation from the Minister to damage, destroy or interfere with an Aboriginal site or object.	Groups that must be consulted by the Minister before making a determination or authorisation are: <ul style="list-style-type: none"><li>• the Aboriginal Heritage Committee</li><li>• any Aboriginal organisation with a particular interest in the matter</li><li>• any traditional owners and other Aboriginal persons who in the Minister's opinion, have a particular interest in the matter.</li></ul>	Decisions to damage or disturb an Aboriginal site, object or remains rest with the responsible Minister.  Decisions can only be appealed through the Supreme Court of South Australia.
Tasmania	Blanket protection of Aboriginal relics prior to European arrival, 'protected sites' and 'protected objects'.	Aboriginal heritage assessments are undertaken for exploration activities to determine whether a site has Aboriginal heritage significance.  Permits are required prior to any interference with sites of Aboriginal heritage significance.	The interim Aboriginal Heritage Council was established in 2012 to provide a view to the Minister on new permit applications, development proposals and policies, as well as provide advice and recommendations on the protection and management of Aboriginal heritage.	All recommendations and considerations are presented to the Director of National Parks and Wildlife who then makes a recommendation to the Minister for Heritage. Decisions can only be appealed through the Supreme Court of Tasmania.
Northern Territory	Blanket protection for sites that are sacred or significant according to Aboriginal tradition.	On non-sacred sites a permit is required to harm Aboriginal heritage.  An Authority Certificate must be obtained to undertake work on a sacred site.	Traditional owners must be notified of proposed survey work and where possible involved in fieldwork, consulted and acknowledged for their contribution. On sacred sites, the Aboriginal Areas Protection Authority (AAPA) consults and works directly with custodians.	Permit decisions on non-sacred sites rest with the Minister.  The AAPA issues Authority Certificates on sacred sites.  An applicant can request a Ministerial review of an AAPA decision on a certificate. The Minister may maintain the AAPA certificate or issue a Ministerial certificate.
ACT	All Aboriginal places and objects.	If development is likely to impact upon heritage a cultural heritage specialist consults with each Representative Aboriginal Organisation (RAO). Voluntary heritage agreements are encouraged.	The ACT Heritage Council is required to consult with RAOs.	The Heritage Council advises the responsible Minister who then makes decisions on heritage places and objects.

Sources: NSW OEH (2011, 2012a, 2012b); Vic DPCD (2013); Qld DATSIMA (2012); WA (DAA 2011, 2012a, 2012b); WA DAA and DPC (2013); SA DPC (2007); Transport SA (1999); Aboriginal Heritage Tasmania (2012), Aboriginal Heritage Council (2013); NT DLPE (2012b) and AAPA (2012); ACT ESDD (2011)

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In New South Wales, the Minister can also declare an area to be an ‘Aboriginal place’ if the Minister believes that the place is or was of ‘special significance’ to Aboriginal culture. An area can have spiritual, natural resource usage, historical, social, educational or other type of significance (NSW OEH 2012b).

In all states and territories, the significance of Indigenous heritage is generally determined through heritage surveys and/or consultation with Indigenous parties on a case-by-case basis.

### **Indigenous heritage surveys**

In most jurisdictions, heritage surveys and assessments are a significant factor in Indigenous heritage decision making. Generally, to identify and understand the heritage significance of an area, an explorer will contact the relevant government department or authority which maintains the heritage register for the proposed area.

Explorers may be required to conduct heritage surveys or assessments in relation to a tenement that:

- has not previously been surveyed
- has only been partially surveyed or
- has no accessible records of previous surveys.

Heritage surveys may involve, to varying degrees, engagement with government departments, Indigenous representatives for ‘country’, third parties such as Aboriginal Land Councils, and heritage professionals such as archaeologists and anthropologists. For example, Western Australia may require both archaeological and ethnographic research to identify the significance of Indigenous heritage on a proposed exploration site.

- Archaeological research involves determining whether a site contains physical evidence of past occupation by Indigenous groups through inspection of the ground surface of a site.
- Ethnographic research is about identifying and recording significant Indigenous heritage sites through interviews and site inspections with Indigenous groups.

Box 6.3 lists guidelines developed by the Western Australian Department of Aboriginal Affairs on preparing an Indigenous heritage survey in that state. Explorers are responsible for meeting the cost of survey work, which may include the fees of archaeologists, anthropologists and other professionals, expenses for survey teams and transport (4WDs, helicopters etc.), daily rates for Indigenous

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parties involved in consultation and survey work and fees for Aboriginal Land Councils.

In contrast, in Queensland the focus of heritage decision making is on consultation and agreement making between explorers and Indigenous parties prior to exploration.

**Box 6.3 Aboriginal heritage survey guidelines, Western Australia**

The Western Australian Department of Aboriginal Affairs has developed a set of guidelines for land owners and users including explorers, consultants and researchers to follow when undertaking heritage surveys. These guidelines include:

- copyright: licensing the department to use submitted information for specified purposes
- spatial accuracy statement
- acknowledgements and list of survey participants
- purpose of the heritage survey including proposed development
- desktop study: previously reported Aboriginal sites, identification and review of previous heritage survey reports, identification of Aboriginal people and organisations affected by the proposed use of the land and a summary of the main findings of the heritage survey
- methodology: type of survey, field methodology and consultation (including how Aboriginal advisors were selected)
- survey area with supporting maps and diagrams
- field survey: location, survey dates, persons involved, archaeological and/or ethnographic surveys as required for the assessment of whether a place is an Aboriginal site and the evaluation of the importance and significance for each Aboriginal site
- potential effects: strategies to avoid or minimise the effect of the proposed land use on any Aboriginal site and, where a proposed land use will affect an Aboriginal site, identification of any site affected, why the site cannot be avoided and the type and degree of effect on the site
- recommendations: including the mitigation of any potential effects on Aboriginal sites, a statement as to whether an opportunity has been provided to the Aboriginal people involved in the survey to comment on the contents of the report and whether further consultation with Aboriginal people is required or more information about the proposed use of the land and its effects is needed.

Source: WA DAA (2010).

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## **Indigenous heritage management processes for exploration**

When Indigenous heritage of significance is identified, explorers are required to manage the site, depending on the nature of the activity and the legislation in the relevant jurisdiction. Table 6.2 provides a snapshot of the heritage management requirements in each jurisdiction.

Some jurisdictions, including New South Wales, Victoria and Queensland, provide exemptions for activities considered ‘low impact’. In some cases, heritage obligations may be met by avoiding sensitive areas on the exploration site. Sensitive areas may include sand dunes, rock outcrops and stone arrangements, scatters of stone artefacts, middens, scarred trees and the edges of lakes, rivers and claypans.

In most instances, Indigenous heritage is managed during exploration through duty of care processes, agreement making and authorisation systems. In brief (table 6.2):

- ‘duty of care’ or ‘due diligence’ processes require explorers to take all reasonable and practicable measures to prevent harm to Indigenous cultural heritage
- agreements include Cultural Heritage Management Plans (CHMPs) which may be mandatory for high impact activities and Indigenous land use agreements. In some instances, voluntary heritage agreements are made between Indigenous parties and explorers to allow exploration to take place in heritage areas. The content of an agreement is generally not prescriptive and may include the protection or maintenance of a heritage site or object, right to access the site by Indigenous people and the rehabilitation of Indigenous places or objects
- in most jurisdictions explorers can apply for a permit or consent (from a Minister or department) to proceed with exploration when it is likely to damage or destroy Indigenous heritage.

## **Consultation with Indigenous parties**

When an exploration activity is proposed on (or in close proximity to) a potential Indigenous heritage site, it is considered best practice in heritage management for explorers to consult with Indigenous parties that have been identified as having authority to speak for country (box 6.4).

Generally, those who speak for country require an understanding and knowledge of the people, landscape, and history of the area as well as an inherited responsibility and right to look after it. Speaking for country is, therefore, usually the responsibility of traditional owners because of their knowledge and connection to the land (NSW OEH 2012a).

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NTSCORP commented that effective consultation first requires the identification of the correct traditional owners for the proposed area:

Effective consultation with traditional owners requires proponents to do more than simply establish a dialogue with local Aboriginal organisations. Effective consultation can only be achieved by identifying the correct traditional owners of the project area, and ensuring that these are the people speaking for their traditional country. (sub. 31, p. 5)

**Box 6.4 Consultation with Indigenous people is best practice**

In 2002, the Australian Heritage Commission's *Ask First* publication identified consultation with Indigenous people as best practice in Indigenous heritage management. This guide, designed for use by heritage professionals and land users such as exploration companies, identifies Indigenous people as the 'primary source of information on the value of their heritage and how it is best conserved' and states that Indigenous people must have:

- an active role in any Indigenous heritage planning process
- input into primary decision-making in relation to Indigenous heritage so they can continue to fulfil their obligations towards this heritage.

In identifying and managing this heritage, the guide also states:

- uncertainty about Indigenous heritage values at a place should not be used to justify activities that might damage or desecrate this heritage
- all parties having relevant interests should be consulted on Indigenous heritage matters.

Source: Australian Heritage Commission (2002, p. 6).

Heritage, although somewhat related to native title, is a separate issue. The Chamber of Minerals and Energy of Western Australia (CMEWA 2011), noted that identifying and consulting with Indigenous parties for Indigenous heritage matters are not native title processes. Native title and Indigenous heritage parties are likely to have common members but are not always the same people. The Chamber also noted that the native title claimant group is usually larger than the group of Indigenous people that is consulted on heritage matters.

The process for identifying the appropriate Indigenous parties for consultation on heritage matters varies between jurisdictions. For example:

- Queensland legislation provides a chain of preferences as to who should be the Indigenous party consulted for an area, drawing heavily on the native title process. Registered Aboriginal cultural heritage bodies (who can nominate who is responsible to speak for country) are a first point of contact for explorers to determine who to consult with on heritage management (Qld DATSIMA 2013).

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- In New South Wales, at sites not covered by the native title process, explorers are required to attempt to contact Indigenous people who may have knowledge of heritage within the area of a planned activity. Generally this requirement is satisfied by the placement of a public notice about the activity, to which Indigenous people may respond.
  - In Western Australia, the heritage Act predates the *Native Title Act 1993* (Cth) and there is no definitive list of which Indigenous people should be consulted in Western Australian legislation (table 6.2).

## Who makes heritage decisions?

In Western Australia, South Australia and Tasmania, heritage decisions rest with the relevant Minister. In New South Wales, decisions rest with the head of the department which administers heritage.

On non-sacred sites in the Northern Territory, heritage decisions also rest with the Minister. However, for access and activity near sacred sites (in that jurisdiction), an independent authority — the Aboriginal Areas Protection Authority (AAPA) — issues Authority Certificates. Applicants for certificates can apply to the Minister for a review of the AAPA's certification decision. However, Ministerial Review provisions have only been used twice since the enactment of the *Northern Territory Aboriginal Sacred Sites Act 1989* (NT) (sub. DR55, p. 3).

In contrast to Ministerial and departmental approval processes, in Victoria, heritage plans and permits for exploration must be approved by the relevant Registered Aboriginal Party (RAP). Traditional owners must apply to the Victorian Aboriginal Heritage Council to be appointed as a RAP. When a proposed exploration area does not have a RAP, the Secretary of the Department of Planning and Community Development, or in some instances the Aboriginal Heritage Council, may approve the permit or plan.

The duty of care and agreement making framework in Queensland minimises government involvement in decision making. However, when a mandatory CHMP cannot be agreed, a proposed CHMP can be referred to the Land Court. The court will make a recommendation to the Minister (for Aboriginal and Torres Strait Islander and Multicultural Affairs) who makes the decision.

Appeals systems also vary by jurisdiction. For example, in Victoria, an administrative review of a decision is available through the Victorian Civil and Administrative Tribunal. In Queensland, the Land Court is responsible for

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reviewing decisions, while in South Australia and Tasmania, recourse to the relevant Supreme Court is the only avenue for review (table 6.2).

## The enforcement of Indigenous heritage regulation

Enforcement mechanisms are a key aspect of any regulatory system. As noted above, Indigenous heritage legislation in all states and territories includes penalties to provide a deterrent against harming protected places and relics. For example, in New South Wales the maximum penalty for harming an Aboriginal object or Aboriginal place is \$550 000 and two years imprisonment for an individual or \$1.1 million for a corporation (NSW OEH 2010).

The monitoring of compliance with permit conditions and agreements is also a feature of heritage Acts and enforcement systems in some jurisdictions.

- Victorian inspectors have extensive powers of entry, search and seizure and are responsible for overseeing Cultural Heritage Audits (these are ordered by the Minister when it is suspected that a CHMP or Permit has been breached) and have the power to issue Stop Orders in emergency situations (VIC DPCD 2013).
- Similarly, in South Australia, inspectors appointed by the Minister have powers of entry, search and seizure.
- In Western Australia, officers of the department responsible for heritage, as well as honorary wardens (appointed by the Minister), have powers to enter and inspect Aboriginal sites.
- In Queensland, heritage Acts provide for ‘authorised officers’ to investigate and monitor compliance with the Acts. However, their powers are not as extensive as in Victoria and South Australia and an officer can only gain access to land with a warrant or the consent of the land owner.

Generally, there have been very few prosecutions for unauthorised harm under Indigenous heritage legislation.

Information available indicates there have been a very small number of prosecutions for unlawful [destruction of] Indigenous heritage, including one prosecution in Victoria since the operation of the *Aboriginal Heritage Act 2006* (Vic) and four stop work orders [and] an average of one investigation per year in Tasmania over the reporting period. (Schnierer, Ellsmore and Schnierer 2011, p. 60)

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However, in the Northern Territory a mining company was recently fined \$150 000 for desecrating an Aboriginal sacred site. Further, the AAPA reported that there have been 36 prosecutions under the *Northern Territory Aboriginal Sacred Sites Act 1989* (NT) in the Northern Territory since its inception.

On average the AAPA receives and investigates twenty incidents of damage to sacred sites, and prosecutes two matters per year under the offence provisions of the Sacred Sites Act. In 2011 the AAPA received 22 reports of damage to sacred sites and commenced two prosecutions. (sub. DR55, p. 2)

## **Reviews are underway**

In recent years, Indigenous heritage legislation in all jurisdictions has been under review although, in most jurisdictions, the reviews remain inconclusive or the proposed reforms have yet to be implemented (box 6.5).

While there is no uniformity to the changes or recommended changes following these reviews, a number of trends are apparent.

- Changes appear to be entrenching a consultation model with, in some instances, some measure of Indigenous decision-making power and recognition of custodianship of Indigenous heritage.
- There is increasing recognition of the primacy of traditional owners and alignment of heritage legislation with Native Title in terms of determining who may speak for country.
- The fines in some jurisdictions have increased and there are more enforcement mechanisms for damage to heritage, including unintentional damage (Schnierer, Ellsmore and Schnierer 2011).

The ATSIHP Act has also been under review since 2009 when the Australian Government released a discussion paper on proposed reforms. At that time, it was stated that the reforms would aim to improve the opportunities for Indigenous Australians to protect their heritage and decrease duplication and red tape in Indigenous heritage processes (DEWHA 2009a).

In addition, in 2011, the former Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) began the process of developing an Australian heritage strategy (SEWPaC 2013b).

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### Box 6.5 State and territory reform of Indigenous heritage

**New South Wales:** In 2010, an Aboriginal Cultural and Heritage Working Party was formed to advise the NSW Government on options for the protection and management of Aboriginal culture and heritage in NSW. A discussion paper was released to identify key issues and seek ideas on the way forward.

**Victoria:** The review of the *Aboriginal Heritage Act 2006* was completed in 2012. Reforms to the Act and the development of supporting policy documentation are currently being developed with legislative amendments proposed in 2014.

**Queensland:** The Department of Environment and Resource Management (DERM) has finalised the review of the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003*. Amendments were introduced into the Queensland Parliament on 29 November 2011 by the Minister for Finance, Natural Resources and the Arts.

**Western Australia:** In 2011, the Government announced its intention to amend the *Aboriginal Heritage Act 1972*. In April 2012, a discussion paper was released containing seven proposals to regulate and amend the Act for improved clarity, compliance, effectiveness and certainty. Submissions to the review closed in June 2012. To date no legislative changes have been made following the review.

**South Australia:** In 2008, the Minister for Aboriginal Affairs and Reconciliation announced a review of the *Aboriginal Heritage Act 1988* and as a result a scoping paper was released. The paper listed a number of guiding principles to the review including enabling Aboriginal negotiation and agreements about heritage, creating timely and efficient processes and creating certainty for all parties. In September 2010, a consultation report, *It's Not Just About Sacred Sites*, was released. To date, no legislative changes have been made following the review.

**Tasmania:** In the 2012-13 State Budget, the Government committed additional funding to continue the development of contemporary Aboriginal heritage legislation. Consultation with the Aboriginal community and other key stakeholders occurred from July 2011 to September 2011. A draft of the Aboriginal Heritage Protection Bill 2012 has been released, with public consultation closing in December 2012. It is expected that a new Bill will be introduced in Parliament in 2013.

**Northern Territory:** *The Heritage Act 2012* commenced on 1 October 2012, replacing the old *Heritage Conservation Act 1991*.

Sources: NSW OEH (2012b); NT DLPE (2012a); Qld DATSIMA (2012); SA DPC (2013); TAS DPIPWE (2013); VIC DPCD (2013); WA DAA (2012a).

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However, there has been concern that reform is taking too long. For example, the *Australia State of the Environment 2011* report discussed the consequences of delay in reforming the ATSIHP Act.

In 2009, the Australian Government released a discussion paper on proposed reforms to the ATSIHP Act. The reforms aim to improve the protection of the traditional heritage of Indigenous Australians in all jurisdictions through accreditation of state and territory laws that meet a set of rigorous standards. This would enable the Australian Government to take a more active and coordinated approach in the protection of sacred sites and objects. However, the delay in reforming the Act is prolonging uncertainty, especially for the states and territories, most of which are reviewing their Indigenous heritage legislation. (State of the Environment 2011 Committee 2011, p. 750)

## 6.3 Exploration and Indigenous heritage

This section reviews options for reforming heritage legislation and processes (such as consultation, regulation and administration) so as to achieve an appropriate balance between heritage protection and resource exploration, efficiently and cost effectively.

### The protection of heritage

The fundamental question of balance comes to the fore in deciding on applications from explorers that seek permission to harm or destroy Indigenous heritage. Understandably, it is a highly contentious matter and in many jurisdictions it is an ongoing source of conflict between explorers, Indigenous communities, archaeologists and government agencies.

The *Australia State of the Environment 2011* report explained the issue in the following terms:

One of the main threats to Indigenous heritage places is conscious destruction through government-approved development — that is, development for which decision-makers are aware of (or obliged to be informed about) Indigenous heritage impacts, yet choose to authorise the destruction of Indigenous heritage. This widespread process, combined with a general lack of understanding of physical Indigenous heritage, means that individual decisions on assessment and development result in progressive, cumulative destruction of the Indigenous cultural resource. (State of the Environment 2011 Committee 2011, p. 721)

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Several submissions argued that current regimes do not adequately protect Indigenous heritage. NTSCORP expressed concern that economic values are given a higher value than Indigenous cultural values in making decisions about heritage:

There is a perception that Aboriginal cultural values are consistently overridden by economic considerations and decisions are frequently made in favour of development at the expense of intangibly valuable Aboriginal culture and heritage sites, objects and places. (sub. 31, p. 4)

Some archaeologists have also expressed concern about the inadequate protection of heritage. For example, Melissa Hetherington, based on her experience undertaking archaeological research in Western Australia, commented:

Heritage legislation needs be restructured in a way that facilitates effective, quality archaeological research. However, this doesn't seem to be happening in an effective manner. In fact, current cultural heritage management practices seem to be facilitating the destruction of archaeological sites, even sites which have been classified and registered as highly significant and which have the potential to contribute valuable information to research goals. (sub. 16, p. 3)

In a number of jurisdictions, inquiry participants commented that there is a lack of confidence in the ability of state legislation to adequately protect Indigenous heritage. For example, in Western Australia, Indigenous heritage legislation has persisted largely unchanged since its introduction in the 1970s, despite the introduction of native title. Yamatji Marlpa Aboriginal Corporation (YMAC) commented:

A major challenge for YMAC and our clients is that the *Aboriginal Heritage Act 1972* (WA) has not been amended to recognise the introduction of the *Native Title Act* and therefore offers no direction on how the two pieces of legislation should properly interact. (sub. 34, p. 3)

YMAC also reported:

The Native Title Tribunal has acknowledged that the 'protective regime' of the *Aboriginal Heritage Act* [Western Australia] is sometimes insufficient to protect Aboriginal heritage ... The Auditor General of Western Australia has also criticised the heritage regime, noting the State Government 'has not actively monitored if operators are meeting ... [heritage] conditions... Aboriginal heritage sites could have been lost or destroyed without the State knowing or taking action'. (sub. 34, p. 4)

Similarly, the NSW Aboriginal Land Council stated:

... Aboriginal culture and heritage laws, at least in New South Wales, are failing to provide the appropriate protections for Aboriginal culture and heritage. (sub. 10, p. 1)

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And NTSCORP argued for stand-alone heritage legislation:

The current framework for culture and heritage NSW consists of a plethora of overlapping regulations and guidelines ...

There is concern and confusion amongst traditional owners regarding their rights and obligations, and the rights and obligations of exploration proponents... We believe consolidating these regulations and guidelines would result in a clearer, more streamlined and more accessible process for both Aboriginal stakeholders and exploration proponents. (sub. 31, p. 3)

The NSW Aboriginal Land Council's submission contained recommendations for a process that seeks to achieve a balance between often competing interests:

Aboriginal people in New South Wales must have their inherent right to control and manage Aboriginal culture and heritage recognised.

Any legislative system must effect a practical balance between:

- a. the recognised need to preserve and enhance Aboriginal cultural traditions
- b. the need to deliver social justice to Aboriginal peoples in New South Wales to redress the significant cultural, economic and social dispossession they have suffered
- c. the need for the economic, social and cultural advancement of other non-Aboriginal interests in New South Wales. (sub. 10, p. 3)

The Commission is mindful of the current reviews and reforms being undertaken on Indigenous heritage protection and also that the focus of this inquiry is on exploration, not heritage. This inquiry cannot offer a comprehensive analysis of the effectiveness of all jurisdictional heritage legislation and processes. For example, to answer the question, 'Is the level of protection of Indigenous heritage adequate?' a more extensive inquiry into Indigenous heritage would be required.

In terms of exploration issues, however, the Commission has considered options to achieve a balance which minimises costs and delays for explorers within the framework of efficient and effective Indigenous heritage legislation.

## **Overlap in Commonwealth legislation**

Many participants in the above-mentioned review of the ATSIHP Act observed that the Act overlapped with state and territory Indigenous heritage legislation, creating an unnecessary burden through duplication in processes and delays for explorers.

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Concern was also expressed that the Act has been ineffective in protecting heritage. Indeed, the last declaration for protection under the ATSIHP Act was made in 2002.

The ATSIHP Act has not been effective in meeting its purpose, which was to provide a direct and immediate means for the Commonwealth to protect traditional areas and objects when there are gaps in state and territory legislation. Instead it has created uncertainty about decisions made under other laws, provoked disputes and led to duplication of decisions, with increased costs for all parties involved. (DEWHA 2009a, p. 4)

Since 2007 there have been 155 applications for Indigenous heritage protection declarations under sections 9, 10 and 12 of the ATSIHP Act, in relation to activities including mining, construction, agriculture and exploration.

- 130 of these applications were unsuccessful in gaining a protection declaration and the remaining 25 are current and yet to be resolved.
- The outcome for the majority of applications was that they were not validly made or that a protection declaration was declined.
- Indigenous Australians in Victoria, New South Wales and Western Australia accounted for the majority of applications (table 6.3).

This evidence, seemingly, supports the view that the Act has been ineffective in protecting heritage. However, the presence of the Act may have resulted in land users becoming more conscious of protecting Indigenous heritage and moderating their behaviour. Moreover, it is not possible to estimate the counterfactual — the damage that may have occurred to Indigenous heritage in the absence of the ATSIHP Act.

Applications for a declaration can be made for a range of reasons including protection from impacts associated with exploration activity. Figure 6.1 illustrates that where the reason for the application was known, only four applications since 2007 could be attributed to a claimed threat from impacts relating to exploration. The majority of applications which could be attributed to a particular source of threat were in response to activities related to mining, road works, construction, and agriculture and forestry (figure 6.1).

**Table 6.3 Indigenous heritage protection under the ATSIHP Act**  
Number of applications by outcome since 2007<sup>a</sup>

State	Current <sup>b</sup> applications	Applications declined	Applications not validly made	Applications lapsed	Applications withdrawn	Total applications
<b>Section 9<sup>c</sup></b>						
New South Wales	1	12	6	0	3	22
Victoria	1	4	7	1	8	21
Queensland	0	1	2	0	1	4
Western Australia	6	2	3	4	5	20
South Australia	1	1	0	0	1	3
Tasmania	0	0	2	1	0	3
Jarvis Bay Territory	0	0	1	0	0	1
<b>Total section 9</b>	<b>9</b>	<b>20</b>	<b>21</b>	<b>6</b>	<b>18</b>	<b>74</b>
<b>Section 10<sup>d</sup></b>						
New South Wales	7	7	4	1	2	21
Victoria	1	3	6	4	3	17
Queensland	0	1	2	0	0	3
Western Australia	6	0	3	4	2	15
Tasmania	0	0	2	1	0	3
Jarvis Bay Territory	0	0	1	0	0	1
<b>Total section 10</b>	<b>14</b>	<b>11</b>	<b>18</b>	<b>10</b>	<b>7</b>	<b>60</b>
<b>Section 12<sup>e</sup></b>						
New South Wales	1	4	2	0	0	7
Victoria	1	0	8	1	3	13
Western Australia	0	0	1	0	0	1
<b>Total section 12</b>	<b>2</b>	<b>4</b>	<b>11</b>	<b>1</b>	<b>3</b>	<b>21</b>
<b>All applications</b>						
New South Wales	9	23	12	1	5	50
Victoria	3	7	21	6	14	51
Queensland	0	2	4	0	1	7
Western Australia	12	2	7	8	7	36
South Australia	1	1	0	0	1	3
Tasmania	0	0	4	2	0	6
Jarvis Bay Territory	0	0	2	0	0	2
<b>Total Applications</b>	<b>25</b>	<b>35</b>	<b>50</b>	<b>17</b>	<b>28</b>	<b>155</b>

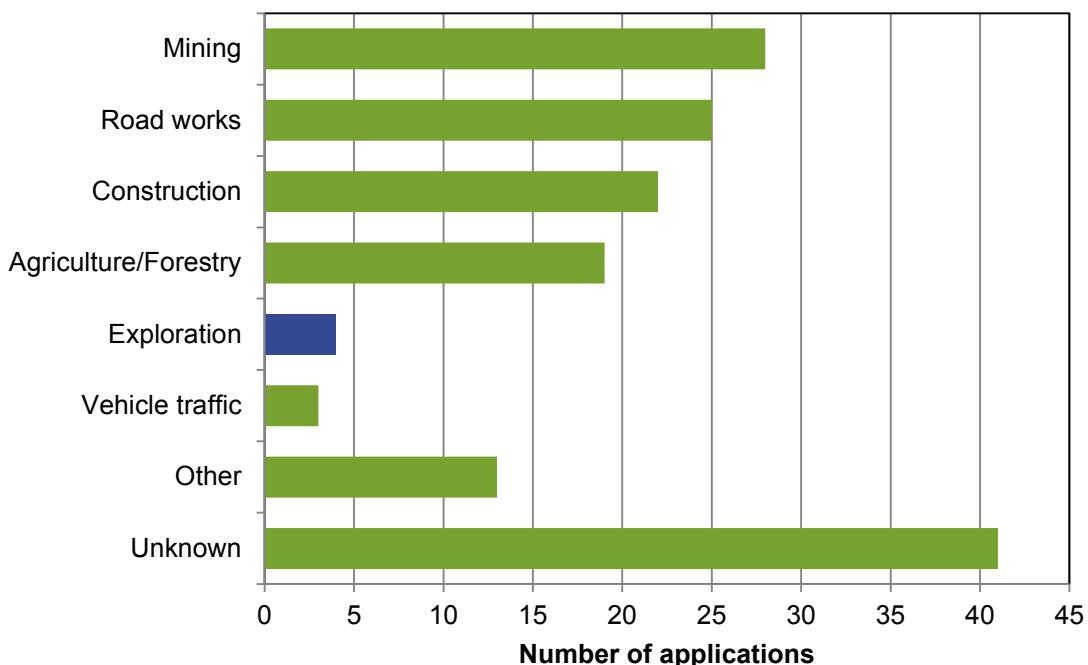
<sup>a</sup> The data are SEWPaC estimates based on available records. When a state or territory is not listed it indicates that no applications for protection (under the relevant section of the ATSIHP Act) were received from that jurisdiction since 2007. <sup>b</sup> Current refers to applications that are yet to be resolved and the Minister has not decided whether or not to make a declaration. <sup>c</sup> Under section 9, the Minister can make an emergency declaration to protect an area from a serious and immediate threat of injury or desecration for up to 30 days. <sup>d</sup> Under section 10, the Minister can make a declaration to protect an area from a threat of injury or desecration for any period of time. <sup>e</sup> Under section 12, the Minister can make a declaration to protect an object or class of objects from a threat of injury or desecration for any period of time.

Source: SEWPaC (unpublished).

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**Figure 6.1 Applications for declaration since 2007 under the ATSIHP Act<sup>a</sup>**  
By nature of activity relating to applications

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<sup>a</sup> Includes applications for declarations under sections 9, 10 and 12 of the ATSIHP Act.

Source: Commission estimates based on unpublished data provided by SEWPaC.

The primary concern for explorers is that the ATSIHP Act provides an opportunity for ‘forum shopping’. In this regard, the Minerals Council of Australia (MCA) commented:

Dual and parallel layers of Commonwealth and State heritage legislation encourage ‘forum shopping’ – where a group dissatisfied with the outcomes of a state based cultural heritage approval process may then move to utilise the Aboriginal and Torres Strait Islander Heritage Protection Act to overturn the State decision. (sub. 27, p. 30)

The MCA suggested that this problem could be overcome by merging the ATSIHP Act into the EPBC Act.

At the Commonwealth level, the MCA considers there is significant value in rolling the Aboriginal and Torres Strait Islander Heritage Protection Act into the Environment Protection Biodiversity Conservation Act (EPBC Act). Following this, and in line with the broader EPBC reforms, state processes could then be accredited by the Commonwealth as they meet pre-determined national standards. This amendment would streamline the legislative requirements around cultural heritage and would prevent the current practice of ‘forum shopping’ between state and federal processes on this matter. (sub. 27, p. 30)

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The Commission views Indigenous heritage and environmental protection as separate issues. Given that the ATSIHP Act was designed as a short-term measure two decades ago, to operate where Indigenous heritage protection by state or territory jurisdictions has failed, a preferred interim solution would be to introduce state and territory accreditation into the ATSIHP Act. This was a proposal in DEWHA's discussion paper on Indigenous heritage law reform:

The ATSIHP Act was intended to fill gaps in protection when state and territory laws were inadequate or not applied. Accreditation can promote high standards of protection across all states and territories and minimise overlaps in responsibilities. To make this idea work, the reformed legislation could set standards for state and territory laws ... and enable the Minister to accredit laws that meet the standards. The opportunity to gain accreditation could be an incentive for each state and territory to make sure its laws are effective, provided it is clear that by gaining accreditation a state or territory could stop the Australian Government from overriding its decisions. (DEWHA 2009a, p. 15)

As noted above, all states and territories have now enacted some form of Indigenous heritage legislation, but some Acts are outdated and some reviews have not been concluded. Accreditation of complying legislative regimes would be a positive first step towards the avoidance of unnecessary overlap.

A number of inquiry participants supported the development of criteria for Indigenous heritage accreditation. For example, the Northern Territory's AAPA commented:

The Evatt Review of the ATSIHP Act (1996) and the Reeves Review of the Aboriginal Land Rights (NT) Act both indicated that the operations of the Sacred Sites Act met all the standards for accreditation that are likely to be proposed. (sub. DR55, p. 2)

Similarly, the South Australian Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) supported accreditation:

... as a means of streamlining legislative requirements around cultural heritage, and to minimise opportunities for 'forum shopping' between the State and Commonwealth regimes. Moreover, DMITRE supports the proposal for accreditation of complying state legislative regimes to avoid unnecessary overlap between State and Commonwealth processes. (sub. DR72, p. 19)

The Queensland Government acknowledged the potential benefits of accreditation but had a number of reservations:

It is important to ensure that state/territory and Commonwealth law do not duplicate each other, while continuing to benefit Aboriginal and Torres Strait Islander people, proponents and government. Accrediting state and territory legislation has potential to be a method for reducing duplication, given appropriate accreditation criteria. Whether Queensland pursues accreditation will depend on the flexibility of the accreditation

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criteria, transition costs, relative operational costs and Commonwealth financial support. (Queensland Government 2010, p. 1)

In particular, the Queensland Government was concerned that Indigenous heritage accreditation criteria would be ‘too rigid and limiting the flexible approach inherent in the Queensland cultural heritage legislation’ (sub DR53, p. 19).

The MCA also raised concerns about accreditation:

MCA supports the intent of reducing duplication but is not supportive of the proposed strategy. A move by the Commonwealth Government both to maintain its existing regulations while creating an accreditation of State Government legislation may be perceived by the States as duplicating their responsibilities. (sub. DR63, p. 8)

The Commission considers it important that accreditation criteria are developed in consultation with state and territory governments. In addition, the criteria should be flexible enough to support legislative differences between jurisdictions that deliver similarly effective outcomes.

#### *Should the ATSIHP Act be repealed?*

In the draft report, the Commission recommended that ‘once all jurisdictional regimes are operating satisfactorily to the Commonwealth standard, the Australian Government should repeal the ATSIHP Act’. This recommendation received a mixed response.

Participants including AusIMM (sub. DR49, p. 6) and the South Australian Chamber of Mines and Energy (sub. DR37, p. 3) supported the recommendation. However, many participants stated that the ATSIHP act should remain as a protector of last resort. The New South Wales Aboriginal Land Council commented:

The ATSIHP Act should remain in operation. In NSWALC’s view the ATSIHP Act, while underutilised, provides an important mechanism to protect Aboriginal heritage legislation where state or territory laws have failed. (sub. DR47, p. 2)

Similarly, Turnstone Archaeology stated:

While there is a two tier legislation in place, it provides a safety net to which Aboriginal people can claim redress if the state system has adequately failed to protect sites considered significant ...

Having a second tier of recall for Aboriginal people is in some ways like being able to appeal to the Supreme Court. The limited number of times that this appeal is made surely does not impose more than a moral burden on explorers. (sub. DR65, p. 1)

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The Australian Association of Consulting Archaeologists (AACAI) commented that the ATSIHP Act should not be repealed because of its potential to manage Indigenous heritage of national significance:

... AACAI is of the opinion that it is not logical that ATSIHP should be repealed once the state and territory regimes are pulled into line. ATSIHP should be maintained because the powers do not completely overlap and ATSIHP should maintain the potential to deal with issues of national rather than state significance and provide for management of heritage across inter-state native title claim areas or inter-state provinces of heritage value. (sub. DR42, p. 1)

DMITRE considered it premature to consider a repeal of the ATSIHP Act.

As regards the proposed repeal of the ATSIHP Act, DMITRE considers this aspect of the recommendation as somewhat speculative and premature. This aspect of the proposal will require detailed consideration by the State and Commonwealth Governments at an appropriate time. (sub. DR72, p. 19)

The Commission has also been advised that there are potential legal issues involved with repealing the Act. In particular, the Australian Government would need a legislative basis for accrediting the state and territory arrangements. The Commission is not proposing that the ATSIHP Act should be repealed.

#### RECOMMENDATION 6.1

***The Australian Government should establish a system to accredit appropriate state and territory Indigenous heritage protection regimes, thus reducing the potential for regulatory duplication. Accreditation could only occur once Commonwealth requirements and standards are met.***

### **Heritage surveys and registers of Indigenous heritage**

Participants commonly raised three key issues in relation to heritage surveys — costs, delays and the inadequate listing of heritage surveys.

#### ***Costs and delays associated with Indigenous cultural heritage surveys***

In jurisdictions such as Western Australia, where explorers may be required to undertake cultural heritage surveys, explorers expressed concern about the costs and delays in conducting surveys.

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For example, the Association of Mining and Exploration Companies (AMEC) commented:

AMEC members have consistently expressed deep concern with the time delays and increasing costs in undertaking a heritage survey, and in progressing Section 18 consents. Some progress has been made in respect of the latter through the administrative processes of the ACMC [Aboriginal Cultural Materials Committee] however, the high costs that are incurred by industry in obtaining a heritage survey continue unabated. (sub. 24, p. 14)

AMEC reported that costs have increased significantly since 2010 and that its members have no ability to control the cost of heritage surveys.

Based on member feedback the average cost of a heritage survey has increased from \$11,000 per day in 2010 to the current approximate cost of \$15,000 per day. There have also been examples where the daily cost of undertaking the survey has exceeded \$20,000. There is limited opportunity for exploration companies to negotiate these costs. (sub. 24, p. 14)

Similarly, the Western Australian Government stated that ‘escalating costs of Aboriginal heritage surveys is a significant disincentive for exploration in Western Australia’ (sub. 29, p. 12). The Government provided a case study of a company undertaking exploration in midwest Western Australia. The study reported that:

- the onus is on the company to negotiate with traditional owners or Representative Bodies to reach an agreement which can include a fee just to meet to begin negotiations. Once an agreement has been reached to conduct a survey the company may be required to pay the following costs related to the process. The quantum of these costs depends on the size of the survey, location of the site and cooperation between all parties ...
- costs for an anthropological and ethnographic survey by an expert consultant including Aboriginal consultants ... can be \$25,000 for a 2 day survey
- the quality of the survey and the methodology employed can vary considerably between consultants
- ... the company has had to wait 10 months between submitting a notice of intent to explore and receiving the final survey report. The cost of delays in the process can be \$10,000 – \$20,000 due to equipment on hire standing idle. The greater opportunity cost and internal costs to manage the process are not easily quantified. (sub. 29, p. 13)

Some participants claimed that heritage surveys have become ‘big business’ in Western Australia. For example, AMEC, commenting on the *Aboriginal Heritage Act 1972* (WA) said:

A heritage survey industry has grown from this requirement for company due diligence and is now a significant ‘industry’ in its own right. Issues of supply and demand of qualified persons plus unrealistic expectations on the exploration industry’s capacity to

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pay have meant the industry sustains a large number of anthropologists, archaeologists and native title representatives. In combination they are costing the industry \$100 millions of dollars annually – money not being spent on the ground exploring. (sub. 24, p. 14)

In a similar vein, Melissa Hetherington, who undertook archaeological research in the same jurisdiction, commented:

One notable impact of these current heritage legislation and cultural heritage management practices is that archaeology in north Western Australia has become big business over the past 20 years. (sub. 16, p. 2)

In responding to the submission from the Western Australian Government, YMCA argued:

The WA Government's submission refers at length to the contemporaneous growth in expenditure and decline in minerals exploration activity and seeks to link this directly to heritage and native title related consultation and negotiations. However, the submission fails to provide strong evidence to support any direct correlation and does not sufficiently acknowledge the overall increase in the cost of doing business in remote areas of WA during a mining boom. (sub. 34, pp. 1-2)

The Ngarluma Aboriginal Corporation (NAC), also asserted:

The NAC refutes any suggestion contained within the submissions of other parties to the Productivity Commission to the effect that Aboriginal people are using the cultural heritage process for financial gain ... The NAC emphasizes that costs incurred in heritage survey work are those necessary for the provision of a specialized service ... Explorers 'risk manage' Aboriginal heritage and do not attract 'profit' but rather barely cover costs. These costs are associated with largely assisting exploration access, not hindering it. (sub. DR45, pp. 1-2)

Agreement making frameworks for Indigenous heritage protection (discussed later) are less vulnerable to these risks.

### *Indigenous heritage registers and information problems*

Indigenous heritage registers offer useful sources of information for explorers about their tenements. Heritage registers list up-to-date information about: all known Indigenous heritage sites; areas that have been the subject of CHMPs; who has been identified as responsible for country; and previously completed surveys and assessments.

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DMITRE commented:

... a regime which maintains a detailed register of all heritage sites and is the central repository for heritage surveys undertaken would significantly assist to provide increased certainty for resource explorers in relation to areas where Aboriginal heritage exists. (sub. DR72, p. 19)

In practice, while all jurisdictions maintain records of Aboriginal sites and objects, participants in the inquiry widely viewed the listing of Indigenous heritage as inadequate.

In jurisdictions such as Western Australia, where explorers may be required to undertake heritage surveys, inquiry participants reported that the inconsistent and inadequate listing of heritage surveys is leading to repeat surveys of the same site. The Australasian Institute of Mining and Metallurgy (AusIMM) commented:

Conducting Indigenous heritage surveys or reviews and negotiating native title are important issues for minerals exploration. All Australian States and Territories have different enquiry and notification systems that an explorer must navigate if they require information about whether a known Aboriginal heritage site or parcel of land subject to native title is situated on an area of interest. These systems are not comprehensive and not all jurisdictions keep a register of heritage surveys, meaning surveys can be unnecessarily repeated where an area is explored by a different company. (sub. 12, p. 6)

Registers with up-to-date information about all known Indigenous heritage sites and previously completed surveys could avoid multiple surveys of the same land by explorers. In 2008 AusIMM recommended to the Ministerial Council on Mineral and Petroleum Resources, that:

Jurisdictions maintain a heritage survey database containing all the surveys conducted and which is accessible by relevant interested parties (those holding rights to the tenement). (sub. 12, p. 7)

One issue preventing the establishment of heritage survey registers (or the inclusion of heritage survey information in existing Indigenous heritage registers) is that the copyright of heritage surveys commissioned by explorers is usually owned by the consultant that undertook the survey. A notable exception is the Northern Territory where mining and exploration companies are required to lodge all heritage and archaeological surveys with the Northern Territory Department of Lands, Planning and the Environment for inclusion in the heritage library. Sites are then entered into the Northern Territory Archaeological Sites Database. In addition, registers of sacred sites in the Northern Territory are maintained by the AAPA.

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The MCA endorsed the Northern Territory's approach to registering Indigenous heritage information.

The MCA commends to the Commission the Northern Territory model which enjoys the support of industry and Indigenous groups for providing a workable balance between the certainty sought by explorers and the security and confidence required by traditional owners.

The Northern Territory's Heritage Register is established under the Heritage Act 2011, is accessible online and contains details about places and objects that have been nominated to the Register, as well as those which have been declared. However, the Act provides that 'the register must not include information that under Aboriginal tradition must be kept secret.'

In addition, the *Northern Territory Aboriginal Sacred Sites Act 1989* has strict secrecy provisions which allow public access to 'anyone with a bone fide interest in specific areas of land or sea in the Northern Territory'. (sub. DR63, pp. 8-9)

However, some participants expressed concern that primary reliance on heritage registers could lead to poor outcomes. For example, the Queensland Government asserted:

The Queensland Government is strongly opposed to any system of management that relies on a centralised State sponsored register as the primary means of determining whether cultural heritage will be harmed by an activity. ...

Due to the nature and extent of Aboriginal and Torres Strait Islander cultural heritage throughout the Australian landscape, it is impossible for any database or register to be a comprehensive or complete record of all significant sites and places in an area. (sub. DR53, p. 20)

And YMAC argued:

... the lodgement of a consultant's report (for most relevant Aboriginal people that are custodians of heritage sites) would not provide the relevant or adequate comfort that those sites will be protected and managed into the future ... (trans., p. 62)

The Australian Association of Consulting Archaeologists noted that it is important to recognise the dynamic nature of heritage significance.

Since site significance changes over time, re-survey and re-assessment may be necessary and thus registered significance and the nature of sensitive information need to be dynamic. (sub DR42, p. 2)

In principle, it should be possible to develop registers containing matters of heritage significance and related information (such as who has been identified as having authority to speak for country) that are regularly updated with new details of Indigenous heritage, in much the same way as occurs for pre-competitive geoscientific information. This information can be used by explorers as an important source of information about their tenements.

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As discussed in section 6.2 and later in this chapter, effective consultation with Indigenous parties responsible for country is considered best practice in protecting heritage from risks that may arise in exploration. The Commission considers that while heritage registers are a valuable source of information, they are not a substitute for a sound Indigenous heritage approval process which includes consultation with Indigenous parties.

#### *Central registers under agreement-making frameworks*

Some participants considered that central registers were less important in jurisdictions where Indigenous heritage protection from exploration is centred on agreement making rather than government authorisation for exploration.

Commonly, each state maintains a central register of Aboriginal sites and objects. While the site registers are important, they appear to be less significant in Queensland and Victoria where the primary objective is consultation with traditional owners before development [and exploration] commences. (Schnierer 2010, p. 40)

In a similar vein, the Queensland Government said:

A register based approach to cultural heritage management is contrary to the current agreement making framework established by the Queensland legislation. (sub. DR53, p. 20)

However, Turnstone Archaeology argued that in Queensland there is value in lodging surveys at a central site.

... [M]andatory lodging of all surveys, archaeological reports and site locations (even if the information is given levels of security) should be part of Queensland cultural heritage legislation, if only to ensure for the future that the information collected is preserved safely in a central state repository. (sub. DR65, p. 2)

The Commission supports the view that, even under agreement making frameworks for Indigenous heritage, registers are a valuable tool for explorers. Registers of Indigenous heritage can alert explorers to areas of heritage significance on their tenement and act as a trigger for consultation with Aboriginal parties to discuss heritage management. Further, heritage registers have the potential to avoid repeat surveys for new activity on a tenement when a suitable survey has already been completed and registered.

#### *Protection of sensitive information*

Incomplete information on registers may sometimes be attributed to the unwillingness of Indigenous Australians to divulge sensitive information.

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Inappropriate release of information about sites can ... cause serious damage to Aboriginal people. Information may be released by mining companies or by government regulatory authorities that have become aware of it through their interaction with Aboriginal custodians. Alternatively, Aboriginal people may release information themselves because they are required to do so in order to seek protection under relevant legislation or agreement provisions, or more generally because they believe that only by highlighting the importance of a site have they any chance of protecting it. In this regard Aboriginal custodians face serious dilemmas. The public release of information that is supposed to be secret causes great anguish, and thus people are reluctant to release it unless a site is in imminent danger. (O'Faircheallaigh 2008, p. 8)

Many participants expressed concern about the listing of sensitive information. The New South Wales Aboriginal Land Council contended:

... it is fundamental that protections for sensitive information and culturally appropriate protocols are secured in legislation and implemented. (sub. DR47, p. 2)

The South Australian Department for Manufacturing, Innovation, Trade, Resources and Energy commented that when developing a heritage register:

... appropriate measures are likely to be required to protect sensitive information from release but these would require careful development to ensure an appropriate balance between protection of information and the ability to rely on existing surveys (so as to avoid repeat surveys of the same areas). (sub. DR72, p. 19)

The Ngarluma Aboriginal Corporation (NAC) commented:

... the NAC does not oppose the lodging of heritage surveys with a designated regulatory authority, provided that the relevant traditional owners conditions associated with provision of such data are fully met. These may include use of buffer zones and the withholding of confidential sites location and significance data. (sub. DR45, pp. 3-4)

The AAPA in the Northern Territory upholds strict provisions for secrecy when managing information on heritage registers.

The AAPA has the capacity to act as a central point of record for all sacred site related information in the NT. The AAPA currently maintains publicly accessible registers and records of all known sacred sites and of previously issued 'clearances' (Authority Certificates), and applies secrecy provisions to ensure that secret or sacred information and commercially sensitive information is excluded from those registers and records. (sub. DR55, p. 2)

The Commission endorses a risk management approach to the maintenance of Indigenous heritage registers. Agreed protocols should be developed such that sensitive information is only released to approved persons, and only at a level that is

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necessary for the conduct of the approved purpose. Under the protocols, appropriate information would be made available to explorers on a tenement-by-tenement basis.

The protocols would need to recognise that the registers relate to living cultures and that there may be a need, at times, to remove or redact sensitive cultural material from maps and other documentation.

#### RECOMMENDATION 6.2

***Governments should ensure that their heritage authorities:***

- require that resource explorers or other parties lodge all heritage surveys with that authority***
- maintain registers which map and list all known Indigenous heritage sites***
- adopt measures to ensure that sensitive information collected by a survey is only provided to approved parties (and only as necessary for the purposes of their activities), on the basis of agreed protocols.***

#### **Establishing who has authority to speak for country**

As discussed in section 6.2, consulting and negotiating with Indigenous groups who have responsibility and authority to speak for country is considered best practise in heritage management. However, where the individuals and groups who have authority to speak for country are not readily known, consultation can be costly and time consuming for explorers.

In the Northern Territory, the AAPA advised that:

AAPA and various Land Councils regularly cooperate to ensure that AAPA Authority Certificates are in place but it raises a number of hurdles involving increased timeliness and costs. (sub. 23, p. 1)

The Western Australian Government drew attention to circumstances where several Indigenous groups have responsibility for country.

Additional barriers can arise when there are multiple traditional owner groups that cover a single area. This increases the costs and time to consult with all groups and coordinate representatives from all groups to participate in surveys. (sub. 29, p. 13)

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Several inquiry participants noted that determining who has culturally appropriate responsibility for country and the authority to speak for country could be more complex in non-native title areas. The Australian Petroleum Production and Exploration Association stated:

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. (sub. 22, p. 18)

As discussed in section 6.2, the process of identifying the appropriate parties for consultation on heritage matters varies by jurisdiction. For example, in Victoria traditional owners or people with historical attachment to an area may be recognised as Registered Aboriginal Parties with authority to speak for country. In Queensland, Aboriginal Cultural Heritage Bodies can identify parties responsible for country for particular areas.

However, in New South Wales there has been criticism that there is no effective mechanism or Indigenous heritage guidelines to help identify the appropriate party to speak for country. For example, a report commissioned by the New South Wales Aboriginal Land Council stated:

A lack of clear guidance or direction in NSW Government policies about how to identify and prioritise one nominated Aboriginal group to be consulted on Aboriginal culture and heritage matters in an area is one of the major complaints about the NSW system. (Ellsmore 2012, p. 9)

Similarly, NTSCORP commented:

Currently in NSW there is no mechanism to ensure that the appropriate Traditional Owners ... are involved in all aspects of the survey and field work which informs cultural heritage assessment processes.

Such a failure to identify the appropriate people to speak for country not only prevents appropriate consultation occurring, but fundamentally undermines the efficacy of the assessments conducted. These consultation and engagement flaws will then be carried into the finalised documentation which supports exploration approvals ... (sub. 31, p. 5)

The issue of who speaks for country is currently being examined in a review on Aboriginal heritage legislation in New South Wales. Box 6.6 presents some comments made by participants to the New South Wales review.

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### Box 6.6 Who speaks for Country

A range of views on who speaks for Country have been raised by participants to the review on Aboriginal heritage legislation in New South Wales. Some of these are listed below.

- This issue is a community issue and needs to be dealt with and resolved by the Aboriginal community themselves and the decision belongs with community and not with government.
- People who come from country should be able to decide who is able to speak for country, such as senior Elders, and where appropriate, junior Elders.
- It should be people in the community who put themselves forward and perhaps they should have to register as a traditional owner. But they need to be accepted and pass the registration test, in truth, to hold that role.
- [It] should be Local Aboriginal Land Councils and NSW Aboriginal Land Council.
- Without question, a government sponsored process should be in place that registers groups or individuals through a mechanism far more robust than the current 'anyone who puts their hand up'. This should be by either Office of Environment and Heritage (or future equivalent) or a separate Aboriginal-run body.
- Extend the current Register of Aboriginal Owners under the Aboriginal Land Rights Act to include registration of a wider definition of persons authorised to speak for country and transfer management of register to new Aboriginal heritage management authority.
- Currently, government commitment to the inclusion of Aboriginal community views are so poorly defined as to be counterproductive. If there is a policy that it is up to the community to decide who speaks for country then it is contingent upon government to support that process and require all government agencies to comply rather than running their own agendas.
- Perhaps Aboriginal people should register their rights to their heritage in a proven region or area. People would need to state how they link to that Country and those links need to be clear and proven with fact.
- An independent Aboriginal body that is sponsored by government needs to be established to resolve conflicts. This body should register groups or individuals through a mechanism far more robust than the current system. It can't be a Land Council or a community group. It has to be a body that has no interest other than truth and fairness.

Source: NSW OEH (2012a, pp. 18–20).

The issue of whether the appropriate Aboriginal party has been identified is also an area of current debate in native title processes. For example, a recent working group report on *Taxation of Native Title and Traditional Owner Benefits and Governance* discussed a concern that those people who might be found to hold native title may not be receiving benefits to which they may be entitled if they are not included

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within the claim group prior to determination (Taxation of Native Title and Traditional Owner Benefits and Governance Working Group 2013). The working party recommended:

The Government take urgent steps to amend the Native Title Act or relevant regulations to clarify that the native title holding community is the beneficial owner of funds generated by native title agreements, irrespective of the identity of the legal owner or possessor of those proceeds, and that the named applicant is in a fiduciary relationship to their native title holding group. (Taxation of Native Title and Traditional Owner Benefits and Governance Working Group 2013, p. 19)

The Commission supports the general view of participants that an efficient and effective mechanism needs to be in place in all jurisdictions to identify representative traditional owners with authority to speak for country. Such an outcome would help to facilitate the agreement-making process and help explorers meet their Indigenous heritage obligations.

### **Promoting good working relationships with Indigenous communities**

The value of constructive consultation and negotiation between explorers and Indigenous parties is well recognised and is central to effective outcomes in Indigenous heritage.

With more than 60 per cent of Australian minerals operations neighbouring Indigenous communities, the development and maintenance of strong and positive relationships with Indigenous communities is critical to securing and maintaining the industry's social licence to operate ...

Cultural heritage places are integral to Indigenous Australians' connection with their traditional lands. Therefore any successful relationship between a mining company and an Indigenous community will include recognition and respect for the community's cultural heritage. (Department of Industry, Tourism and Resources 2007, pp. 3, 44)

Similarly, the MCA commented:

... the minerals industry has long recognised that engagement with Indigenous peoples needs to be founded in mutual respect and in the recognition of Indigenous Australians' rights in law, interests and special connections to land and waters. This has been reflected in the multitude of arrangements made between the minerals industry and Indigenous peoples, including traditional owners, around industry contribution to the management of cultural heritage. (sub. 27, p. 30)

And Native Title Services Victoria (NTSV) added:

NTSV believes it is in the interests of all parties to consult with traditional owners at the earliest stage of the process. It provides certainty to developers and avoids the risk of the project being delayed further into the process as a result of an ongoing poor relationship. (sub. DR48, p. 2)

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The Commission found that in practice there were marked differences of view about the negotiating behaviour of exploration companies, Indigenous parties and third party representatives.

On the one hand, some Indigenous groups claimed that consultation with Indigenous parties on heritage matters can be insufficient or ‘tokenistic’. NTSCORP asserted:

Proponents should be required to demonstrate a concerted effort to ensure that engagement with traditional owners and RAPs for culture and heritage management assessment processes is genuine and inclusive, rather than tokenistic. (sub. 31, p. 7)

On the other hand, the Australian Petroleum Production and Exploration Association claimed:

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. (sub. 22, p. 18)

While governments cannot tailor solutions to address the actions of negotiating parties, constructive behaviour can be facilitated through the dissemination of guidance and leading practices. Several such practices have been developed and published. These include:

- work with Indigenous parties as early as possible when exploration is being planned, to identify potential impacts and to try to agree on how to avoid damage to traditional areas and objects (DEWHA 2009a)
- agree on the timing and the level of consultation required for the activity (Australian Heritage Commission 2002)
- engage with Indigenous communities (or a third party) to build a social licence to operate (Department of Industry, Tourism and Resources 2007)
- investigate whether the interests of Indigenous people from surrounding areas may also be affected by an activity (Australian Heritage Commission 2002)
- involve Indigenous people in decision-making processes, not just consultation processes (NTSCORP, sub. 31).

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## Agreement making frameworks for Indigenous heritage

State governments have adopted different frameworks for protecting Indigenous heritage. At one end of the spectrum, Western Australia relies on ministerial decisions based on archaeological and anthropological heritage surveys. At the other end, the Queensland Government has adopted a streamlined ‘duty of care’ process (centered on agreement making) for most cases.

YMAC criticised the Western Australian approach for its lack of consultation with Indigenous Australians:

... Aboriginal people are largely marginalised and rendered powerless under the regulatory regime in Western Australia, under the Aboriginal Heritage Act. They are rarely, if ever, actually a party to a regulatory process. (trans., p. 62)

In contrast, the Queensland Resources Council (QRC) endorsed Queensland’s Indigenous heritage legislation.

... QRC members generally regard it [Queensland Indigenous heritage legislation] as the best Indigenous cultural heritage legislation in Australia and that both the certainty and flexibility it provides are crucial, as is its focus on the development of direct relationships between proponents and the owners and managers of Indigenous cultural heritage being the Indigenous people themselves. (QRC 2012, p. 1)

The Queensland Government described the merits of its legislation in the following terms.

The compliance framework established by the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003* provides a streamlined and balanced process for managing cultural heritage arising from resource exploration activities. This is achieved by:

- minimising direct government involvement in the negotiation of cultural heritage agreements
- eliminating the need for government approval of cultural heritage agreements (with the exception of activities that trigger Environmental Impact Statements)
- empowering Aboriginal and Torres Strait Islander people to determine the significance of cultural heritage
- enabling land users to liaise directly with the statutory Aboriginal or Torres Strait Islander party for an area to tailor specific agreements for their projects
- utilising provisions of the *Native Title Act 1993* (Cth) where appropriate to eliminate duplication
- reducing mandatory reporting requirements to government
- encouraging flexible and non-prescriptive approaches to the management of cultural heritage. (sub. 25, p. 20)

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Many participants expressed support for agreement-making frameworks, such as those that apply in Queensland, to facilitate exploration while protecting Indigenous heritage. NAC stated:

The NAC strongly supports that models of agreement making are far preferable to a government authorisation system. (sub. DR45, p. 4)

And KRED Enterprises commented:

... cultural property belongs to our traditional owners. An agreement process in how to deal with it would be more appropriate [than ministerial decision-making] and it would provide more certainty in the community. (trans., p. 38)

The Energy and Minerals Institute, University of Western Australia added that:

... heritage is critical to many Indigenous people's well-being and social and cultural needs. This is in contrast to purely monetary gains expected by mining parties. Put another way, no price can be put on heritage, so it is difficult to compare conflicting values. This is presumably another reason to prefer negotiation between parties over direction from government which, all too often, considers only economic benefits. (sub. DR66, p. 11)

The South Australian Government is considering implementing an agreement making framework for Indigenous heritage protection. DMITRE reported that the current South Australian regime 'contemplates in most cases, a government decision-making process when dealing with Indigenous heritage', but went on to note:

The SA Government is currently in the process of reviewing its Indigenous heritage legislation. In particular, consideration will be given to whether a suitable scheme of agreement making can be developed, and whether native title processes and Indigenous heritage processes can be more effectively aligned to avoid duplication of process, to minimise costs of land access and to facilitate more efficient processes for dealing with Indigenous heritage. (sub. DR72, p. 14)

A number of reports also support the premise that negotiated agreements between explorers and Indigenous parties are likely to produce sound outcomes for heritage protection. The basis for such views is that:

- agreements place the onus on the immediately affected parties — explorers and traditional owners — rather than a government agency, to decide how to best protect heritage values from being damaged or destroyed
- negotiated agreements allow parties to negotiate flexible, pragmatic agreements to suit their particular circumstances.

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For example, the Department of Industry, Tourism and Resources (2007), in its *Working with Indigenous Communities* handbook, concluded:

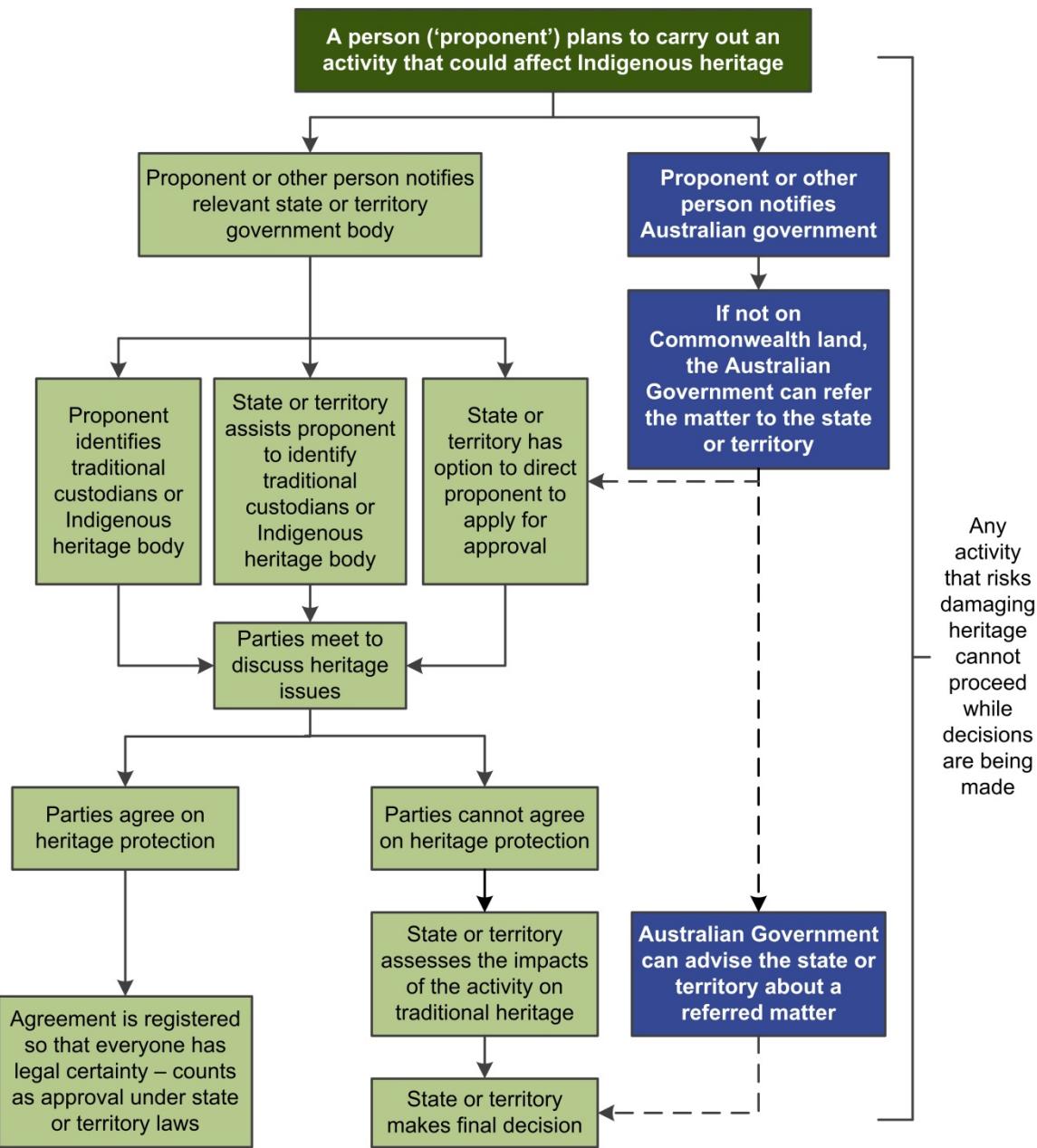
Agreements between mining companies and Indigenous people with rights and interests in land and waters are the most practical approach to finding ways to accommodate each other's interests ... Agreements provide mining companies with secure land access, which they need if they are to invest large sums in high-risk, long-term mining ventures. They also recognise the interests of Indigenous people who have maintained strong connections to the land and waters where, as a matter of law, their native title no longer exists, or only survives in a limited way. (p. 32)

Similarly, in a research paper on Indigenous and mining company agreements, O'Faircheallaigh (2008) stated:

In principle, such agreements could offer important advantages over legislation or direct political action as a means of protecting cultural heritage. They create, for the first time, an opportunity for Aboriginal people themselves to devise measures to protect their cultural heritage, and to negotiate acceptance of those measures by mining companies. Agreements could protect Aboriginal cultural knowledge, and could facilitate a proactive approach, allowing traditional owners to put systems in place designed to avoid damage. In addition, agreements could provide the resources required to support ongoing management and protection of sites over extended periods of time. (pp. 14–15)

The preferred method for Indigenous heritage protection presented in the (DEWHA 2009a) discussion paper on Indigenous heritage law reform was also centred on agreement making (figure 6.2).

**Figure 6.2 Reaching decisions about protecting Indigenous heritage**  
Preferred method from the Indigenous Heritage Law Reform Discussion Paper



Source: DEWHA (2009a, p. 6).

### A risk management approach

Efficient and effective Indigenous heritage protection should be based on sound risk management processes. Indigenous heritage regimes need to provide strong protection for areas that have high levels of heritage significance. Conversely, where there is no heritage significance or there is only a low risk of harming

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heritage, a streamlined ‘duty of care’ or ‘due diligence’ process can be more appropriate and reduce unnecessary costs and delays for explorers.

The AAPA supported a risk management approach.

The framework of the *Sacred Sites Act* entails a strong risk management model. Agreement making is undertaken using a number of methods, based around a requirement to consult with traditional Aboriginal custodians and facilitation of meetings and conferences between proponents and custodians to ensure clear understanding of both the project proposal and the sacred site protection requirements. This is a transparent and accountable model. (sub. DR55, p. 2)

And DMITRE explained the benefits of risk management processes for explorers.

DMITRE supports the recommendation for low risk activities to be streamlined and managed in a ‘duty of care’ or ‘due diligence’ process, while activities of high risk should be underpinned by models of agreement-making with Indigenous groups. This is likely to go some way to significantly reducing costs and delays for explorers in cases of low risk activities, whilst ensuring that higher risk activities are appropriately managed. (sub. DR72, p. 20)

The Commission considers that, when there is a high level of heritage significance and the exploration activity is likely to impact on the heritage values of a site, management agreements between traditional owners and resource explorers, such as those that apply in Queensland, represent leading practice.

The Commission also recognises that there may be circumstances where agreement is not readily reached. This may be the case when either party lacks the necessary financial resources or expertise to negotiate agreements and, as a consequence, processes can be delayed and outcomes may be unsatisfactory. Agreement making may also be difficult to achieve if issues are particularly contentious and parties are unwilling to compromise. For example, the AAPA submitted:

It is AAPA's experience that directly negotiated agreements have not produced sacred site protection conditions of an acceptable standard, and that the independent but accountable model under the *Sacred Sites Act* provides for clear protection conditions which allow works, protect sites and maintains the responsibilities for proponents to lawfully comply with those conditions. (sub. DR55, p. 2)

When agreement cannot be reached, a facilitation process may improve outcomes. The facilitator should be a neutral third party, such as a land court or an independent facilitation service. Importantly, the process should be affordable and not unnecessarily increase approval timelines for exploration. Third party involvement may also have the additional benefit that Indigenous Australians may be more willing to divulge sensitive information to that party (when they have established a trusted working relationship) than to an explorer.

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When facilitation is also unsuccessful, decisions need to be made whether or not exploration should be allowed to proceed on a site of Indigenous heritage significance. In Queensland, if agreements (with the exception of mandatory CHMPs) cannot be negotiated, explorers are permitted to undertake exploration under duty of care arrangements, but risk prosecution if heritage is damaged. The Queensland Government explained:

... the Queensland Government is opposed to the notion that governments should intervene in circumstances when negotiated agreements cannot be reached... [It] is contrary to the operation of the Queensland legislation which promotes consultation and agreement with traditional owners but enables land users to continue their activities should parties fail to reach agreement. ...

In these circumstances, land users must continue to take all reasonable and practicable measures to avoid harm to cultural heritage. This ensures the Government does not assume the role of brokering agreement between parties, which could be perceived to undermine the independence of the regulator. (sub. DR53, p. 21)

However, the ability of explorers to enter a significant Indigenous heritage site (under duty of care) without an agreement from the responsible Indigenous parties may undermine the involvement of Indigenous Australians in heritage management and decision making. The Energy and Minerals Institute, University of Western Australia opined that until Indigenous people become more empowered there will be a need for governments to mediate conflict:

The potential success of agreements is undisputed. However, the means to prevent inequitable agreements should be explored further. For example, should Indigenous people have stronger vetoes over development on significant sites? Without greater empowerment of Indigenous people in this process there seems no way around the fact that government or statutory bodies eventually will have to step in to mediate conflict, or that conflict will lead to litigation, both of which are undesirable from an industry point of view. (sub. DR66, p. 11)

DMITRE commented:

... in cases where negotiated agreements are not possible, ... appropriate mechanisms will be required to address Aboriginal heritage protection and other land use (such as mining) in an appropriate way, including by way of government decision-making processes if necessary. (sub. DR72, p. 20)

The Commission supports the view that if a facilitation process fails, it is then the government's role to make informed decisions about whether or not Indigenous sites, artefacts, remains and objects are to be preserved, conserved and protected or are allowed to be damaged, destroyed or relocated. This would involve clear decision-making criteria (including consideration of the heritage value, the economic and social benefits of the land, and the impact that exploration is likely to

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have on the heritage value), transparency, and consultation with the proponent and Indigenous parties that have authority to speak for country.

RECOMMENDATION 6.3

*State and territory governments should manage Indigenous heritage on a risk assessment basis.*

- *Where there is a low likelihood of heritage significance in a tenement and the exploration activity is low risk, a streamlined ‘duty of care’ or ‘due diligence’ process should be adopted.*
- *Where there is a high likelihood of heritage significance and the exploration activity is higher risk, agreement making should be adopted.*
- *When negotiated agreements cannot be reached, all parties should have access to a facilitation process.*
- *When facilitation is unsuccessful, governments should make decisions about heritage protection based on clear criteria, transparency and consultation with the proponent and Indigenous parties that have authority to speak for country.*

## Native title and Indigenous land rights regimes

Chapter 5 noted participants’ concerns with the costs and delays with native title regimes and with the interaction of native title and Indigenous land rights regimes with heritage processes. Box 6.7 provides background on the *Native Title Act 1993* (Cth) and Indigenous heritage protection.

NTSCORP commented:

We note that while consideration of the *Native Title Act* is explicitly excluded from the Terms of Reference of the study, native title and culture and heritage are fundamentally interconnected concepts and processes. We believe that better integration of native title and culture and heritage processes in the mineral exploration realm would lead to a substantial amount of regulatory duplication being avoided. (sub. 31, p. 7)

Similarly, the Northern Territory Department of Mines and Energy asserted that ‘the *Aboriginal Land Rights Act 1976* is considered to be the foremost non-financial barrier to exploration in the Northern Territory’(sub. 2, p. 1).

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### Box 6.7 Native title and Indigenous heritage

The *Native Title Act 1993* (Cth) (NTA) commenced on 1 January 1994 and has since been substantially reviewed and amended. Native title is a set of rights that are possessed under the traditional laws and customs of Indigenous people that can provide them with exclusive possession of, or limited access to, their traditional lands for a wide range of purposes that could include hunting, fishing, medicine, accommodation, religion and culture.

The NTA provides a systematic legal framework to balance the common law native title rights and interests of Aboriginal and Torres Strait Islanders against the requirements of other land users (miners, pastoralists, tourist operators and others) who need land access and certainty of title while also ensuring that governments can continue to improve infrastructure and manage natural resources. More specifically, the objectives of the NTA are to:

- recognise and protect native title as defined under the common law
- confer legal validity on ‘past acts’ (that is, legislative and administrative actions by governments and persons generally before 1 January 1994) that may otherwise have been invalid because of the existence of native title
- provide a framework for ‘future acts’ (that is, actions by governments and persons which affect native title and which are not past acts) and establish conditions, including a ‘right to negotiate’, by which future acts can proceed
- establish a mechanism by which native title and compensation can be determined.

The NTA was a significant development for the management of Indigenous heritage. Native title establishes processes of mediation and negotiation between native title parties, governments and proponents (including exploration and mining companies), providing some Indigenous people the ability to negotiate the identification and care of their own heritage on more equitable terms (Edelman et al. 2010).

Further, participants noted that heritage legislation may be confused with processes under native title and Indigenous land rights acts. The AAPA noted:

... our Authority Certificate process for the protection of sacred sites is often confused with Land Councils’ charter in forming agreements on land use. While sacred sites are taken into consideration during Land Council consultations, an AAPA certificate is the only document under the *Northern Territory Sacred Sites Act* legislation that provides indemnity against prosecution if damage to a sacred site occurs. (sub. 23, p. 1)

The Commission notes that the close interaction between Indigenous heritage, native title and Indigenous land rights Acts may provide avenues for identifying improved exploration approval arrangements. However, the examination of processes under the *Native Title Act 1993* (Cth), the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) and state Indigenous land rights regimes has been excluded from the terms of reference given to the Commission for this inquiry.

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## 6.4 Exploration and historic heritage

Australia's historical heritage consists of places that are important to Australia's national identity and that warrant protection from damage or modification. Historic heritage applies to a diverse range of sites — including shipwrecks, buildings, bridges, mines, farms, gardens and graves — that have been endorsed by an authorised body as having cultural value to Australia and/or the wider world.

### *Onshore historic heritage*

All three levels of government contribute to the protection of Australia's onshore historic heritage. At the national, state and territory levels, the basic regulatory framework is broadly similar. Each jurisdiction maintains a list or register of identified historic heritage places administered by a jurisdiction-specific Heritage Council. Depending on the jurisdiction, the decision as to what sites should be placed on these lists is either made by these Councils, or by the Minister (usually on the basis of advice from the Council).

Local governments also identify places of local heritage value and regulate these through their planning schemes. All states, with the exception of Tasmania, have provisions or requirements for local governments to establish a register of locally significant places.<sup>10</sup> In 2006, the Commission identified that there were over 147 000 listed local government heritage places in Australia (PC 2006).

The main implication of a site being placed on a heritage list is that restrictions apply as to what works can be carried out on the site — generally, anything beyond minor maintenance and upkeep requires prior approval from the appropriate government agency. Although exploration may be restricted in and around listed sites, relative to other forms of heritage, the limitations on exploration arising from historical heritage regulations are minor. This is because:

- most historic heritage is concentrated in small pockets and often in locations where exploration is unlikely (for example, in residential or commercial districts of cities and towns)
- the maintenance of up-to-date heritage lists allows explorers to gauge the degree to which their planned exploration activities will impact on historic heritage sites prior to commencing their operations.

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<sup>10</sup> Historic heritage protection in the Northern Territory and the ACT is solely the responsibility of Territory governments.

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That said, the MCA noted that the need for companies to consult multiple lists is problematic:

... MCA considers that significant opportunity exists to reduce the complexity of the Heritage processes through the consolidation of heritage listings in a National Heritage Register. A single Register would reduce the existing challenges of understanding the heritage values within a region by having to consult multiple registers. (sub. 27, p. 30)

The establishment of a national heritage register which consolidates local, state and national heritage lists is likely to expedite searches by explorers (and others) as part of their approval processes, but the level of additional benefit is uncertain. Online, searchable databases of listed heritage places already exist for listings by the Australian Government and each state and territory government. Some local governments publish their heritage lists online, while those that do not typically provide access through a public facility, such as a library (PC 2006). Further, developing a national list would also involve costs in establishing the list and maintaining its currency across all jurisdictions as heritage places are listed or delisted. On balance, it is unlikely the benefits that explorers could obtain from a national list would outweigh these costs.

An alternative way to reduce the burden of having multiple heritage lists would be for state governments to encourage those remaining local governments that do not yet publish databases of their historic heritage online, to do so. Explorers would be able to expediently search for local heritage places around their areas of operation, reducing their costs of identifying heritage listed areas and possibly raising their level of compliance with regulatory requirements.

Additionally, the MCA suggested that there is a lack of opportunity for stakeholders to comment on proposed heritage listings:

Property owners and those with interests in an area should be entitled to make submissions on listing proposals that fundamentally affect the value of, and use that can be made of, their assets. (sub. 27, p. 30)

The Commission (PC 2006) heard similar suggestions in its inquiry into the conservation of Australia's historic heritage. Recommendation 10.1 (p. 264) from that inquiry was directed at state and territory governments and proposed, among other things, that they should:

- require that listing authorities directly notify owners of any intention to add their place to the statutory list
- require that listing authorities make available a preliminary statement of significance to the owner and the public, prior to public consultation

- 
- require that listing authorities follow timely consultation procedures following a decision to consider a place for statutory listing.

In its response to the Commission's recommendation, the Australian Government agreed that these points 'encourage best practice in the management of privately-owned historic heritage places by state and local governments' (Australian Government 2007, p. 6). The response by the Chairs of the State and Heritage Councils of Australia also noted:

Statements of significance, and consultation with owners and the public, are already an integral part of the listing process in most jurisdictions. ...

The *Cooperative National Heritage Agenda for Australia* includes improved policy guidance on managing changes to heritage places. All jurisdictions are working to improve the level of information available to owners of heritage places. (2006, p. 12)

The Commission encourages the continued implementation of this recommendation. By allowing sufficient time for public comment prior to listing a nominated site on a heritage register, regulators have greater scope to gauge the views of affected parties and will have more information to weigh the costs and benefits of the listing.

The MCA (sub. 27) also presented concerns that heritage decisions can be made without due consideration to wider social and economic factors and, as such, listings can be made without fully assessing the impacts on the local community or region.

There are costs associated with heritage listing a particular site. One of these costs is an opportunity cost because once a place is listed on a historic heritage register, it is difficult to convert the site to an alternative use. In its inquiry into historic heritage, the Commission found:

Current methods of identifying historic heritage places for statutory listing focus on the benefits expected to accrue to the community. Typically, there is little, if any, consideration to the costs imposed either on the owner or the community more generally. (PC 2006, p. 149)

Within the specific domain of resource exploration, listing can result in forgone opportunities to explore for resources on a heritage listed site. However, as discussed above, the limitations imposed on the industry by complying with historic heritage regulations are minor and, furthermore, changes to the criteria and procedures used by each jurisdiction to nominate, assess, register and protect historic heritage places have policy implications far beyond the exploration industry alone. As such, the Commission will not be examining this issue further in this inquiry.

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### *Offshore historic heritage*

Australia's offshore historic heritage consists predominately of shipwrecks and the relics in and around them. These shipwrecks are protected under the *Historic Shipwrecks Act 1976* (Cth), although state and territory legislation has a role for wrecks found in waters within the limits of a state. The Act mandates that a historic shipwreck must not be damaged, destroyed or interfered with without a permit. The Act automatically protects shipwrecks that are 75 or more years old regardless of whether their location is known. Shipwrecks less than 75 years old can also be protected under the Act by declaration of the responsible Minister (SEWPaC 2009).

In 2009, the Australian Government announced that the Act would be reviewed. In the ensuing discussion paper, the ambiguity around the extent that shipwrecks could be disturbed for development purposes — including for oil and gas exploration — was noted:

Since 1976 many shipwreck sites have been located in Australian waters. Some of the [sites of] shipwrecks are currently being exploited for development, such as coastal developments, aquaculture or oil and gas exploration. While the Act clearly states that historic shipwrecks should not be damaged or interfered with, it is unclear how development proponents can ascertain what shipwrecks might be in their development area and how they should manage the sites if historic shipwrecks are located.

The Act contains no clear procedures that a developer should follow to assess the impact the development would have on historic shipwreck sites, to undertake mitigation activities, or to obtain approval for works prior to any actions that may damage historic shipwreck sites. (Australian Government 2009, p. 14)

The 2011-12 Annual Report of SEWPaC stated that the review of the Act is 'ongoing' (SEWPaC 2012b, p. 212).

During this inquiry, the Commission has not heard of any instances where the current regulations around historic shipwrecks have represented barriers for oil and gas exploration companies. However, further clarification on the processes and procedures explorers must meet when working around historic shipwrecks — as flagged in the review of the Historic Shipwrecks Act — is likely to be of benefit to the industry.



# 7 Environmental management

## Key points

- Environmental impacts arising from exploration activity can range from those that are minor and temporary, such as limited soil disturbance, to those that are large and longer term, such as an oil leak in a sensitive marine environment.
- The policy challenge for governments when establishing environmental regulatory frameworks is to achieve an appropriate balance between the benefits of mineral and energy resource exploration and any associated potential for adverse environmental impacts.
- State and territory governments are the main environmental regulators for onshore exploration.
- The Australian Government's onshore role is largely limited to defined 'matters of national environmental significance'. It is also responsible for the Commonwealth marine area.
- The Commission's recommendations for reform include:
  - reducing duplication of environmental assessments and approvals within and between jurisdictions
    - ... for example, by endorsing the National Offshore Petroleum Safety and Environmental Management Authority's process to assess and accept environmental management arrangements for petroleum exploration activities in Commonwealth waters for the purposes of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
    - ... and by establishing bilateral agreements with the states and territories for approvals under the EPBC Act.
  - ensuring regulatory requirements are commensurate with the likely level of impact or risk and do not anticipate that exploration will lead to extraction
  - ensuring regulatory requirements are outcome focused by, for example, adopting performance-based standards
  - improving the clarity and transparency of regulatory requirements
  - increasing the public availability of archived environmental data, while operating within agreed protocols for commercially sensitive information
  - objectively assessing the evidence, and adopting an adaptive management approach, where there is uncertainty as to the environmental impacts of exploration.

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This chapter opens with an overview of the potential environmental impacts arising from mineral and energy exploration (section 7.1) and a description of the regulatory frameworks in Australian jurisdictions (section 7.2). It then proposes reforms that address instances of regulatory duplication within the Commonwealth regulatory framework (section 7.3) and between the states and the Australian Government (section 7.4), as well as situations where the regulatory requirements are not commensurate with the likely environmental impacts (section 7.5). The chapter concludes with some proposed reforms that would improve the administration of environmental assessment and approval processes for exploration (section 7.6).

## 7.1 Potential environmental impacts of exploration

The potential environmental impacts arising from mineral and energy exploration are diverse. They depend on the nature of the environment in the area being explored, the scale of activity and the techniques and equipment used for exploration. They range from minor and temporary impacts — such as the disturbance of surface soil as a result of sampling activities — to large and longer-term impacts, such as oil leaks in sensitive marine ecosystems.

For the majority of exploration activities, the likely impacts on the environment are straightforward to assess. They can include: discharges to land or water — including ‘drilling muds’ and fluids; emissions to air; noise; clearance of topsoil; and disturbance to native flora, fauna and ecosystems, both terrestrial and marine. In some cases, however, there can be uncertainty about the nature and extent of impacts, particularly where the scientific understanding is still evolving. Examples include the impacts of seismic surveys on marine mammals and the impacts of coal seam gas (CSG) exploration on aquifers.

### Mineral exploration — techniques and impacts

Onshore exploration for minerals is undertaken using a variety of techniques (box 7.1). Those that generally have a negligible impact on the environment include: geological mapping and geochemical sampling, which may include taking small rock or soil samples; and geophysical, aerial, gravity, magnetic, resistivity, induced polarisation, electromagnetic and seismic surveys. The main impacts of some of these activities will be caused by vehicles accessing and moving around the survey area.

### Box 7.1 The potential environmental impacts of exploration

Onshore exploration for minerals is undertaken using a variety of methods, many of which have a low impact on the environment:

- **Geological mapping, geochemical sampling and geophysical surveying** are generally carried out on foot, with access to the area by conventional vehicles on existing tracks. Geological mapping involves the search for and examination of rock outcrops and exposures. Geochemical sampling involves taking rock and soil samples using hand tools, while geophysical surveying involves generating data using portable instruments such as gravimeters. Environmental impacts are generally negligible.
- **Aerial surveying** has negligible impact, other than perhaps annoyance from low flying aircraft.
- **Resistivity, induced polarisation and electromagnetic surveying** are carried out using equipment with interconnecting cable arrays. Electricity is supplied by a generator which can be vehicle mounted. Impacts include the excavation of shallow holes or the insertion of metal probes, and are generally small and temporary.
- **Seismic surveying** may require the drilling of shallow holes, usually with a hand held power auger, and access for light vehicles. Either a small explosive charge is detonated below ground, or a hand held mechanical hammer or a vehicle mounted weight is used to generate shock waves in the ground. Impacts involve noise and minor ground vibration, and are generally small and temporary.
- **Drilling** involves taking subsurface samples. The larger the drill rig, the greater the environmental disturbance is likely to be. Environmental impacts can arise from drill pad construction, access to the drill site, sump construction, noise, waste water disposal and intersection of groundwater aquifers.
- **Costeanning and trenching** involve mechanical excavation of trenches to expose ground for the observation of geological features and for sampling. Possible impacts include erosion on steeper slopes, damage to vegetation through excavation or from clearing to allow access for equipment, and mixing of topsoil with the subsoil.

Exploration for petroleum and natural gas is largely undertaken through seismic surveying and drilling. Onshore impacts are similar to those outlined above, although they can also include hydrocarbon contamination. There are also specific impacts from offshore exploration:

- **Offshore seismic surveying** generates short, intense pulses of sound directed at the seafloor. This can cause disturbance to marine mammals — including to their breeding and migration activities — and to ecological communities.
- **Offshore drilling** involves the mechanical drilling of a wellbore through the seabed. Submarine cables and anchors can cause scouring of the sea floor, and drill cuttings can smother marine fauna. There are risks of hydrocarbon contamination and disturbance to ecological communities and marine habitats.

Sources: Vic DPI (2010a); WA DMP (2013).

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Techniques that have the potential for larger impacts include drilling, costeanning and trenching, and surface bulk sampling. Impacts can include loss of vegetation, erosion and intersection with groundwater aquifers.

## **Petroleum and natural gas exploration — techniques and impacts**

Exploration for petroleum and natural gas — both onshore and offshore — has some similar impacts to exploration for minerals, but also has differences. Seismic surveying and drilling are two commonly used methods to define and analyse subsurface geological structures for the presence and abundance of these resources (box 7.1).

Offshore seismic surveying utilises a technique that directs acoustic energy (sound) into the rock beneath the sea floor from equipment towed behind a purpose-built seismic vessel. The loudest sounds are produced by air guns which generate short, intense pulses of sound directed at the seafloor. Offshore exploratory drilling is a mechanical process where a wellbore is drilled through the seabed.

Significant offshore impacts could occur in areas that contain habitats for threatened or migratory species — for example, if seismic activity interferes with breeding, feeding or migration, or if a habitat critical to the survival of a species is damaged by drilling. There is also the potential for impacts if drilling occurs in sensitive marine areas — for example, sea mounts and other areas with high biodiversity value — or if there is hydrocarbon contamination.

## **7.2 The regulatory frameworks for managing the environmental impacts of exploration**

Governments have developed environmental regulatory frameworks because many of the environmental costs associated with resource exploration are not directly borne by the explorers that cause these costs; that is, there are negative environmental externalities.

The regulatory frameworks seek to ensure that such externalities are recognised and taken into account during the assessment and approval process for exploration proposals. The policy challenge for governments when developing regulatory frameworks is to achieve an appropriate balance between the potential benefits afforded by resource exploration and the associated potential environmental costs. The task for regulators is to efficiently administer the regime in accordance with the objectives of the framework.

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## **State and territory environmental legislation**

Environmental regulation is primarily the responsibility of state and territory governments. The regulatory frameworks typically distinguish between exploration for minerals and for petroleum and natural gas, and between onshore and offshore exploration. This approach reflects the differing techniques associated with such exploration activities, and the differing environments within which such activities occur. The frameworks include environmental protection Acts that establish impact assessment requirements.

The main Acts and supporting legislation, codes of practice and guidelines to manage the environmental impacts of onshore exploration are outlined in table 7.1.

The states and the Northern Territory have title and powers over the resources of the seabed adjacent to their shores, from the low water mark to the outer limit of the first three nautical miles of the territorial sea — the so-called ‘coastal waters’. State and territory environmental, conservation and planning legislation applies to activities in the coastal waters. The key coastal waters legislation in each state and the Northern Territory is listed in table 7.2. The states and the Northern Territory also have title and powers over the resources of their ‘internal waters’, which are those waters on the landward side of the territorial sea baseline that fall within their constitutional boundaries. Internal waters may include bays, gulfs, estuaries, rivers, creeks, inlets, ports or harbours.

## **State and territory assessment and approval processes**

While the states and territories have varying processes for identifying environmental impacts and determining ways to manage those impacts, their regimes have many common features.

### *Proposal*

In seeking environmental approval, proponents are generally required to outline: the exploration proposal and its duration; the infrastructure needed; the proposed community consultation program; and potential environmental impacts, their significance, and how the proponents plan to manage those impacts. Proposals are often presented as a formal document of advice that proponents use to:

- trigger the assessment and approval process
- inform the community about the project.

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### *Assessment and approval*

Having received a proposal, the relevant state or territory regulator decides whether an environmental assessment is necessary based on the likely significance of the environmental impacts. In some jurisdictions, the regulator is an environment agency; in others, it is the resources department, or the resources department operating on the advice of an environment agency.

Most processes have several levels of assessment, depending on the environmental significance and complexity of the proposed project. Where it is clear from the initial advice that the project has minimal environmental impact, or where the explorer has adequately addressed environmental concerns and will be using appropriate environmental management practices, the regulator may not require further assessment.

In Queensland, for example, standard applications are used for low-impact activities. If the proponent can comply with specified standard conditions for a particular exploration activity, the proposal goes through an administrative process rather than a technical assessment. South Australia has a similar process for low-impact mineral exploration activities through its generic program for environmental protection and rehabilitation.

In some jurisdictions, a public environmental report, or similar document, may be required for an exploration proposal. Such reports provide details about the proposal, including potential environmental impacts and proposed management techniques.

In New South Wales, for example, proponents of most exploration activities are required to submit a Review of Environmental Factors that addresses all potential impacts of the proposal, including those on the environment, water resources and the community. Approval will not be given if the relevant approval agency considers that the environmental impacts of the project are unacceptable (NSW DTI 2013).

**Table 7.1 Key state/territory environmental protection legislation for onshore exploration**

<i>Jurisdiction</i>	<i>Relevant Acts</i>	<i>Other key legislation, guidelines and codes of practice</i>
New South Wales	<i>Protection of Environment Operations Act 1997</i> <i>Environmental Planning and Assessment Act 1979</i>	Protection of the Environment Operations Regulation (various) Environmental Planning and Assessment Regulation 2000
Victoria	<i>Environment Protection Act 1970</i> <i>Flora and Fauna Guarantee Act 1988<sup>a</sup></i> <i>National Parks Act 1975</i>	Environment Protection Regulations (various) State Environment Protection Policies (ambient air quality, control of noise, water quality) National Parks (Park) Regulations 2003
Queensland	<i>Environmental Protection Act 1994</i> <i>Environment Protection (Greentape Reduction) and Other Legislation Amendment Act 2012</i>	Environmental Protection Regulation (various)
Western Australia	<i>Environment Protection Act 1986</i> <i>Conservation and Land Management Act 1984</i>	Environment Protection Regulations (various) Conservation and Land Management Regulations 2002 Draft Guidelines for Environmentally Responsible Mineral Exploration and Prospecting in Western Australia
South Australia	<i>Environment Protection Act 1993</i> <i>Wilderness Protection Act 1992</i> <i>National Parks and Wildlife Act 1972</i>	Environment Protection Regulations 2009 Wilderness Protection Regulations 2006 National Parks and Wildlife Regulations (various)
Tasmania	<i>Environmental Management and Pollution Control Act 1994</i> <i>Nature Conservation Act 2002</i> <i>National Parks and Reserves Management Act 2002</i>	Environmental Management and Pollution Control Regulations (various) Mineral Exploration Code of Practice
Northern Territory	<i>Environmental Assessment Act 1994</i> <i>Waste Management and Pollution Control Act 1998</i> <i>Territory Parks and Wildlife Conservation Act 1980</i>	Environmental Assessment Administrative Procedures 2003 Waste Management and Pollution Control (Administration) Regulations 1998 Territory Parks and Wildlife Conservation Regulations 2001

<sup>a</sup> The Victorian Department of Primary Industries (Vic DPI) website notes that: 'Clearing of native vegetation for exploration purposes can only be undertaken if approved ... through the work plan and if other relevant authorisations have been obtained, such as ... permits required under the Flora and Fauna Guarantee Act 1988' (2008, p. 7).

Sources: Minerals Council of Australia (sub. 27); Vic DPI (2008).

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**Table 7.2 Key state/territory environmental protection legislation for offshore petroleum exploration**

<i>Jurisdiction</i>	<i>Key Acts</i>
New South Wales	<i>Petroleum (Offshore) Act 1982</i>
Victoria	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2010</i>
Queensland	<i>Petroleum (Submerged Lands) Act 1982</i>
Western Australia	<i>Petroleum (Submerged Lands) Act 1982</i>
South Australia	<i>Petroleum (Submerged Lands) Act 1982</i>
Tasmania	<i>Petroleum (Submerged Lands) Act 1982</i>
Northern Territory	<i>Petroleum (Submerged Lands) Act 1981</i>

Source: DRET (2013).

In rare cases, an environmental impact statement or similar document may be required for exploration projects. Because of their potentially significant impacts, these proposals undergo detailed evaluation and extensive community consultation and review, and may need comprehensive environmental management programs. The government regulator, or the responsible Minister, will then either issue an environmental approval — sometimes with conditions attached — or, if they consider that the project would have an unacceptable effect on the environment, decide not to issue an approval. In practice, few exploration proposals have required such a high level of environmental impact analysis under state and territory processes.

## The Australian Government's environmental legislation

The Australian Government's regulatory framework covering mineral and energy resource exploration largely relates to:

- ‘matters of national environmental significance’, as defined in the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- offshore petroleum exploration, governed by the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGS Act).

### *Regulation of matters of national environmental significance*

Many of the matters of national significance defined in the EPBC Act arise from the obligations contained in various international environmental conventions that the Australian Government has ratified. Ratification provides the constitutional basis for Commonwealth environmental legislation that is not within its own jurisdiction. The major conventions that were significant to the enactment of the EPBC Act are: the World Heritage Convention; the Ramsar Convention; the United Nations

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Convention on Biological Diversity; and the United Nations Convention on Climate Change.

Various intergovernmental agreements and national strategies have been developed to facilitate Australia meeting its international obligations, including: the 1992 Intergovernmental Agreement on the Environment; the 1997 Heads of Agreement on Commonwealth and State Roles and Responsibilities for the Environment; the National Strategy for Ecologically Sustainable Development; and Australia's Biodiversity Conservation Strategy 2010–2030.

There are currently nine matters of national environmental significance that can ‘trigger’ the need for assessment and approval under the EPBC Act (box 7.2). These include the recently introduced matter of a significant impact on a water resource involving CSG development or large coal mining development.

**Box 7.2 EPBC Act — matters of national environmental significance**

The nine matters of national environmental significance under the EPBC Act are:

- listed threatened species and ecological communities
- migratory species protected under international agreements
- Ramsar wetlands of international importance
- the Commonwealth marine area
- World Heritage properties
- National Heritage places
- Great Barrier Reef Marine Park
- nuclear actions
- a water resource involving CSG development or large coal mining development.

Source: SEWPaC (2013a).

Any exploration activity that is likely to have a significant impact on a matter of national environmental significance needs to be considered by the proponent for possible referral for an environmental assessment and approval under the EPBC Act.

*Environmental regulation of offshore exploration*

Offshore petroleum operations in Commonwealth waters (the Commonwealth marine area) — that is, the area between the outer limit of state and territory coastal waters and the outer limit of the continental shelf — are governed by the OPGGS Act and related regulations, including the Offshore Petroleum Greenhouse Gas

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Storage (Environment) Regulations 2009 (Cth) (OPGGS (Environment) Regulations).

The OPGGS (Environment) Regulations have the primary objective of ensuring any petroleum activity in Commonwealth waters is carried out in a manner consistent with the principles of ecologically sustainable development, and in accordance with an environment plan that has appropriate environmental performance objectives and standards, as well as measurement criteria for determining whether objectives and standards are met.

The Australian Government also regulates offshore petroleum exploration through the EPBC Act. For early stage petroleum exploration, the main trigger for assessment under the EPBC Act is the Commonwealth marine area and, in particular, the noise impacts on marine mammals — particularly whales — from seismic activities.

## **Administering the EPBC Act**

The EPBC Act offers two processes to obtain approval for actions that are likely to have a significant impact on matters of national environmental significance. The first of these is a referral, assessment and approval process for individual proposals. The second is a strategic assessment process.

### *The referral, assessment and approval process*

The majority of exploration proposals under the EPBC Act follow the referral, assessment and approval process.

#### *Referral*

The EPBC Act places the onus for referring proposals on the person or company proposing to take the action. Proponents may refer their exploration proposals to the Environment Minister, who has 20 business days to decide whether the proposed action is likely to require approval under the EPBC Act.

If a significant impact is considered unlikely, further assessment is not required and the proponent can proceed to take the referred action with legal certainty. In such cases, the proposal is determined by the responsible Minister to be either:

- ‘not a controlled action’
- ‘not a controlled action — particular manner’.

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In the latter case, the activity can only proceed provided it is undertaken in a manner specified in the decision notice. This manner can refer to timing, management measures, or other regulatory instruments or decisions.

If the likelihood of a significant impact is considered to be high, then the action is deemed to be a ‘controlled action’. It requires Ministerial approval, and the application proceeds to the assessment stage.

Most exploration activity does not have a significant impact on matters of national environmental significance (table 7.3). Of the 439 exploration referrals since the commencement of the EPBC Act in 2000, 101 have been deemed to be ‘not a controlled action’ and 286 ‘not a controlled action — particular manner’.

**Table 7.3 Referrals and associated determinations under the EPBC Act — onshore and offshore exploration**

Estimated number since the commencement of the Act in 2000

Determination	Onshore referrals	Offshore referrals
Not a controlled action	14	87
Not a controlled action — particular manner	11	275
Controlled action	4	9
Action clearly unacceptable	0	1
Referral withdrawn or decision yet to be made	0	38
<b>Total</b>	<b>29</b>	<b>410</b>

Source: SEWPaC (sub. 33, p. 4).

### *Assessment*

The Minister may base a decision on one of a number of assessment approaches, including:

- the information provided by a proponent in its referral form
- preliminary documentation (the referral form and any other relevant material identified by the Minister as being necessary to adequately assess a proposed action)
- a public environment report
- an environmental impact statement
- a public inquiry.

If a proposed action is covered by a bilateral assessment agreement with a state or territory, then the action can be assessed under an accredited state or territory process (section 7.3).

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The majority of assessments for exploration activities under the EPBC Act have been by preliminary documentation (8 out of 13 assessments) (SEWPaC, sub. 33).

Assessments focus on the matters of national environmental significance. For example, where a proposal is likely to have a significant impact on a listed threatened species, the assessment required under the EPBC Act only needs to consider the impact of the proposal on that species. As noted earlier, the states and the Northern Territory will also undertake assessments of environmental impacts in accordance with their processes.

### *Approval*

Approval is either granted, or granted with conditions, or denied, by the Minister.

### *Strategic assessments*

Strategic assessments are landscape-scale assessments. In contrast to project-by-project assessments, which look at individual actions (such as a proposed exploration project), they can consider a much broader set of issues. The strategic assessment process is much less commonly used than the referral, assessment and approval process.

The strategic assessment process has two steps:

- assessment and endorsement of a ‘policy, plan or program’
- approval of actions (or classes of actions) that are associated with the policy, plan or program. This second step potentially allows exploration proposals to proceed across a large area without further need for EPBC Act approval of individual (project-by-project) proposals (SEWPaC 2012a).

Strategic assessments are undertaken by the organisation responsible for implementing the policy, plan or program — for example, a state or territory government, local council, industry group or organisation — in partnership with the Australian Government. They are designed to be collaborative processes that deliver positive outcomes for both parties.

## **Administering the OPGGS Act**

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is the environmental regulator for petroleum exploration and development activities in Commonwealth waters.

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The OPGGS Act and OPGGS (Environment) Regulations require those who want to conduct a petroleum activity in Commonwealth waters to prepare and implement an environment plan for the period of the activity. The Regulations set out the required content of the plan, and NOPSEMA must assess and determine the plan to be acceptable before the activity can proceed.

The Regulations utilise a risk-based approach for managing environmental performance through the environment plan regime, which requires demonstration that the environmental impacts of petroleum exploration activities are of an acceptable level and are reduced to ‘as low as reasonably practicable’ in order for a petroleum activity to proceed.

The Regulations are primarily objectives-based, and in the most part do not attempt to prescribe particular environmental risk reduction methods. This approach enables operators to employ innovative and effective environmental protection measures that are tailored to their specific circumstances to achieve good environmental practice and outcomes.

The *Offshore Petroleum and Greenhouse Gas Storage (Regulatory Levies) Act 2003* (Cth) provides for NOPSEMA to function on a full cost recovery basis.

## Natural heritage

The National Heritage List, established under the EPBC Act, includes natural places of outstanding heritage value to the nation. The list includes numerous natural heritage sites, such as the Stirling Range National Park, Fraser Island and the Tasmanian Wilderness World Heritage Area.

National Heritage places are matters of national environmental significance protected by the EPBC Act. If the responsible Minister decides that an action will, or is likely to, have a significant impact on a National Heritage place, then it will require approval under the EPBC Act.

If a National Heritage place is on non-Commonwealth land, the values are protected to the full extent of the Australian Government’s constitutional powers. In some cases, the value of places may be protected under state or territory legislation (through a bilateral agreement between the relevant state or territory government and the Australian Government) or by private owners under a conservation agreement with the Australian Government.

National Parks that are not on the National Heritage List are managed by state or territory governments. Policies relating to exploration in national parks vary

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between jurisdictions. There is complete prohibition in Victoria, while exploration permits require the approval of both Houses of Parliament in Western Australia. The issue of exploration activity within national parks and reserves is addressed in chapter 5.

## **7.3 The Australian Government's regulatory framework — duplication and excessive referrals**

At the Australian Government level, the main duplication of regulatory responsibilities is between the administration of the EPBC Act by the Department of the Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)) and the OPGGS Act and OPGGS (Environment) Regulations by NOPSEMA for exploration proposals in Commonwealth waters. There is also an issue associated with more closely defining the scope of the Commonwealth marine area for the purpose of submitting exploration referrals under the EPBC Act.

### **Duplication between the EPBC Act and the OPGGS Act**

The potential for duplication arises because the environmental legislation administered by NOPSEMA has the objective of ensuring that offshore petroleum activities are carried out in a manner consistent with the principles of ecologically sustainable development. This objective is consistent with the protection of matters of national environmental significance, which is the focus of the EPBC Act.

Table 7.3 sets out the number of exploration-related referrals and associated determinations made under the EPBC Act since its commencement. It shows there are far fewer onshore than offshore referrals. Most onshore exploration activities do not have a material impact on matters of national environmental significance as defined by the EPBC Act (box 7.2).

The Montara Commission of Inquiry recognised the potential for duplication. One of its recommendations — which was accepted by the Australian Government — was that:

The Government should examine the scope for a single environment plan to meet the regulatory requirements of both the OPGGS Act and the EPBC Act. This could possibly be achieved by way of bilateral agreements and accreditation arrangements and/or legislative amendment. (2010, p. 317)

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The *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999* (the Hawke Review) (DEWHA 2009b) also recommended that the Australian Government consider streamlining the OPGGS Act and the EPBC Act ‘with a view to maximising regulatory efficiency while retaining strong environmental safeguards’. The Australian Government agreed with this recommendation.

Several submissions to this inquiry have observed that duplication between the two Acts leads to increased compliance costs arising from: the necessity to produce separate environmental plans; delays in approvals processes; and inconsistent and sometimes incompatible operational requirements from regulators.

NOPSEMA stated:

It is NOPSEMA’s view that duplication of assessment effort under the two pieces of legislation imposes an unnecessary regulatory burden on the Commonwealth and industry and does not afford any additional environmental protection. (sub. 28, p. 2)

The Australian Petroleum Production and Exploration Association (APPEA) provided a number of examples of the effects of regulatory duplication at the Australian Government level in its 2013 report *Cutting Greentape: Major Oil and Gas Project Environmental Approvals Processes in Australia* (2013a). One of these, which relates specifically to an offshore exploration project, is summarised in box 7.3.

#### *Removing Commonwealth regulatory duplication of offshore petroleum exploration activities*

On 27 May 2013, the then Minister for Resources and Energy announced the intention of the Australian Government to streamline the regulation of certain offshore petroleum activities under the EPBC Act, including exploration activities and appraisal drilling.

The endorsement under the EPBC Act of NOPSEMA’s process for offshore petroleum activities would provide a central point for regulation of these activities, leading to better outcomes for the industry and ensuring the strongest protections for our marine environment. (Gray 2013, p. 1)

Such streamlining would be consistent with the Commission’s draft report recommendation that the Australian Government accredit NOPSEMA to undertake approvals for petroleum activities in Commonwealth waters.

### **Box 7.3 Case study — approvals for an offshore seismic survey**

In 2011-12, BP conducted a 3D Marine Seismic Survey in the Great Australian Bight. The proposed survey area was located in Commonwealth waters in the Ceduna sub-basin, around 400 kilometres west of Port Lincoln.

For the Ceduna exploration program, BP required three separate approvals to address the same environmental risks in the same environmental management plan:

- an accepted environment plan under the OPGGS Act
- a referral under the EPBC Act
- an access request to conduct a mining operation in the Great Australian Bight Marine Park (GABMP) under the EPBC Act.

The EPBC Act referral was submitted on 16 May 2011, the environment plan on 17 May 2011 and the GABMP access request on 20 May 2011.

The environment plan and the EPBC Act referral were fundamentally the same document except for formatting. Both addressed the fact that the survey would be partly within the GABMP. Consequently, the GABMP access request simply referred to the other documents.

The outcome of the applications differed in terms of timeliness.

- The environment plan was accepted by NOPSEMA on 13 July 2011.
- The referral resulted in a ‘not a controlled action — particular manner’ decision by SEWPaC on 4 August 2011.
- The GABMP access request was granted on 1 September 2011, with the additional time required to process the paperwork through Executive Council for the Governor General’s signature rather than deliberation on any environmental issues raised.

The outcomes also differed in terms of substance.

- The environment plan was accepted unamended following some clarification regarding procedures for cetacean entanglement in seismic lines.
- The referral deliberation was held up due to the potential impact on blue whales. After the referral was submitted, a new draft bio-regional plan for the south west marine area was published for comment, with a possible extension to the area known as a blue whale feeding zone. The referral was assessed against this subsequent draft boundary, not the official published one at the time of referral, which required modelling to be resubmitted. Ultimately, the required conditions were accepted but the time lost placed significant pressure on the project timetable.

The GABMP access request required no further assessment once the referral decision was made.

*Source:* APPEA (2013a).

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NOPSEMA provides a documented, systematic and consistent approach for the completion of environment plan assessments associated with all petroleum activities in Commonwealth waters. It is, therefore, equipped with the necessary management and technical expertise to be able to undertake assessments and approvals under the EPBC Act.

Streamlining may involve some legislative amendments. To the extent that additional regulatory effort would be required on the part of NOPSEMA, amendments to NOPSEMA's levy arrangements would be required, given NOPSEMA's status as a fully cost recovered statutory agency. There should be cost savings for the Department of the Environment and, overall, there should be an efficiency gain in line with the reduction in regulatory duplication.

#### RECOMMENDATION 7.1

***The Commonwealth Minister should endorse the National Offshore Petroleum Safety and Environmental Management Authority's process to assess and accept environmental management arrangements for petroleum exploration activities in Commonwealth waters for the purposes of the Environment Protection and Biodiversity Conservation Act 1999 (Cth).***

#### *The Commonwealth marine area*

The EPBC Act defines the whole of the Commonwealth marine area — an area of around 16 million square kilometres — as a matter of national environmental significance. Accordingly, exploration proposals in this area that will have a significant environmental impact require approval by the Environment Minister.

The sizable geographic extent of the Commonwealth marine area makes it unlikely that all activities in the area will necessarily have an impact on an area or species of significant environmental value, a point noted by APPEA.

As it is so broad and all encompassing, the inclusion of the Commonwealth marine environment as a [matter of national environmental significance under the EPBC Act], at the margin, does not necessarily enhance environmental outcomes. It does however create a large degree of administrative overlap between other regulatory requirements (such as the OPGGS Act). (2013a, p. 10)

The offshore petroleum industry tends to engage extensively in the referrals process, with an estimated 410 referrals to date for offshore exploration proposals. However, only nine of these referrals have been deemed 'controlled actions' and just one has been ruled to be clearly unacceptable. Most have been deemed to be either 'not a controlled action' (87 referrals) or 'not a controlled action — particular manner' (275 referrals) (table 7.3).

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In the draft report, the Commission requested views from participants on the scope for, and costs and benefits of, clarifying the defined matter of the Commonwealth marine area to better target specific areas and issues of national environmental significance — and so reduce the number of referrals.

The Minerals Council of Australia considered there would be significant benefit in clearly defining the values within protected Commonwealth marine areas:

This would assist proponents in identifying potentially significant impacts arising from exploration activities and hence the need to refer specific actions. Where possible, the spatial definition of protected matters (such as reefs, sea grass areas etc.) would also be useful for both regulators and proponents in assessment and planning. These defined protected matters should be made available through a single web based interface. (sub. DR63, p. 10)

One option would be to remove the defined matter of the Commonwealth marine area from the list of matters of national environmental significance. Many of the environmentally significant aspects of the Commonwealth marine area (such as migratory and endangered species) are protected by other triggers under the EPBC Act — and so, in those cases, removal of the marine area trigger may not result in any loss of environmental protection.

However, it is possible for human activities to have a significant adverse impact on the Commonwealth marine area even when other EPBC Act defined matters are not triggered. For example, the Commission understands that there is currently no Commonwealth legislation to regulate or manage discharges into the Commonwealth marine area that result from onshore activities. Other potential adverse impacts not covered by other triggers include the introduction and establishment of known or potential pest species or the accumulation of persistent organic chemicals in the marine environment.

Possible avenues for reducing the number of unnecessary referrals could include the provision of published guidelines by NOPSEMA (in collaboration with the Department of the Environment), accompanied by the spatial definition of protected matters, as suggested by the Minerals Council of Australia. Such material would help to clarify — and where possible, identify the location of — matters of national environmental significance within the Commonwealth marine area.

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## **7.4 Duplication between the states and the Commonwealth**

### **Onshore exploration**

For onshore exploration, there is potential for the EPBC Act to intersect with state-based regulatory regimes. The extent of duplication of assessment processes will be limited to, at most, the assessment of specific matters of national environmental significance potentially affected by the exploration proposal, such as the impact on a particular listed threatened species or on a Ramsar wetland of international significance.

The potential for duplication exists despite the presence of bilateral agreements between the Australian Government and each of the states and territories to accredit state and territory environmental assessment processes (although the agreement with New South Wales lapsed in 2012). With the agreement of the responsible Commonwealth Minister, a proposed action that would otherwise require assessment under the EPBC Act can be assessed using an accredited state or territory assessment process for the purposes of both the EPBC Act and the relevant state or territory legislation.

Since the commencement of the EPBC Act in 2000, an estimated 29 onshore exploration (minerals and non-marine oil and gas) referrals have been received by SEWPaC. Of these, just four have been assessed as ‘controlled actions’, that is, they required assessment (including an environmental impact statement) and Ministerial approval before they proceeded (table 7.3). Most have been deemed either ‘not a controlled action’ (14 referrals) or ‘not a controlled action — particular manner’ (11 referrals). No proposed exploration actions have been assessed under a bilateral agreement (SEWPaC, sub. 33, p. 15).

The Hawke Review recommended that the Australian Government work with the states and territories to improve the efficiency of the assessment regime under the EPBC Act, including through accreditation of state and territory processes where they meet appropriate standards. The Review suggested the focus should be on improving the operation of these bilateral assessment agreements rather than legislative amendments, noting the need for better cooperation between Commonwealth and state agencies (DEWHA 2009b).

The Minerals Council of Australia also called for greater cooperation between governments, but said there was room for significant gains even without accreditation of state and territory processes:

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As identified by COAG, governments need to cooperate more effectively in administering their EIA [environmental impact assessment] regimes. There is currently a disconnect between different processes in different jurisdictions which can lead to inefficiencies. Better cooperation is clearly necessary but must occur in a transparent and accountable way, recognising the legitimate interests of all governments and all stakeholders. Transparency and accountability are especially important in maintaining the confidence of stakeholders.

Commitments by governments to streamlining EIA processes rely on accreditation arrangements as the principal mechanism for achieving efficiency. Even without accreditation, however, there are considerable gains to be made through better cooperation between Australian governments, particularly in the best practice context. Arguably, such gains would be necessary in any event as a prerequisite for successful accreditation. (sub. 27, p. 28)

#### *Extending accreditation arrangements to approval processes*

If a proposed action is covered by a bilateral assessment agreement, then that action may be assessed under an accredited state or territory process. However, after assessment, the proposed action still requires approval from the responsible Commonwealth Minister under the EPBC Act.

Some participants in the inquiry regarded ongoing Australian Government involvement in approval processes as worthwhile. For example, the Australian Network of Environmental Defender's Offices (ANEDO) stated:

While some stakeholders have raised perceptions of regulatory overlap and duplication, ANEDO believes the case for shared responsibility and oversight between Commonwealth and State governments is strong. As the first headline of the State of the Environment Report 2011 (Cth) notes, 'Our environment is a national issue requiring leadership and action at all levels.' (sub. 17, p. 5)

ANEDO has elsewhere outlined other reasons against accreditation of state and territory approvals processes, including the potential for conflict of interest if a state or territory government stands to benefit financially from a proposal, and the fact that states and territories do not have a mandate to consider consequences outside their borders (2012). It also considers that 'no State or Territory legislation or process is commensurate with Federal requirements' (sub. DR52, p. 9).

The Australian Conservation Foundation (ACF) considered that matters of national environmental significance are a matter for the Australian Government, and questioned whether state and territory authorities are sufficiently resourced to undertake approvals of matters of national environmental significance:

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... ACF believes State and Territory environmental departments are unable to deliver at current levels of resourcing — particularly in states where these departments have had staffing and budget cuts in recent years. (sub. DR41, p. 15)

In contrast, the exploration industry expressed concern about the potential for duplication. For example, the Association of Mining and Exploration Companies (AMEC) noted:

AMEC has raised the issue of duplication of federal and state approvals as a barrier to not only exploration but mining development more broadly. Duplication is not only contained in multiple approvals, but the submission of the same information to more than one agency. (sub. 24, p. 20)

At its meeting on 13 April 2012, the Council of Australian Governments (COAG) recognised duplication between the EPBC Act and state and territory processes as one of six ‘priority areas for major reform to lower costs for business and improve competition and productivity’. The COAG communique stated that governments would work to develop bilateral arrangements for accrediting state approval processes:

First Ministers reaffirmed COAG’s commitment to high environmental standards, while reducing duplication and double-handling of assessment and approval processes. To achieve these commitments, our governments will work together to fast-track the development of bilateral arrangements for accreditation of state assessment and approval processes, with the frameworks to be agreed by December 2012 and agreements finalised by March 2013; [and] develop environmental risk- and outcomes-based standards with States and Territories by December 2012 ... (COAG 2012, p. 2)

A number of participants in the inquiry, including APPEA (2013a) and the South Australian Chamber of Mines and Energy (sub. 9), supported COAG’s 2012 commitment. The Minerals Council of Australia (sub. 27, p. 5) also proposed that approvals processes should be devolved to the states, and that the Australian Government’s role be limited to ‘strategic oversight and enforcement’.

However, as noted by SEWPaC, progress towards accreditation of approval processes has subsequently halted.

Since August 2011, much work has been done to progress the Government Response [to the Hawke Review], both within the Commonwealth and in partnership with state and territory governments and stakeholders. During 2012, the Commonwealth worked with states and territories on the viability of signing approval bilateral agreements ... This proved to be complex and would have resulted in systems that would not have simplified the regulatory regime. As a result the Commonwealth is not progressing negotiation of approval bilateral agreements. (sub. 33, p. 13)

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### *A way forward for bilateral assessment and approval agreements*

In the Commission's view, accreditation of approval processes has the potential to remove a layer of decision-making duplication between the states and the Commonwealth. Appropriate safeguards could ensure that this occurs without compromising environmental outcomes.

ANEDO — while not supporting bilateral approval agreements — suggested that the efficiency of bilateral assessment agreements could be strengthened by the Commonwealth taking two steps:

- The Commonwealth should develop, consult on and issue a uniform set of national standards with which state processes must comply in order to be accredited by the Commonwealth for assessment bilateral agreements (not approval agreements). ...
- The Commonwealth should work with the states to improve administrative processes under assessment bilateral agreements. (sub. DR52, pp. 9–10)

Macintosh (2010, p. 409) suggested a number of preconditions would need to be met for the potential gains of bilateral assessment and approval agreements to be realised:

- political will — the Australian and state and territory governments 'must be willing to engage in a constructive and cooperative process of reform'
- administrative improvements — '[m]oving to a more strategic focus will concentrate the Australian Government's resources on a task that is better suited to its skills and resources'
- a national environmental impact assessment (EIA) framework — 'Australian Governments, preferably working through COAG, will need to develop an appropriate national EIA framework to guide the accreditation process'
- financial assistance/incentives — 'the Australian Government should consider offering financial assistance to help the states/territories to implement the required regulatory reforms ... [and such assistance] ... could be structured along the lines of National Competition Policy payments'
- Commonwealth oversight — 'the accreditation of state/territory assessment and approval systems needs to be followed up by rigorous, transparent and regular monitoring and review by the Australian Government'.

The Minerals Council of Australia suggested that concerns about bilateral approval agreements — in particular concerns relating to standards of environmental protection and the lack of Commonwealth compliance and auditing powers — could be addressed through the application of appropriate safeguards. In this regard, it pointed to:

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... those [safeguards] provided in the Draft Framework of Standards for the Accreditation of Environmental Approvals, developed in support of the recent COAG commitments and aligning with the Hawke review recommendations. These safeguards would encourage greater confidence and therefore usage of assessment and approval bilateral arrangements by State and Commonwealth Governments. (sub. DR63, pp. 10-11)

The Commission considers there is merit in renewing efforts to reach agreement between the Australian Government and the states and territories on bilateral arrangements for approval processes and to strengthen existing bilateral arrangements for assessment processes. The suggestions of ANEDO, Macintosh and the Minerals Council of Australia provide a constructive — and workable — set of considerations that could underpin such efforts. In particular, there is a need for a rigorous accreditation process — and regular, transparent monitoring by the Australian Government once any agreements are in place — to ensure that the protection of matters of national environmental significance is not compromised.

In the Commission's view, a program of work to strengthen existing bilateral assessment agreements and to establish bilateral approval agreements should be: properly scoped to identify the necessary steps; agreed by all jurisdictions; and published with a timetable of key implementation milestones.

#### RECOMMENDATION 7.2

*The Australian Government should improve the efficiency of environmental assessment and approval processes under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) by strengthening bilateral arrangements with the states and territories for assessments and establishing bilateral agreements for the accreditation of approval processes where the state and territory processes meet appropriate standards. The necessary steps to implement this reform should be properly identified, scoped and approved by COAG and published with a timetable of key milestones.*

#### *Recent decisions have increased the potential for duplication*

The Western Australian Government noted in its submission that the Australian Government had recently ‘unilaterally introduced a new matter of national environmental significance trigger relating to water associated with coal seam gas and coal mining’ that was ‘likely to further duplicate State assessment processes’ (sub. 29, p. 11). The Commission considers that the water trigger has the potential to significantly increase the number of referrals for onshore exploration proposals and hence increase the incidence of Commonwealth-state duplication.

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In addition to bringing a substantial additional range of activities under the scope of the EPBC Act, the water trigger amendment also rules out the potential for water trigger-related actions to be approved by state and territory governments under any future bilateral approval agreements with the Australian Government. This aspect of the amendment runs counter to the objects of the EPBC Act, namely to ‘strengthen intergovernmental cooperation, and minimise duplication, through bilateral agreements’ and ‘provide for the intergovernmental accreditation of environmental assessment and approval processes’ (s. 3), as well as recent commitments made by the Australian Government to reduce double-handling and streamline regulatory processes.

The decision to introduce the water trigger amendment was made without a regulation impact statement (to assess the benefits and costs of the proposal) being prepared. Instead, a Prime Minister’s exemption was granted.

Commenting on the water trigger amendment, the chief executive officer of APPEA stated:

The development of a bill guided by environmental — rather than political — objectives would have included consultation with affected industry, a regulatory impact statement, and cooperation with state and territory governments. But contrary to the fundamental objectives of the Act, the Government has in this instance moved to actively exclude state governments from future bilateral agreements on this matter. (2013b, p. 1)

Given the potential magnitude of the impacts on the community, and the fact that a regulation impact statement was not prepared, the Commission considers that the Australian Government should give priority to undertaking and publishing a review of the benefits and costs of the water trigger amendment.

Another recent development — one with some parallels to the introduction of the water trigger — has been the Australian Government’s addition of the West Kimberley region of Western Australia to the National Heritage List, which brought around 200 000 square kilometres under the scope of the EPBC Act. The listing of the West Kimberley region gives rise to further potential duplication between state legislation (in this case, existing Western Australian environmental legislation) and the EPBC Act. As AMEC noted, it is questionable whether the listing will provide any additional environmental benefit. Further, as AMEC also noted, the listing appears to have set a precedent that could be replicated elsewhere in Australia with similar impacts (sub. 24).

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## RECOMMENDATION 7.3

***The Australian Government should give priority to undertaking and publishing a review of the benefits and costs of the ‘water trigger’ amendment to the Environment Protection and Biodiversity Conservation Act 1999 (Cth), including the exclusion of water trigger-related actions from bilateral approval arrangements.***

### ***Strategic assessments***

SEWPaC noted in its submission that the Australian Government is increasing the use of strategic assessments. To date, five strategic assessments have been completed and at least another ten are underway. SEWPaC provided two examples of strategic assessments currently being undertaken, both of which are relevant to resource exploration:

... BHP Billiton Iron Ore and Hamersley Iron Pty Limited are undertaking strategic assessments covering their major expansion plans for iron ore mining in the Pilbara region of Western Australia for a period of up to 50 years ...

As another example, the Australian and NSW Governments have signed an agreement to undertake a strategic assessment under the EPBC Act of new and expanded coal mining operations in the Upper Hunter River district of NSW over the next 30 years. Ten mining companies with exploration and mining leases in the district are participating ... (sub. 33, p. 14)

Strategic assessments provide an alternative to assessing ‘controlled actions’ on a project-by-project basis. Greater use of strategic assessments under the EPBC Act could help to resolve some of the issues of Commonwealth and state or territory duplication — particularly if accompanied by the accreditation of state and territory approval processes for individual projects.

Under such a streamlined approach, state and territory governments could have responsibility for individual project assessment and approval and the Australian Government could shift its attention away from individual projects towards more high level strategic assessments.

The Minerals Council of Australia supported an approach along these lines:

Federal/State relations should be streamlined to institute strategic land use assessment and planning, and to limit the Commonwealth to a strategic oversight and enforcement role while devolving access and approvals processes to the States. (sub. 27, p. 5)

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COAG has also noted the potential benefits of strategic assessments. In 2008, it:

... agreed to the identification of opportunities for strategic assessments under the Environment Protection and Biodiversity Conservation Act 1999 to avoid unnecessary delays in development approval processes. (2008, p. 1)

Strategic assessments also have the potential to improve environmental outcomes because they allow for the assessment of environmental impacts that would not normally be within the scope of an individual project assessment, a point noted by the Minerals Council of Australia:

... while there will always be a place for the more traditional project level EIA [environmental impact assessment], Australian practice needs to move much more to strategic and regional approaches more able to deal with the environmental problems of the 21st century. Strategic level EIA, undertaken at the policy and planning stage, can deal much more effectively with cumulative and regional environmental issues ... (sub. 27, p. 28)

Strategic assessments can take a longer-term and more calculated approach to ensuring that the integrity of key ecological processes is preserved. Compared to individual project assessments, they may provide an earlier and more holistic examination of the environment of a region and the impacts of various potential land uses. In this way, they can better address cumulative environmental impacts, as noted by SEWPaC:

The current project by project environmental assessment regime, which applies a ‘significant impact’ test, does not adequately assess cumulative impacts on protected matters. That is, while small individual projects may not result in a significant impact on a protected matter, the cumulative impact of a number of small projects, implemented by different proponents, across a landscape may have a significant impact. (2011, p. 19)

Aside from their potential to improve environmental outcomes, strategic assessments can provide benefits for a range of stakeholders. For businesses, they can deliver a greater degree of upfront certainty about where, and under what conditions, development can occur.

For communities, strategic assessments can provide an avenue for earlier, and hence more effective, input into the development of a region. They can also lower the burden to the community associated with responding to a large number of individual proposals through public consultation processes.

Strategic assessments may shift a proportion of the cost of environmental assessments from proponents to government. However, they have the potential to be a more efficient process. For example, if they result in the assessment of multiple proposals of a similar type, or in the same or a similar geographic area, at the one

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time, they can reduce, or even remove, the need for individual project assessments. In this way, they can reduce compliance costs for business and administrative costs for governments.

Proponents sometimes fund strategic assessments. For example, the ten companies participating in the strategic assessment of new and expanded coal mining operations in the Upper Hunter River district have agreed to fund the assessment (sub. 33).

Macintosh (2013) noted that while strategic assessments have many advantages over standard project-based assessments, their record in Australia so far suggests they have their own challenges:

Australia has used strategic assessments for several decades, even though they have not always been called SEAs [strategic environmental assessments]. This history suggests that SEAs will be no panacea for the environmental challenges Australia faces. The failings of the Regional Forest Agreement process, which is arguably the largest and most comprehensive SEA ever conducted in Australia, clearly demonstrates this. More recently, Andrew Kelly, Tony Jackson and Peter Williams reviewed the use of SEA in the New South Wales land use planning system and found that it ‘is in a quagmire’ and that its application has been tokenistic. Notwithstanding this, SEA has many advantages over standard project-based EIA and, if nothing else, greater reliance on SEA could help reduce the uncertainties, inconsistencies and delay that plague Australian environmental policy and regulatory regimes. (pp. 544–45)

These concerns were echoed by the Minerals Council of Australia which, while affirming the potential advantages of strategic assessments, noted that:

... while appearing extremely attractive in terms of delivering approvals for multiple projects across the life of an asset or growth program, [they] come with their own set of risks and limitations. To date, many of the strategic assessments undertaken under the EPBC Act have been delayed in the assessment phase and in some cases have failed to be finalised at all. The full process from conception to finalisation can take from three to five years, or more in some cases. Commonly encountered limitations include that:

- the EPBC Act strategic assessment provisions do not contain statutory timelines — instead an agreement is signed between government and proponent that includes ‘soft’ timelines;
- information needed to meet legal requirements and regulator expectation can be onerous, often at a similar level to that of an EIS but for multiple projects — a risk-based and adaptive management approach is required if the assessment is to be truly strategic; and
- strategic assessments can be difficult to line up with State-based approval processes. (sub. DR63, p. 11)

Notwithstanding the significant potential of strategic assessments to improve environmental outcomes and reduce costs, the concerns outlined above suggest that

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they can also be time consuming and costly. In the Commission's view, there is scope to improve the design and operation of the strategic assessment process. The case for periodic reviews of the efficiency and effectiveness of the process is discussed later in this section.

### *A role for exploration*

Exploration has the potential to play an important role in informing strategic assessments. As noted earlier, the majority of exploration activities have only minor or temporary environmental impacts, so many of these activities are able to occur without threatening the ecological values of a region. On the other hand, exploration contributes directly to the information base of a region, specifically in regard to the potential value of mineral and energy resources, and hence improves the understanding of the relative values of various land uses, including environmental uses.

### *Re-visiting strategic assessments*

Knowledge about the environmental attributes, economic potential and other values such as heritage of an area covered by a strategic assessment is likely to improve over time.

ANEDO, while noting the potential benefits of strategic assessments, suggested that the process needs to be able to take account of changing environmental conditions, community impacts and scientific knowledge:

The approval that flows from the assessment can last for decades, allowing development to commence many years after the approval was given. ... [T]here may be significant new scientific knowledge about impacts on the environment, species that were not previously threatened may now be threatened, and the social impacts on the community may be dramatically different, all factors which may have significantly altered the decision had it been taken at the time the development commenced. (sub. DR52, p. 10)

ANEDO recommended that individual project assessments undertaken in an area covered by a strategic assessment 'must include assessment of changed social and environmental conditions, including impacts that are new, were unknown or unclear at the time of the strategic assessment' (sub. DR52, p. 11).

At the same time, there is a risk that a strategic assessment may end up simply adding another level of assessment, without any offsetting reduction in the regulatory costs associated with individual project assessments.

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A balance is needed between providing certainty and retaining flexibility — for the benefit of all stakeholders, whether existing landholders, environmental interests or prospective land users. Adoption of adaptive and flexible approaches supports improvements in economic and environmental outcomes over time. In the Commission's view, therefore, individual strategic assessments should, where and when appropriate, be re-visited and, if necessary, updated, as significant new information and knowledge emerges.

#### *A need for periodic review of the strategic assessment process*

Compared to individual project assessments, there has been limited experience with strategic assessments in Australia, particularly for the assessment of exploration proposals. At the state and territory level, the experience is uneven. Some jurisdictions have a range of mechanisms or models available, while in other jurisdictions there are few formal mechanisms available for strategic assessment (Ashe and Marsden 2011).

In this regard, the Government of Western Australia submitted to the Hawke Review that:

In relation to strategic assessment, it is noted while it is strongly advocated in several submissions, there remains considerable uncertainty as to appropriate methodologies and circumstances for its application, the scale at which it might operate, the extent to which it can reasonably substitute for project-by-project assessment, how it can deal with mitigation strategies including offsets, and its capacity to address intractable land use conflicts. There is limited experience in use by both Commonwealth and states and territories. (DEWHA 2009b, p. 83)

As noted above, a number of strategic assessments have commenced and several have been completed. These are likely to contain lessons for future strategic assessment practice. There may be benefits from periodic reviews of strategic assessments to confirm that the theoretical benefits stand up in practice and to gain insights into how to improve their usefulness.

Any such reviews should focus on the following key aspects of strategic assessments:

- the extent to which they reduce the need for individual project assessments
- how well they integrate with other planning processes
- the extent to which they improve environmental outcomes, particularly in relation to cumulative impacts
- the degree to which they improve the level of certainty for stakeholders

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- the degree to which they allow adaptation to new information and changes in circumstances
  - the costs of undertaking them, including to business, governments and the wider community
  - their timeliness.

Overall, the Commission considers greater use of strategic assessments under the EPBC Act could be beneficial, given their potential to provide cost savings for business and governments, and to improve environmental outcomes.

#### RECOMMENDATION 7.4

*The Australian Government, in cooperation with state and territory governments, the resources industry and other stakeholders, should make greater use of strategic assessments under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) and, where appropriate, reduce reliance on project-based assessments.*

*The different models of strategic assessment should be reviewed periodically by governments to assess their overall efficiency and effectiveness.*

### Offshore exploration

With the passing of the *Offshore Petroleum and Greenhouse Gas Storage Amendment (National Regulator) Bill 2011* (Cth), the Australian Government assumed sole responsibility for regulation of petroleum activities in Commonwealth waters, having previously shared responsibility with the states and the Northern Territory under the Joint Authority arrangements.

The change in regulatory arrangements was largely the result of implementing recommendations from the Montara Commission of Inquiry. The inquiry recommended a single, independent regulatory body be responsible for safety as a primary objective, in addition to well integrity and environmental approvals. It proposed that these functions and responsibilities be allocated to a single governing body. As noted, NOPSEMA has subsequently become that governing body.

As a result of this change, the potential for EPBC Act duplication for offshore exploration is now confined to activities that take place within coastal waters — where the states and territories continue to have responsibility for regulating exploration (as they do in their internal waters).

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### *Scope for conferral of powers to the Commonwealth*

As noted previously, petroleum exploration in coastal waters (and state and territory internal waters) is currently regulated under state and territory legislation.

In its 2009 research report *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector* (PC 2009), the Commission recommended that:

The Australian Government should give State and Territory Governments, on a bilateral basis, the option of conferring their existing petroleum-related regulatory powers in State and Territory waters seaward of the low tide mark, including islands within those waters, on the new national offshore petroleum regulator and ultimately the Commonwealth Minister as relevant. The respective powers of the Commonwealth and State and Territory Ministers that would then apply should be similar to those applying to the National Offshore Petroleum Safety Authority. For States and Territories that wish to opt in, it would be a requirement that all their relevant State or Territory petroleum Acts fully mirror the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) and its subordinate regulations, including provisions relating to pipelines. (pp. 292–93)

The Australian Government supported this recommendation, but not all other jurisdictions did.

The Australian Government subsequently amended the OPGGS Act to include provision for the states and the Northern Territory to individually opt in and confer their upstream petroleum responsibilities for their coastal waters on NOPSEMA.

None of the states or the Northern Territory has conferred powers of regulation of environmental management on NOPSEMA. As a result, it is likely that an explorer seeking approval for an offshore exploration activity that crosses jurisdictions would need to seek approvals from two regulators for possibly similar activities.

In the draft report for this current inquiry, the Commission reiterated the recommendation of the Commission's 2009 research report — that states and territories should reconsider the option of conferring on NOPSEMA their existing petroleum-related regulatory powers in state and territory waters seaward of the low tide mark (coastal waters), including islands within those waters.

The draft report recommendation was broadly supported by the offshore petroleum industry. For example, APPEA noted:

This is strongly supported by APPEA and is in line with the original intent of the [Montara Commission of Inquiry] proposal for the establishment of a single national offshore regulatory regime ... (sub. DR68, p. 9)

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However, the Queensland Government was concerned that the Commission's recommendation, as worded, would:

... capture Curtis Island which is a hub for CSG-LNG activities. The companies currently building and proposing to build facilities on Curtis Island would also have operations on Queensland's mainland. The CSG-LNG projects also have pipelines crossing the low water mark from the mainland and going across the narrows (under sea water) to Curtis Island. These pipelines are used to transport gas from mainland Queensland to Curtis Island and are regulated under the P&G Act [*Petroleum and Gas (Production and Safety) Act 2004* (Qld)].

Currently the safety and health aspects of these projects are also regulated under the P&G Act. If Queensland confers its powers to NOPSEMA the CSG-LNG projects would be subject to two safety regimes. This would create additional uncertainty and unnecessary regulatory duplication ... (sub. DR53, p. 23)

The Commission did not intend its draft report recommendation to apply to infrastructure such as that on Curtis Island, given the potential for additional duplication that this would involve. Rather, its intention was that the recommendation apply to stand-alone petroleum activities in coastal waters, including exploration activities, the regulation of which could be seamlessly administered by NOPSEMA along with petroleum activities in Commonwealth waters. The Commission remains of the view that there is potential for efficiency gains from such conferral, notwithstanding the need to ensure that the regulation of activities at or near the boundary between internal waters and coastal waters — such as activities on and around Curtis Island — is not affected.

The Chamber of Minerals and Energy of Western Australia (sub. DR62) considered that, should conferral occur, some projects would still require state-based approval — for example, projects in coastal waters with onshore processing facilities. Its preference was that such issues of potential duplication be resolved by establishing bilateral assessment and approval agreements between the Australian and state and territory governments, which would open the way for state and territory governments to administer all environmental regulation (including on matters of national environmental significance) onshore, and in state and territory coastal waters.

While the Commission considers that the Chamber's suggestion has some merit, in its view greater potential regulatory overlap lies between coastal waters and Commonwealth waters. Given that around 90 per cent of oil and gas resources are found within Commonwealth waters (APPEA 2007), it is questionable whether the scale and frequency of exploration activity that occurs within state and territory coastal waters warrants separate state and territory regulatory regimes.

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The Queensland Government also noted that offshore petroleum exploration may risk impacting on Queensland's tourism industry. Accordingly, in its view:

Any decision to allow petroleum activities in Queensland waters would therefore have to balance these competing interests in the interests of the people of Queensland. (sub. DR53, p. 23)

The Commission understands that there is currently little — if any — petroleum exploration undertaken in Queensland coastal waters. And, as discussed earlier, it considers that NOPSEMA is equipped with the necessary management and technical expertise to regulate for the environmental risks associated with offshore petroleum exploration should such exploration occur in the future.

The South Australian Department for Manufacturing, Innovation, Trade, Resources and Energy gave in-principle support to the draft report recommendation.

DMITRE supports this draft recommendation in-principle, on the basis that SA [South Australia] would first need to finalise a review of the *Petroleum (Submerged Lands) Act 1982* (SA) and investigate potential impacts on the marine park approval regime. It may be preferable that the State retains the discretion to confer the power to [NOPSEMA] on a case-by-case basis. (sub. DR72, p. 21)

In view of the potential for efficiency gains, and notwithstanding the need to ensure that the regulation of facilities such as those on and around Curtis Island is not affected, the Commission suggests that state and territory governments re-examine the case for conferral of their petroleum exploration-related regulatory powers in their coastal waters on NOPSEMA.

If conferral is not supported, there may still be scope to improve efficiency through greater use of memoranda of understanding and other administrative arrangements. The broad industry support for the arrangements that were implemented in 2012 for the regulation of petroleum activities in Commonwealth waters lends weight to the argument for removing this potential source of duplication.

## 7.5 Proportionate regulation

### Aligning regulatory requirements with the likely magnitude of impacts

Most environmental impact assessment processes have several levels of assessment, depending on the environmental significance and complexity of the proposed activity. The aim of these multi-layered approaches is to weigh the risk and significance of environmental impacts against the compliance costs and delays associated with the assessment process.

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Nonetheless, participants in the inquiry reported numerous instances where regulatory requirements are not considered to be commensurate with the likely environmental impacts. For example, Resource Futures observed:

... in the NT [Northern Territory], annual exploration programs require prior approval under the term 'Mine Management Plan' and require extensive detailing of proposed work, siting of drill-holes, etc. ... In Victoria, this informant is aware of circumstances where non-invasive geophysical programs required prior regulatory risk assessment and approval, resulting in additional equipment hire costs and delay.

Overall, there is increasing evidence of 'make work' bureaucratic intervention and micro-management of relatively straightforward exploration work programs with no defined risk reduction or community benefit resulting from the regulatory involvement. (sub. 14, p. 7)

And AMEC observed:

Exploration is transient in nature and following rehabilitation the disturbed ground is returned back to the environment. However regulating agencies tend to take an overly conservative approach to managing risk which manifests itself as micro-managing exploration activities at considerable costs to explorers and regulatory agencies. AMEC is a strong advocate of risk-based outcome focused assessments ... (sub. 24, p. 18)

AMEC also noted that while environmental offsets have not often been applied to exploration projects, it was concerned that the use of offsets could increase. In its view, applying offsets to the impacts of exploration would be:

... inappropriate given their role is to compensate for significant residual impacts ... If environmental offsets are applied to exploration programs, then the regulatory response is not in any way proportionate to the level of impact ... (sub. DR51, p. 11)

Participants in the inquiry also expressed concern over attempts to 'bring forward' resource extraction-related regulation onto exploration (a form of so-called 'regulatory creep'). In this regard, APPEA stated:

... 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 ... (sub. 22, p. 19)

Some inquiry participants, however, supported more stringent regulation of exploration in anticipation of subsequent extraction activity. For example, the NSW Irrigators' Council stated:

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All relevant regulation governing mining and energy resource extractive activities has to apply through all stages of mining and CSG activities (exploration, operation, and post-closure). (sub. 5, p. 20)

And the Upper Dawson Branch of the Wildlife Preservation Society of Queensland observed:

As a consequence, we have dealt extensively with the early exploration stages of these developments and are convinced that it is imperative that stringent environmental conditions be enforced during this exploration phase. If after this phase, the company decides to proceed to production then having an appropriate set of environmental conditions already in place helps the flow on of these conditions as the development proceeds. (sub. 8, p. 1)

In a related matter, in 2012 the Western Australian Warden's Court recommended to the Minister that an exploration licence not be granted because the court did not expect that any discovery would receive environmental approval for subsequent development as a mine (*Darling Range South P/L v Ferrell & ors [2012] WAMW 12*). In this case, the Warden's Court was apparently applying a different set of criteria from that applying to exploration activity. AMEC observed:

... the warden has recommended the Minister for Mines and Petroleum not grant the exploration licence based on the premise that exploration will inevitably lead to mining and that mining will be incompatible with the environmental values contained within the exploration lease. (sub. 24, p. 11)

Such a recommendation appears not to take into account that exploration can be valuable in its own right, regardless of whether it leads to resource extraction. In particular, exploration activity can improve the community's knowledge of its resources.

Participants were generally supportive of aligning regulatory requirements to the likely level of impact of the activity being regulated.

Resource Futures noted the benefits of designing regulation from the bottom up rather than from the top down:

... exploration related approvals processes have particularly suffered from 'top down' regulatory creep over the decades leading to the insertion of mining-related risk assessment parameters into the exploration process. ...

Unravelling the added red tape to understand more specifically what risks are experienced during the exploration process and then to engineer approvals and regulatory processes better matched to such risks would seem a smarter and more cost-effective way to proceed. (sub. 14, p. 9)

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The Queensland Government's recent 'Greentape Reduction' reforms aim to deliver — through a 'bottom up' design process — an efficient, streamlined and risk-based approach to the environmental regulation of exploration activities (box 7.4).

According to APPEA, the new Queensland arrangements for a standard environmental approval are 'Australian best practice', whereas the previous process was 'long, costly and uncertain'. APPEA quantified a number of time and cost savings for gaining a standard environmental approval for onshore gas exploration, including a substantial lowering of assessment timeframes, a significant reduction in the number of conditions and a shift from prescriptive to outcome-focused conditions (sub. DR68, p. 18).

Appropriately designed arrangements such as these help to better align environmental risks with the level of regulatory scrutiny and control and, in so doing, lower business compliance costs and reduce administrative costs for governments — and can do so without adversely affecting environmental outcomes. That said, ineffective assessment of the risks could invalidate these improvements.

Such reforms can also free up the resources of regulatory agencies to focus on monitoring and enforcement activities, as noted by the Queensland Department of Environment and Heritage Protection:

The Department will increase the amount of time it spends monitoring client performance, as it reduces the amount of time it spends assessing applications. ... Monitoring ... will be targeted by identifying the areas where breaches of its legislation pose the greatest risk to the environment ... (DEHP 2013, p. 8)

The Queensland Government notes that the new process for higher-risk assessments will also help to 'focus decision-makers on the environmental risks of the activity and the outcomes to be sought in regulating the activity' (sub. DR53, p. 25).

The level of risk and the significance of potential adverse environmental impacts from exploration will generally be considerably lower than that arising from resource extraction. In particular, the impacts of exploration on vegetation are often temporary — for example, the impacts of surveying, sampling and drilling activities — meaning that policies such as vegetation offsets will generally not be appropriate for exploration activities. Further, as noted elsewhere in this report, only a small proportion of exploration activity leads to extraction.

#### **Box 7.4 Queensland's 'Greentape Reduction' project**

The Greentape Reduction project aims to streamline, integrate and coordinate regulatory requirements under the *Environmental Protection Act 1994* (Qld) to reduce costs for industry and government while upholding environmental standards.

The following principles have guided the Greentape Reduction project.

- Transparency — rules and processes should be clear to business and the community.
- Accountability — performance must be reported and explained.
- Consistency — the approach must be consistent within and between sectors.
- Proportionate — resources need to be allocated according to the risks involved and the outcomes that can be achieved.
- Outcome focused — achieving good environmental outcomes should be central to our work and in assessing performance.

On 31 March 2013, the *Greentape Reduction Act 2013* (Qld) amended the *Environmental Protection Act 1994* (Qld) to introduce an integrated approval process for 'environmentally relevant activities' that is proportional to the environmental risk.

The project has involved close consultation with business and the community — including environment stakeholders — over two years. The final regulatory assessment statement estimated the project would deliver savings for business and government of \$12.5 million per year.

The reforms are backed up by a 'Regulatory Strategy' that outlines the long-term vision for the Department of Environment and Heritage Protection's regulatory, compliance and enforcement activities. The strategy commits the department to increasing its monitoring of clients to check they are complying with their obligations, and to taking strong enforcement action where necessary.

#### *Exploration*

Streamlined approvals process that previously applied to minerals exploration have been extended to lower-risk petroleum and geothermal exploration activities.

As a result, low risk exploration activity for all types of mineral and energy resources — is regulated through a simpler application process known as a standard application. Where the operation of an exploration activity meets the eligibility criteria specified for the activity — and the proponent can comply with specified standard conditions for the activity — the proposal goes through an administrative process rather than a technical assessment. Most exploration activities, other than those carried out in environmentally sensitive areas such as national parks, comply with the eligibility criteria. Higher-risk exploration activities are subject to technical assessment.

In addition, very low-risk and small-scale exploration for minerals other than coal no longer need an environmental licence at all. These activities must comply with their tenure conditions and any environmental conditions prescribed.

Sources: Queensland Government (sub. DR53); DEHP (2011a, 2011b, 2013).

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The Commission supports the COAG principles of best practice regulation — that government action should be proportional to the issue being addressed:

Proportionality involves ensuring that government action does not ‘overreach’, or extend beyond addressing a specific problem or achieving the identified objective. The scope or nature of government action should be commensurate with the magnitude of a problem, its impacts, or the level of risk without action. The principle of proportionality applies equally to the implementation of regulation, including the development of frameworks for ensuring compliance. (COAG 2007, p. 6)

#### RECOMMENDATION 7.5

***Governments should ensure that their regulatory agencies only set requirements relating to exploration that are:***

- ***the minimum necessary to meet their policy objectives***
- ***proportionate to the impacts and risks associated with the nature, scale and location of the proposed exploration activity.***

### **Outcome-focused regulation**

AMEC described an outcome-focused approach in the following terms:

‘Outcomes focused’ means a regulatory system that focuses on high-level principles and a requirement to achieve the best outcomes for the environment, business and the community. It should enable business to use appropriate methods of achieving outcomes which suit their business, their type of operation and their workplace without having to follow prescriptive rules. (sub. 24, p. 18)

Industry participants to the inquiry were generally supportive of outcome-focused approaches, noting that they allow for more flexibility in achieving the sought after environmental outcomes — thus directly lowering compliance costs — and allow for innovative methods to be developed and used.

The Australasian Institute of Mining and Metallurgy claimed that there have been significant advances in industry capabilities in recent years:

There is considerable opportunity to update Australian regulatory practice to reflect the significant advances in industry performance and capability that have occurred in recent decades. Without commenting on any specific government’s regulations, businesses are often required to seek regulatory approval or report to regulators on their steps to manage community relationships and environmental or OHS risks that are now well understood and can be competently managed by the companies on a day to day basis with or without regulatory oversight. (sub. 12, p. 5)

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The NSW Minerals Council provided an example of how prescriptive conditions can directly increase compliance costs — in this case the costs associated with transporting waste water potentially long distances:

An example is when waste water from drill sumps cannot be disposed of in an adjacent tailings impoundment owned by the same company, but must be transported to an ‘approved waste facility’. (sub. 11, p. 8)

In APPEA’s view, prescriptive regulations have a negative effect on the capability of regulators to undertake their function compared to more objective-based systems:

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. ... 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. (sub. 22, p. 15)

And, the Minerals Council of Australia stated:

More attention also needs to be paid to outcomes rather than process. Clarification of desired outcomes that decision-makers are seeking through the use of EIA would help facilitate greater consistency between Australian jurisdictions. It would also help restore the community’s confidence. Such clarification should be achieved through outcome standards that are both specific and measurable.

Clear outcome standards would also assist in identifying key risks associated with new proposals. This would help regulators to adopt a more effective risk management approach than is often currently the case. (sub. 27, pp. 28–29)

The Commission supports the COAG principles of best practice regulation in relation to an outcomes approach:

Regulation should have clearly identifiable outcomes and unless prescriptive requirements are unavoidable in order to ensure public safety in high-risk situations, performance-based requirements that specify outcomes rather than inputs or other prescriptive requirements should be used. (COAG 2007, p. 5)

In this respect, the Commission notes that there has been a general shift away from prescriptive regulatory requirements towards more outcome-focused regulatory requirements in recent years — as exemplified in South Australia and Queensland.

Reviews such as the Economic Development and Infrastructure Committee (2012) *Inquiry into greenfields mineral exploration and project development in Victoria* have aired industry concerns about insufficient use being made of performance-based standards and other more risk-based approaches, and excessive

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use of prescriptive regulations. In its response to the Committee Report, the Victorian Government stated that it would:

[r]evise the definition of low impact exploration to a risk based definition that considers the level of environmental impact. The statutory definition of low impact exploration will be amended to permit narrow diameter drilling without the requirement of a work plan. This will significantly reduce regulatory burden for explorers undertaking low impact exploration which has very minimal risk to the environment or cultural heritage while maintaining the same level of protection for the environment and communities. (2013, p. 14)

It should also be noted, however, that outcome-based approaches can introduce a level of uncertainty into the regulatory process. As noted by Macintosh (2010), disagreements can arise between proponents, regulators and third parties about what the obligations of the proponent are and whether the steps taken by the proponent are sufficient. In other words, there is a degree of tension between the twin goals of flexibility and certainty.

The Conservation Council of Western Australia (sub. DR44) expressed some concern about the enforceability of outcome-based approaches, and suggested lawyers experienced in prosecution work be involved in any moves towards outcome-based regulation. Similarly, Terry Dwyer cautioned that a shift to more performance-based arrangements ‘would make compliance, auditing and reporting more difficult and accountability more difficult to demonstrate’ (sub. DR64, p. 2).

In the Commission’s view, there may be some situations where the potential environmental impacts are of such magnitude that a level of prescription is appropriate. This would give proponents, regulators and third parties a higher degree of certainty about what is required. A more prescriptive alternative can sometimes also be helpful for smaller explorers. The appropriate balance between an outcome focus and prescription will generally depend on the nature of the activity and the associated degree of risk and consequence.

Nonetheless, in general, the Commission supports outcome-based approaches, recognising that explorers will often be in a better position than regulators to identify the most efficient and effective means to minimise, or reduce the risk of, a particular adverse impact. Such approaches provide scope for flexible and innovative solutions to environmental issues, and allow companies to adapt to changing circumstances without compromising the environmental outcome sought. Equally, explorers must be accountable for their actions, as assessed against performance-based standards. And regulators must actively monitor activities to ensure that proponents are complying with their obligations, and must take appropriate enforcement action when necessary.

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## RECOMMENDATION 7.6

***Governments should adopt performance-based environmental regulation of exploration activities wherever practicable, in order to better manage risk and achieve environmentally sound outcomes.***

### **Managing uncertain environmental impacts**

Information about the nature, magnitude and likelihood of adverse consequences from particular activities may be uncertain and/or incomplete. This uncertainty is often heightened when a new industry is establishing (such as CSG) or new technology is introduced (such as hydraulic fracturing). In such circumstances, long-term and cumulative impacts can be particularly difficult to understand, measure and attribute to particular activities.

Several participants in the inquiry commented on the presence of such uncertainty in resource exploration. For example, the New South Wales Irrigators' Council stated that there was insufficient information to assess the likely environmental impacts of exploration and subsequent resource development of CSG:

... the potential threat that mining and energy resource exploration activities pose to water sources — i.e. structural damage to existing water sources, contamination and changes in water pressure and quality — are additional sources of concern for NSWIC. While data and information on mineral and energy resource deposits are extensive, insufficient work has been done to assess the impact of mining and energy resource exploration and extraction on water resources. (sub. 5, p. 5)

The Basin Sustainability Alliance (which describes itself as a ‘Queensland based group representing the concerns of landholders and rural communities in relation to the unprecedented scale and pace of development underway in the CSG industry in Queensland’) (sub. 18, p. 1) noted:

... it is our view that there is still currently not enough science and baseline information available to assess the true impacts that the coal seam gas industry will have on the future sustainability of our land and water resources. ... [I]f water or any other environmental related impacts are greater than intended ... or predictions of impact change for the worse – how does the Queensland Government wind back conditions for projects already approved in order to give assurance that water resources are not severely compromised? (sub. 18, p. 3)

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Others, however, were of the view that risks tend to be overstated and that there is a need for better communication of the actual risks involved. Resource Futures stated:

Risk perceptions may frequently be overstated by project opponents, leading to excessive prudence on the part of decision makers. The result, however, is often to prevaricate and delay, leading investors to give up and look elsewhere. More effective engagement and communication mechanisms, involving both resource stewards and resource developers, are needed to diminish the red tape and delay that have grown over the past few decades in soothing community concerns. (sub. 14, p. 7)

While the environmental risks associated with exploration are generally lower than those associated with resource extraction, some exploration activities can still pose risks to the environment. For example, in relation to exploration for CSG, Edwards observed:

Exploration in this [CSG] industry is intensive, conducted on a 1 km grid, and requiring extraction of large volumes of water (and hence construction of evaporation ponds) even to prove the resource. (2006, p. 18)

High levels of uncertainty over environmental impacts can make policy making and subsequent decisions vulnerable to popular pressure (box 7.5). The CSG industry is subject to a moratorium in Victoria and to a number of regulatory restrictions in New South Wales. And, as noted earlier, the Australian Government recently amended the EPBC Act to define a significant impact on a water resource involving CSG development or large coal mining development as a matter of national environmental significance — a decision made without the preparation of a regulation impact statement.

Some companies have suspended certain CSG activities, citing changes to the regulatory situation. For example, Dart Energy announced that:

... following the recent regulatory changes by the NSW and Federal Governments, the Company has decided to not undertake any further work on its NSW assets until there is greater regulatory clarity and certainty. (2013, p. 5)

#### *Improving policy responses when there is a high level of uncertainty*

Uncertainty about the science should not lead to poor regulatory processes and decision making. Where there is potential for substantial or permanent damage, a lack of certainty should not be used to justify a lack of action to mitigate or prevent such damage. But nor does uncertainty with the science reduce the need to identify the likely benefits and costs of activities such as exploration. Rather, scientific uncertainty is one factor that should be considered when deciding whether exploration can reasonably be expected to increase the community's wellbeing.

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### **Box 7.5 Policy responses towards coal seam gas exploration**

Coal seam gas exploration has been subject to a range of policy responses by governments over the last two years.

- In August 2012, the Victorian Government announced a hold on the issuing of new exploration licenses for CSG, a hold on hydraulic fracturing under existing exploration licenses and a ban on the use of certain chemicals used in hydraulic fracturing.
- Over 2012 and 2013, the New South Wales Government implemented a number of measures (chapter 4) that specifically target CSG exploration. These include a requirement for an Agricultural Impact Statement to be undertaken at the exploration stage and the imposition of a two kilometre exclusion zone around residential areas and horse breeding and viticulture sites for all new CSG exploration activities.
- In June 2013, the Australian Government introduced an amendment to the EPBC Act to define a significant impact on a water resource involving CSG development or large coal mining development as a matter of national environmental significance.

The Commission is not aware of any regulatory impact analysis undertaken for these policy changes, despite their potential for significant impacts on business. For example:

- a regulatory impact statement did not accompany the Victorian Government's decision to introduce a hold on issuing new exploration licenses for CSG or to ban the use of certain chemicals used in hydraulic fracturing
- a better regulation statement did not accompany the New South Wales Government's decision to introduce exclusion zones and require Agricultural Impact Statements
- a regulation impact statement was not prepared for the Australian Government's introduction of the 'water trigger' — rather, a Prime Minister's exemption was granted.

Several of these policies have been announced with little consultation or communication with industry, as noted by the NSW Minerals Council (sub. 11).

The lack of regulatory impact analysis and consultation with key stakeholders runs counter to the agreed COAG principles of best practice regulation.

In situations where there is a high level of uncertainty, decision makers should take into account all available information on the potential impacts of a proposed exploration activity and, where feasible, assign probabilities to each of the possible impacts. Such an approach helps policy options to be compared. The basis for policy decisions should be transparent, and policies should be open to revision in the light of new information — that is, an adaptive management approach should be adopted (box 7.6).

### **Box 7.6      Uncertainty and adaptive management**

A decision-making rule in situations of uncertainty is to choose the option that maximises the expected net benefit, taking into account all of the possible impacts. This rule requires a regulator to analyse all relevant dimensions of a situation. It acknowledges that many aspects of an assessment may be subjective. However, analysing uncertainty by expressing probabilities quantitatively, rather than in a purely intuitive or qualitative way, has a number of advantages. While the probabilities are necessarily subjective, their assumed values are made explicit, and hence are open to scrutiny by third parties. They can also be revised in a logically consistent way when new information becomes available.

Such an approach allows policy options to be compared, and for the decision maker to choose the option that provides the greatest expected net benefit to the community. Sensitivity analysis can be used to provide information about how changes in the values of variables would affect the overall costs and benefits.

Adaptive management involves drawing on research, monitoring and evaluation to improve the effectiveness of environmental management (Stankey and Allan 2009). It helps to ensure that flexibility is incorporated into policy making to deal with changing risks and uncertainties. Policy can then be implemented iteratively over time in order to maintain risk levels within tolerable bounds, with the aim of reducing uncertainty over time through monitoring. This learning process improves long-run environmental and regulatory outcomes.

Ex-post reviews are essential to adaptive management, and they help to validate and improve ex-ante assessment methodologies and better inform future decision making.

Sources: OECD (2010); PC (2012); Stankey and Allan (2009).

Policy responses that can be implemented to manage potentially hazardous activities include:

- conducting research to improve information and reduce uncertainties
- incorporating ‘safety margins’ or ‘uncertainty factors’ in risk assessments
- regulating the activity to reduce the potential for adverse impacts
- banning an activity, either temporarily or permanently — for example, if the activity is demonstrably likely to have costs that will outweigh the benefits (Weier and Loke 2007).

Options may be combined — for example conducting research while regulating the activity in the short term.

Dr Nicola Swayne, from the Queensland University of Technology, noted that an effective adaptive management approach would require that the:

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... approach be integrated into statutory provisions for the approval and management of CSG projects. ... [and] that the statutory regime be designed with sufficient flexibility to enable changes to be made to the regulatory framework in response to the improved knowledge and understanding of the impacts ... [It] must be able to embrace the hard decisions that go with the ‘learning by doing’ including the ultimate decision of ceasing CSG activities in Queensland in the face of significant information gaps and/or an unacceptably high risk of cumulative adverse impacts. (2012, p. 34)

The Queensland Government has adopted an adaptive management approach:

Existing provisions of the Environmental Protection Act 1994 allow the Department of Environment and Resource Management to amend CSG environmental authorities to protect the environment from unintended impacts. Such an amendment might be triggered if information submitted with an annual evaluation of the effectiveness of the management of CSG water showed that unintended impacts were occurring to the environment. (2010a, p. 1)

Queensland’s approach is accompanied by the imposition of layered monitoring and reporting duties on CSG operators alongside obligations to compensate and ‘make good’ any harm caused (Swayne 2012). Arrangements to ‘make good’ any impact on groundwater may, for example, include restoration of the water supply (such as by deepening a bore) or financial compensation for the loss of supply to the bore owner.

In its comments on the draft Queensland approach to managing the water impacts of CSG development (Draft Coal Seam Gas Water Management Policy 2012), AgForce Queensland was broadly supportive of the proposed approach, but noted:

... it is important that CSG companies can demonstrate in their water management plans that they have considered their potential impacts on the environment and other water users and have a robust and strategic plan for the amelioration of these environmental impacts and to deliver on their ‘make good’ provisions into the future, including providing an ongoing supply of an equivalent amount of water of a suitable quality where that is required. (2012, p. 3)

The Commission supports an adaptive management approach that incorporates sufficient flexibility to allow regulatory requirements to change in response to improved knowledge of environmental (or other) impacts. This could mean, for example, that approval for certain exploration activities is conditional on impacts not being significantly greater than anticipated at the time approval was granted.

#### RECOMMENDATION 7.7

***Governments should ensure that when there is uncertainty surrounding the environmental impacts of exploration activities, regulatory settings should evolve with the best available knowledge (adaptive management) and decisions on environmental approvals should be evidence-based.***

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### *Research to improve the understanding of impacts*

In instances where there is significant uncertainty about the environmental impacts of exploration — particularly for impacts that extend beyond the actual exploration site, or that are cumulative over time, or are otherwise difficult to measure or attribute — research may help to improve the evidence base for decision making.

In this regard, COAG has developed the Coal Seam Gas National Partnership Agreement. The agreement aims to improve the regulation of CSG and large coal mining developments by ensuring that future decisions are informed by substantially improved science and independent expert advice.

As a signatory to the partnership agreement, the Australian Government is providing \$150 million to fund scientific research on the potential water-related impacts of CSG and large coal mining activities through the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (a committee of experts established by the Australian Government in 2012).

The three priority areas for strengthening decision making under the partnership agreement are:

- more closely identifying potential and actual impacts on water resources, and supporting parties to avoid or minimise significant impacts through a transparent process that builds public confidence
- substantially improving governments' collective scientific understanding of the actual and potential effects of CSG and coal mining developments on water resources
- ensuring that the best scientific information and expertise underpins all relevant regulatory processes and decisions (COAG Reform Council 2013).

As the community is the owner of mineral and energy resources, and can be a beneficiary of successful exploration, it is appropriate that Australian governments contribute to improving the knowledge base of not only the resources (chapter 8), but also of the impacts associated with the exploration for, and development of, those resources.

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## **7.6 Improving the administration of assessment and approval processes**

### **Are regulatory requirements clear and well publicised?**

There has been some criticism about a lack of clarity or certainty with respect to regulatory requirements under various environmental regulations. In relation to the administration of the EPBC Act, APPEA supported:

... improved and additional government guidelines to facilitate a better understanding of the regulatory process. For example, additional guidance on matters of National Environmental Significance (NES) would alleviate confusion and improve the functioning of the EPBC Act with respect to NES triggers. (2013a, p. 10)

Such an approach is consistent with COAG's principles of best practice regulation, which state that:

... it is necessary to clearly articulate ... regulations for the benefit of regulators administering the solution as well as regulated parties. ... Good regulation should attempt to standardise the exercise of bureaucratic discretion, so as to reduce discrepancies between government regulators, reduce uncertainty and lower compliance costs. ... Where possible, regulatory instruments should be drafted in 'plain language' to improve clarity and simplicity, reduce uncertainty and enable the public to understand better the implications of regulatory measures. (2007, p. 5)

The Commission notes that administrative efficiency in environmental approval processes has improved in recent years through the use of the internet to publicise regulatory requirements. For example, Western Australia's Department of Mines and Petroleum has implemented an online Environmental Assessment Regulatory System (EARS online) that allows the lodgment, submission and tracking of applications, accompanied by guidelines to assist applicants. The Queensland Government has a Business and Industry Portal that provides information on general permit conditions for exploration and direct links to relevant pages administered by agencies such as the Department of Environment and Heritage Protection (sub. DR53).

The Commission sees value in all jurisdictions having high standards of transparency in their regulatory requirements (and changes to those requirements), including how those requirements are interpreted and enforced by agencies. This will enhance understanding and should help to improve the quality of applications. In turn, this can facilitate a quicker and smoother flow of applications through the assessment process.

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## RECOMMENDATION 7.8

***Governments should clearly set out in a single location on the internet guidance on the range of approvals required.***

### The environmental information base

A number of stakeholders have called for better management of environmental data that has been submitted in the form of environmental plans, environmental impact statements and equivalent documents.

For example, in consultations, the Conservation Council of WA called for a better register of environmental studies that have been conducted so that work does not need to be redone. In its view, current processes amount to a ‘piecemeal gathering of information’ (Verstegen, P., Perth, pers. comm., 15 November 2012).

Duplication in assessment processes may be caused by a range of factors, such as inadequate record keeping by environment agencies, insufficient cross referencing of approvals that have previously been granted in a particular area, or lack of information sharing between agencies and with explorers when they acquire tenements.

The Department of Resources, Energy and Tourism (DRET) highlighted deficiencies in this regard:

The offshore petroleum industry acquires a range of geotechnical and marine data to fulfil requirements under the OPGGS Act and EPBC Act. ... Greater accessibility and use of archived industry data would help promote sustained economic and social dividends from Australia’s coasts and oceans, while protecting the integrity of their ecosystems. (DRET, pers. comm., 27 November 2012)

The Hawke Review recommended that the EPBC Act be amended to require publication of a greater range of information gathered during assessment processes. The recommendation included reference to ‘all additional information requested from proponents to support decision making’ and ‘environmental management plans made in accordance with an approval under the Act’ (DEWHA 2009b, p. 38).

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### *Improving the information base*

In the draft report, the Commission recommended that environment agencies should keep a complete record of environmental information provided by explorers and others who conduct environmental surveys and studies. This information will often be of use to other relevant agencies and to proponents of activities on areas that have already been studied or assessed.

There was broad support from inquiry participants — from explorers, and also from other interests such as the Conservation Council of Western Australia, the New South Wales Irrigators' Council and the South Australian Department for Manufacturing, Innovation, Trade, Resources and Energy — for improving the availability of the archived data held by environmental authorities.

However, the Chamber of Minerals and Energy of Western Australian (CME) and APPEA raised some issues, including the protection of proprietary company information:

CME agrees in principle with the recommendation but notes any move to publically release industry data will require close consultation with industry. ... Given the range of data from various sources, benchmarks will need to be established to ensure quality control, consistency and integrity. ... Commercial confidentiality and other issues such as security (ie. information surrounding offshore pipeline inspections) need to be considered, as does ensuring this does not become an additional reporting requirement on industry. (sub. DR62, p. 4)

APPEA strongly supports the need for government agencies to provide better access to environmental data they hold. Utilisation of previously acquired environmental survey and study material would have significant benefit to industry. Areas of concern for industry are around the inclusion of proprietary information. This could be managed through the operation of an exclusivity period as currently applies to petroleum geophysical and seismic data. (sub. DR68, p. 10)

These issues could be addressed by developing agreed protocols to ensure appropriate protection of commercially sensitive information. Such work should be undertaken in close consultation with explorers and other industry stakeholders.

The Commission notes that some jurisdictions perform better in the area of recording environmental information than others. It also notes a proposal in Western Australia to establish a State Environmental Data Library that would feature a publicly available online biodiversity, water and cultural heritage database.

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Wider adoption of such information systems would help to improve the efficiency and cost-effectiveness of environmental assessment processes. This would lessen the need for duplication of studies and assessments and thus help to expedite approvals. In addition, such systems would help to inform environmental assessments, monitoring and planning — effectively facilitating greater accessibility and use of archived industry data. In this way, they would promote more sustained economic and social dividends from Australia's land and marine resources, while helping to protect the integrity of their ecosystems.

The environmental information gathered could form the basis for the development of an integrated package of spatially-based information containing pre-competitive geoscientific, heritage and environmental information.

RECOMMENDATION 7.9

*Governments should ensure that their authorities responsible for assessing environmental plans and environmental impact statements (and equivalent documents) make their archived environmental information, including all information used in a decision-making process, publicly available on the internet, while operating within agreed protocols to protect commercially sensitive information.*

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## 8 Pre-competitive geoscience information

### Key points

- Pre-competitive geoscience information is generated from early stage, broad area geological surveying and analysis of the resulting data. The information is made available to explorers to target prospective mineral and energy deposits.
- The case for some public funding of pre-competitive geoscience information is widely accepted on several grounds. In terms of partial public good characteristics, the use of the information by one explorer does not prevent its use by others, and therefore the level of private investment in publicly available information may not be socially optimal. Public provision of the information is also analogous to issuing a prospectus to maximise the value of selling an asset — in this case a community-owned asset in the form of Australia's mineral and energy resources.
- Australia's pre-competitive geoscience information is not viewed as a barrier to resource exploration. To the contrary, the information available in many jurisdictions, and for Australia more generally, is highly regarded by domestic and international explorers and is seen as an asset that encourages exploration investment in Australia.
- The Commission notes the substantial use of initiative funding for the collection of pre-competitive geoscience information. Some jurisdictions have recently adopted other funding models and there are benefits in other jurisdictions monitoring these approaches:
  - The Australian Government now funds Geoscience Australia's pre-competitive geoscience functions through ongoing block appropriations.
  - The New South Wales and Queensland Governments have sourced funding for specific geoscience programs from industry fees.
- Comprehensive reform of Australia's pre-competitive geoscience information arrangements is not required. However, there is scope to improve the coverage of Australia's geological database by extending the public collection of data to those exploration companies which do not report publically on their mineral and energy reserves. This would help to address gaps in the resource reserve information base and improve the attractiveness of Australia as an exploration destination.

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This chapter examines the government provision of pre-competitive geoscience information in Australia. It examines why and how governments are involved in delivering this information, assesses the quality of Australia's geoscience database and explores some possibilities for improvement in the provision of Australia's pre-competitive geoscience information.

## 8.1 Government involvement in pre-competitive information

### Why are governments involved in geoscience information?

Pre-competitive geoscience information involves the collection and analysis of geophysical and geochemical data about the Earth's surface to inform understanding of the likely prospectivity of resource deposits. It involves the reconnaissance of broad areas to define the geology of a region, rather than to locate specific mineral and resource deposits.

Government involvement in the provision of pre-competitive geoscience information is typically justified because it possesses some attributes of a public good. The key attribute in this case is that, unlike most goods and services, pre-competitive information can be used by one explorer without preventing the use of the same information by another explorer. This means that pre-competitive information is *non-rivalrous* in its use, and therefore the level of private investment in publicly available information may not be socially optimal.

Geoscience Australia (GA) also argued that geoscientific information assists with the planning and management of community-owned resources:

GA provides geoscientific information and knowledge to enable the government and the community to make informed decisions on the economic, social and environmental management and exploitation of the nation's natural resources, including mineral and energy resources. (sub. 6, p. 1)

Duke further justifies government involvement in geoscience by citing the effects it has on risk, costs and therefore investment attractiveness:

[public geoscience] attracts exploration investment by allowing industry to identify areas of favourable mineral potential. It increases exploration efficiency by making it unnecessary for individual companies to duplicate common information, or spend money on non-prospective ground. It increases exploration effectiveness by providing key information inputs to risk based decision-making. By reducing exploration costs and risk, public geoscience not only improves returns on private investment but also increases revenues accruing to governments as royalties and taxes. (2010, p. 28)

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In effect, the public provision of the information is analogous to the issuing of a prospectus to maximise the value of selling an asset — in this case a community-owned asset in the form of Australia's mineral and energy resources.

### **How are governments involved in geoscience information?**

The responsibility of collecting geoscience information is shared between the Australian and the state and territory governments. Each state and territory, except the Australian Capital Territory, has their own geological survey agency which collects and disseminates *onshore* pre-competitive geoscience information.

GA, a Commonwealth agency, has prime responsibility for *offshore* pre-competitive information and mapping activities and shares responsibility with the states and the Northern Territory for onshore pre-competitive geoscience. It also conducts applied research and provides data, information and services to a wide range of government agencies, industry and international partners.

The geological survey agencies store data, information and the physical samples generated by exploration companies. They collaborate with their jurisdictional counterparts under the National Geoscience Agreement in gathering and assessing onshore geoscientific data (at national and regional scale).

Each government also undertakes geoscience initiatives that aim to encourage private exploration activity within their jurisdiction. These initiatives have included co-funding drilling and facilitating the transfer of exploration technology.

To date, access to pre-competitive geoscientific information has been largely provided to explorers free of charge.

## **8.2 The quality of Australia's geological database**

Around 80 per cent of the Australian continent is currently mapped by high resolution magnetic data while about 60 per cent is covered by radiometric data. Gravity datasets are available at reconnaissance scale (1:250 000) over most of the continent. Offshore oil, gas and condensate basins remain largely uncharted and are comparatively under-explored (ACIL Tasman 2010, 2011).

Australia's geological mapping is less detailed than in many other APEC economies (table 8.1). Many APEC economies provide maps at twice the resolution of those available in Australia while in several countries, including the United States, maps are at least four times more detailed.

**Table 8.1 Availability of geological information APEC economies**

Yes No Not indicated

Country	Restrictions on who can access data	Data is available online	Data is available free of charge	Smallest scale at which data available	Name of agency
Australia				1:100 000	Geoscience Australia, various state and territory geological survey agencies
Brunei Darussalam				1:1 000	Survey Department
Canada				1:50 000	Geological Survey of Canada, various provincial agencies
Chile				1:50 000	Sevicio Nacional de Geologia y Mineria (Sernageomin)
China				1:50 000	China Geological Survey
Chinese Taipei				1:25 000	Central Geological Survey
Hong Kong, China				1:5 000	Hong Kong Geological Survey Section, Civil Engineering and Development Department
Indonesia				1:100 000	Geological Agency
Japan				not indicated	Geological Survey of Japan
Malaysia				not indicated	Minerals and Geoscience Department
Mexico				1:50 000	Servicio Geológico Mexicano (Mexican Geological Survey)
New Zealand				1:50 000	Institute of Geological and Nuclear Science
Papua New Guinea				1:250 000	Mineral Resource Authority, Geological Survey of Papua New Guinea Instituto Geologica Minero y Metalurgico - INGEMMET (Geological, Mining and Metallurgical Institute)
Peru				1:100 000	Instituto Geologica Minero y Metalurgico - INGEMMET (Geological, Mining and Metallurgical Institute)
Philippines				1:50 000	Mines and Geoscience Bureau
Republic of Korea				1:50 000	Korea Institute of Geology, Mining and Materials <sup>a</sup>
Russian Federation				not indicated	Institute of Geology
Singapore				not applicable	No applicable body
Thailand				1:50 000	Department of Mineral Resources
United States				1:24 000	United States Geological Survey
Viet Nam				1:50 000	Department of Geology and Minerals of Viet Nam

<sup>a</sup> The Korea Institute of Geology, Mining and Materials handles pure geological information. Information relating to the location of mineral and petroleum resources is managed by the Korea Resources Corporation (Kores).

Source: Penney et al. (2007).

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Despite this, Australia's geological databases are generally considered to be of high and improving quality. The results of the Fraser Institute international *Survey of Mining Companies 2012/2013* (Wilson, McMahon and Cervantes 2013), often quoted by industry, point to geological databases in several Australian jurisdictions as being among the best in the world (table 8.2, left hand panel). In the latest edition of the Institute's mining survey, which ranked 62 national or subnational jurisdictions, South Australia's geological information ranked first in terms of 'encouraging investment'. Western Australia ranks third and the Northern Territory sixth. Other states did not perform as well.

Australia also performs well in the Institute's equivalent petroleum survey (Angevine, Cervantes and Oviedo 2012). Out of the 147 jurisdictions surveyed, South Australia, offshore Australia and Western Australia were the three highest ranking regimes in terms of the quality of geological information that encouraged investment (table 8.2, right hand panel). Again, performance in other states was ranked lower.

Submissions to this inquiry similarly praised the quality of Australia's pre-competitive geoscience information. For example, the Australasian Institute of Mining and Metallurgy (AusIMM) stated:

AusIMM members are of the view that Australia's various geoscience organisations produce very high quality pre competitive data, and play a very constructive role in supporting minerals exploration investment. (sub. 12, p. 2)

Likewise, an industry participant to the South Australia Chamber of Minerals and Energy submission commented:

I think delivery of Geoscientific information is pretty good by both federal and state bodies. The govt needs to understand (and I think it does) that the mature exploration environment in Australia means that the search for new deposits is much harder and much more expensive these days. (sub. 9, p. 13)

The Minerals Council of Australia, while warning that Australia should not rest on past achievements, noted that:

World leading exploration geoscience has been a key competitive advantage of Australia's exploration sector and emerging mining regions are moving quickly to emulate this success. (sub. 27, p. 32)

**Table 8.2 Quality of the geological database: the highly ranked and selected other jurisdictions**

Per cent of firms reporting that the available database encourages investment

Region	Survey of Mining Companies			Global Petroleum Survey		
	2004-05	2008-09	2012-13	2007	2010	2012
<b>Australia</b>						
South Australia	48	75	81	na	55	81
Western Australia	37	59	74	na	64	74
Northern Territory	38	64	67	na	67	54
Queensland	42	59	63	na	47	36
New South Wales	35	64	60	na	20	42
Victoria	38	61	58	na	55	46
Tasmania	0	60	48	na	29	27
Offshore - Australia	na	na	na	53 <sup>a</sup>	59	79
<b>Canada</b>						
Quebec	61	81	76	na	13	8
Ontario	55	66	71	na	25	na
British Columbia	66	63	69	43	65	62
Newfoundland and Labrador	46	71	66	63	17	15
<b>United States</b>						
Nevada	40	53	57	na	na	na
Alaska	16	43	56	67	58	47
Utah	22	41	56	na	58	44
Montana	23	35	55	40	31	36
Offshore - Gulf of Mexico	na	na	na	na	63	55
Offshore - Alaska	na	na	na	na	36	33
<b>Eurasia</b>						
Mongolia	0	22	6	na	na	na
China	0	4	0	0	15	8
Russia	0	32	12	7	0	0
<b>Middle East</b>						
Kuwait	na	na	na	60	5	44
Qatar	na	na	na	29	23	33
<b>Africa</b>						
Namibia	na	35	30	na	33	0
South Africa	21	34	22	na	24	10
Botswana	8	32	21	na	na	na
<b>Latin America</b>						
Mexico	7	22	28	see United States above		
Chile	25	38	25	na	0	29
Peru	24	27	24	38	20	21
Brazil	4	17	13	36	14	27 <sup>b</sup>

<sup>a</sup> Scores for individual states and territories were not recorded for this year. <sup>b</sup> Overall score for Brazil not recorded for this year, this score applies only to offshore concession contracts. na not applicable.

Sources: Angevine and Cameron (2007); Angevine, Cervantes and Oviedo (2012); Angevine and Cervantes (2010); McMahon and Cervantes (2009); McMahon and Lymer (2005); Wilson, McMahon and Cervantes (2013).

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Broadly positive opinions on Australia's pre-competitive geoscience information were also expressed in submissions from the Australian Petroleum Production and Exploration Association (APPEA, sub. 22) and the Association of Mining and Exploration Companies (AMEC, sub. 24). Recent reviews by the Policy Transition Group (PTG 2010) and the Australian National Audit Office (ANAO 2010) similarly convey industry satisfaction with Australia's geological database.

This is not to say that submissions did not identify some concerns, or that all jurisdictions are performing at the highest level. For example, AusIMM (sub. 12) suggested that governments in Australia may be underinvesting in geoscience information and that this may be restricting greenfield exploration investment while APPEA (sub. 22) noted that coverage in some jurisdictions is patchy. Gold and Copper Resources Australia (sub. DR69) expressed concerns over the low resolution of pre-competitive geoscience information in Australia.

There are challenges involved in maintaining Australia's competitive advantage in mineral exploration, notably:

- perceptions that Australia is a mature exploration environment with a more limited remaining mineral endowment
- high wage costs compared to other countries
- increasing political stability in other countries (EIGWG 2012).

The recent review by the Exploration Investment and Geoscience Working Group (EIGWG) of the Standing Council on Energy and Resources (2012) has identified opportunities to improve Australia's ability to attract exploration investment through geoscience initiatives, including:

- a renewed commitment to government-funded geoscience
- targeting geoscientific research to areas that are of immediate interest to explorers
- support for a national geoscientific research initiative.

Based on the available evidence, the Commission concludes that comprehensive reform of Australia's current geoscience arrangements is not required. That said, there are opportunities to pursue more focused reforms with a view to improving geoscience funding arrangements and the coverage of Australia's geological database. Some jurisdictions in particular have greater scope for improvement. These matters are explored below.

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## **8.3 Opportunities to improve pre-competitive geoscience information**

### **Investigating alternative funding models**

The pre-competitive geoscience activities of Geoscience Australia have recently moved to fully funded, ongoing, block budget appropriations (Ferguson 2012). However, initiative funding accounted for between one-third and one-half of state and territory geological survey funding in 2012-13 (tables 8.3 and 8.4).

**Table 8.3 Initiative funding of state and territory geological agencies is substantial**

Proportion of total funding for pre-competitive geoscience activities that is sourced from initiative funding (per cent)

<i>Jurisdiction</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
Western Australia	55	65	48
Queensland	46	55	39
South Australia	23	32	34
New South Wales	46	46	50
Victoria	36	34	31

Source: Data provided to Geoscience Australia by state and territory geological agencies; submission from the Queensland Government (sub. DR53).

When undertaking a strategic review of GA, the Department of Finance and Deregulation (DoFD) raised concerns about the impact of initiative funding on long term planning and staffing — issues that are also relevant for state geological survey offices:

As previously noted, the uncertainty created by the use of time-limited measures has required GA to adopt strategies to maintain flexibility in its cost structure to be able to respond to a drop off in revenue ... The major strategy applied by GA to address this has been to rely more on non-ongoing staff. The specialist skills required make this particularly difficult ... It is inevitable that this approach compromises cost-effectiveness of the supported activities and capabilities over the long term and represents a value-for-money trade-off for the Government to the value of maintaining budget flexibility. (DoFD 2011, p. 85)

A specific example of the type of activity that is not suited to short-term funding arrangements is the role played by Australia's geological surveys in maintaining and updating databases of geoscientific information accumulated over the last 100 years. Geological and geospatial data has a long life cycle, primarily because of the requirement for time series continuity in certain fields but also because the development of new techniques and technology for data analysis and interpretation

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mean that existing data can be continuously reinterpreted to provide new insights (PwC 2009).

The Commission agrees that initiative funding is generally an inappropriate means to fund a large proportion of the pre-competitive geoscience activities undertaken by both GA and the state and territory geological agencies. At present, two alternative funding approaches are being utilised by specific jurisdictions:

- funding pre-competitive geoscience activity through ongoing block appropriations, as is currently the case for GA
- recovering costs of providing pre-competitive geoscience data from industry, as is currently the case in New South Wales and Queensland.

### *Block funding models*

Block funding — where funding is allocated on a longer term recurrent basis — offers a number of advantages over initiative funding arrangements for agencies such as GA and the state and territory geological surveys. As the Commission argued in its report on *Public Support for Science and Innovation*, block funding:

- provides greater flexibility to make strategic decisions about research directions
- creates opportunities to respond to emerging priorities
- allows organisations to plan and build multi-disciplinary resource capability
- provides scope to engage in larger scale, longer term activities
- involves lower administrative and compliance costs compared to grant or program specific funding (PC 2007).

**Table 8.4 Geoscientific initiatives across jurisdictions**

Jurisdiction	Initiative name	Start date	Timeframe	Funding	Key features
Commonwealth	Energy Security Program	2006	5 years	\$134 million	<ul style="list-style-type: none"> <li>• \$59 million for onshore seismic surveying, radiometric mapping and geochemical surveying</li> <li>• \$75 million for offshore surveys, prospectivity assessments and information management.</li> </ul>
Western Australia	Exploration Incentive Scheme (EIS)	2009	8 years	\$131 million	WA Government Royalties for Regions initiative used to co-fund innovative exploration drilling by licence holders, accelerate release of regional-scale geophysical, geochemical and geological information, and to support exploration research.
Queensland	Smart Mining - Future Prosperity	2006	4 years	\$29 million	Funding was used to increase and accelerate investment in exploration, address skills shortages, and promote the involvement of women in mining.
	Greenfields 2020	2010	4 years	\$18 million	Funding to be delivered through eight programs, including collaborative drilling grants, geological mapping and the modernisation of data delivery and management.
	Future Resources Program	2013	3 years	\$30 million	Funding to be delivered through seven programs, including collaborative drilling grants, mapping, sampling and seismic studies in specified regions, enhance the ability to store and preserve core samples and extract and enable searchable access to archived geochemical data.

<i>Jurisdiction</i>	<i>Initiative name</i>	<i>Start date</i>	<i>Timeframe</i>	<i>Funding</i>	<i>Key features</i>
New South Wales	Exploration NSW	2000	7 years	\$30 million	<ul style="list-style-type: none"> <li>• \$12 million for mineral and mapping program</li> <li>• \$10 million to petroleum programs</li> <li>• \$8 million to computer based data delivery, data maintenance and online systems.</li> </ul>
	New Frontiers Initiative	2006	6 years	\$30 million	Expenditure breakdown similar to Exploration NSW but varying according to priorities. Extended in 2010-11 with the implementation of cost recovery funding.
South Australia	Plan for Accelerating Exploration (PACE)	2004	10 years	\$56 million	<p>Funding is distributed through four main work streams:</p> <ul style="list-style-type: none"> <li>• PACE Exploration</li> <li>• PACE Mining</li> <li>• PACE Energy</li> <li>• PACE Global.</li> </ul>
Northern Territory	Bringing Forward Discovery	2007	4 years	\$14 million	<ul style="list-style-type: none"> <li>• \$11 million for geoscientific data</li> <li>• \$1 million for promotion</li> <li>• \$2 million for co-funding greenfield exploration.</li> </ul>
	Bringing Forward Discovery (extension)	2011	3 years	\$11 million	Extension of original program, continuing original program elements.
Tasmania	TasExplore	2006	4 years	\$5 million	<ul style="list-style-type: none"> <li>• Acquisition of survey data</li> <li>• Upgrading the 3D model of Tasmania</li> <li>• Promotion of exploration opportunities.</li> </ul>
Victoria	Rediscover Victoria	2007	4 years	\$5 million	<ul style="list-style-type: none"> <li>• \$2.5 million for a strategic drilling project</li> <li>• \$2.5 million to develop a 3D geological model of Victoria.</li> </ul>

Sources: Department of Infrastructure, Energy and Resources Tasmania (2013); DMITRE (2012); Geological Survey of Queensland (nd); Geoscience Australia (2011a); Victorian Government (2011a); Scrimgeour (2011); Queensland Department of Natural Resources and Mines (pers. comm. 16 May 2013, 24 July 2013); DMITRE (pers. comm 21 August 2013) Western Australia Department of Mines and Petroleum (pers. comm 20 August 2013).

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The Commonwealth Scientific and Industrial Research Organisation (CSIRO) — like Australia's geological surveys — undertakes research that may be built upon by the private sector. The CSIRO noted in its submission to the Commission's inquiry into *Public Support for Science and Innovation*:

The budget appropriation ... provides for a degree of certainty and stability. This facilitates the strategic planning of research and investment in longer term, challenging projects, as well as the maintenance of capability. Appropriation funding supports basic infrastructure, including facilities, equipment and expertise. Just as importantly, it provides an essential base from which it becomes possible to invest resources into the development of long term research projects requiring the assembly of large teams of experts from several disciplines across different organisations. Grant schemes do not support such planning or cover the considerable overheads required to manage such projects. Neither do grant schemes provide the single point accountability within one organisation which is necessary for the effective management of this kind of large scale program. (PC 2007, p. 481)

Prior to GA's pre-competitive geoscience activities being funded fully by ongoing block funding, several reports assessed their budgetary arrangements. For example, in 2009 PricewaterhouseCoopers (PwC) suggested that:

In order to continue to deliver these outputs and to allow the geoscientific activities to be planned and undertaken in the most effective manner a structural change to the manner in which Geoscience Australia is funded is required, this involves:

- Having appropriations provided on an ongoing basis (rather than through a series of lapsing programs);
- Funding for the core capabilities required to deliver Section 31<sup>11</sup> funded projects to be directly appropriated; and,
- Funding explicitly for two key functions for which Geoscience Australia has never received on-going funding for, namely the acquisition of precompetitive data for the resources sector and for Geoscience Australia's role as the custodian of Australia's legacy of geoscience and geospatial data, including associated stewardship. (2009, p. 4)

PwC went on to say:

The lack of funding certainty for these activities (in the form of baseline funding) presents a number of challenges for GA, including a lack of longer term planning, which would ensure GA has the personnel required to undertake such activities as well as prioritisation of such activities, allowing GA to play a more proactive role in the most effective data to acquire (rather than only reacting to requests from outside agencies). (2009, p. 28)

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<sup>11</sup> Section 31 revenue is revenue that an Australian Government agency receives for providing services and the sale of products (DoFD 2011).

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Likewise, the report by the Policy Transition Group on Minerals and Petroleum Exploration (PTG) commented indirectly on the desirability of moving to a greater reliance on block funding:

The Policy Transition Group recommends that the Australian Government should provide for a more sustainable stream of funding for Geoscience Australia to acquire and make available pre-competitive geoscience and geospatial data, and manage publicly and privately acquired data through its national data repository. (2010, p. 23)

While these reports are centred on GA, their findings have relevance for the state and territory geological agencies who, like GA, collect pre-competitive geological data, but who, unlike GA, remain largely reliant on time-limited initiative funding.

The Commission is cognisant that there are also potential disadvantages associated with block funding, including reduced external accountability, potentially less direct involvement in funding investment decisions by stakeholders and lower incentives to maintain or improve performance compared with more at risk, shorter, fixed term funding sources. However, given the benefits of recurrent block funding discussed above, the Commission considers that there is a strong case for a large proportion of the funding for Australia's geological surveys to be secured through ongoing block appropriations.

### *Cost recovery funding models*

As observed earlier, pre-competitive geoscience information is a partial public good in the sense that it is non-rivalrous in use. However, pre-competitive geoscience information is not a pure public good because explorers can be excluded from accessing that information. This raises the option of public provision combined with cost recovery charging.

#### *The case for and against cost recovery*

The Australian Government guidelines for cost recovery outline when it can be appropriate and when it is not appropriate:

Used appropriately, cost recovery can provide an important means of improving the efficiency with which Australian Government products and services are produced and consumed. Charges for goods and services can give an important message to users or their customers about the cost of resources involved. It may also improve equity by ensuring that those who use Australian Government products and services or who create the need for regulation bear the costs.

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However, cost recovery may not be warranted where:

- it is not cost effective; or
- it would be inconsistent with government policy objectives; or
- it would unduly stifle competition and industry innovation (for example through ‘free rider’ effects). (DoFD 2005, pp. 11–12)

Arguments for full or partial cost recovery of pre-competitive geoscience information can be made in terms of both user pays principles and the ‘price’ signals that cost recovery user charging would potentially send to government about the appropriate level of pre-competitive information provision that should be supplied. The ability to fully or partially recover the costs of generating the information is an indication of the value that private explorers place on the level and quality of information being provided. Other arguments in favour of cost recovery centre on fiscal implications, namely that cost recovery would:

- widen the funding base of geological agencies by providing an alternative source of revenue and/or
- transfer part of the cost of providing pre-competitive geoscience data from the public to the private sector (and onto the parties who arguably derive the greatest direct benefit from its existence — explorers and miners).

In 2011, the DoFD, as part of a strategic review of GA, examined the merits of cost recovery for pre-competitive geoscience information. This review did not recommend the introduction of new fees or levies to finance the provision of pre-competitive geoscience information. One rationale for their approach, the DoFD argued, is that the main beneficiaries of geoscience data is not private enterprises but government itself, and consequently, it would not be appropriate to fully recover cost from industry:

... from a resource development perspective the principal client for pre-competitive information is the Government itself. Under current arrangements for the release of exploration acreage, pre-competitive information serves important, arguably critical, roles in enabling the Government to identify areas that have conditions sufficiently favourable for exploration to be considered viable for commercial investment and in promoting and validating those areas to potential investors. This indicates that no more than partial cost recovery or industry funding would be appropriate. (2011, p. 105)

DoFD further noted that it was in the interests of both the government and the community to fund pre-competitive information in order to attract the largest possible competitive field of potential investors. This process, it was argued, was analogous to the due diligence that companies undertake in preparing an investment prospectus (or product disclosure statement) for the sale of a business or asset (DoFD 2011).

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Further:

The ‘prospectus’ analogy represents a departure from the public good argument that is typically used to justify government provision of pre-competitive information. While public good attributes certainly apply to pre-competitive information, under this model it is the Government’s desire to maximise its private interests, as sovereign owner of resources and recipient of secondary tax revenues from resource development, that forms the core business case for the Government to generate and provide pre-competitive information as described above. *This business case is heavily dependent on the current system for allocating exploration acreage which generally does not assign exploration rights at a scale where strategic regional framework studies become viable for private investors.* [emphasis added] (DoFD 2011, p. 39)

Three submissions supported the proposition that public funding of geoscience is justified on the basis that pre-competitive geoscience is analogous to a prospectus (Business SA, sub. DR54; Minerals Council of Australia, sub. DR63; Peabody Energy, sub. DR39). Consistent with the prospectus analogy, Peabody Energy identified an opportunity for immediate returns to the government from geoscience investment:

We support efforts to increase the knowledge of the State’s resource by privately-funded exploration but also by State-funded high level exploration activity. The mapping of such geological data should be available to the public, and we believe such data enhances the value of exploration rights that can be granted by the State. The better such data the more that the State can expect to receive from the sale of exploration rights through a cash-bidding process. (sub. DR39, p. 2)

More generally, while the Commission received a small number of submissions in support of cost recovery for pre-competitive geoscience, the majority of industry participants were opposed to its use (box 8.1).

#### *Recent cost recovery initiatives*

Two distinctly different cost recovery approaches are being utilised by New South Wales and Queensland.

In 2012, New South Wales introduced annual rental fees for exploration licences, as well as for assessment and mining or petroleum production leases. The rental fees are applied relative to the size of the exploration licences, assessment or production leases, and the per hectare fee charged varies by type of licence/lease and how long the licence/lease has been held for. The funds raised can only be used to fund the ‘New Frontiers’ program, any other program that provides for, or improves the geoscience information available for minerals and/or petroleum or for associated administrative costs (NSW DTI 2012a).

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### **Box 8.1 Some participants' views on cost recovery for pre-competitive geoscience**

Most participants opposed the use of cost recovery to fund pre-competitive geoscience. For example the New South Wales Mineral Council said:

NSWMC has strongly advocated that pre-competitive geoscience information should be government funded. South Australia's successful Plan for Accelerating Exploration (PACE) has raised international interest in prospectivity and produced a \$300 million return on a \$30.9 million investment within its first three years. (sub. DR61, p. 1)

We believe that in consideration of the significant returns for investment in exploration, both financially and in terms of future job creation, funding of pre-competitive geoscience information should be critical for any government. (sub. DR61, p. 2)

The Chamber of Minerals and Energy of Western Australia said:

CME does not support the introduction of cost-recovery models and levies by government agencies, particularly if cost-recovery shifts existing government appropriations onto industry without any tangible improvements. Before cost recovery will be considered by the resource sector, government must demonstrate a clear link to improved service delivery. (sub. DR62, p. 5)

The Queensland Resources Council and the Queensland Exploration Council said:

Funding for the acquisition of pre-competitive geoscientific data would ideally be included in the base budget of the Geological Surveys. Neither Council would support a cost recovery model which could dilute access to the data. (sub. DR43, p. 7)

Business SA said:

Taxpayers do not pay levies to receive services of a public good nature like police protection, and explorers should not pay a levy to receive pre-competitive geo-science information. (sub. DR54, p. 3)

Few participants supported cost recovery or acknowledged potential benefits. The Queensland Department of Natural Resources and Mines said:

The Queensland Government supports cost recovery principles where appropriate and agrees to monitor the New South Wales situation. (sub. DR53, p. 28)

The New South Wales Mineral Council said:

The new fees will, however, provide certainty and security, especially for the geological data collection program which only received short term funding from government. (sub. 11, p. 6)

While the rental fees are a new policy, the New Frontiers exploration program has been in operation since 2006. As such, the hypothecated funding is intended to fund new and continuing activities under the program. The New Frontiers program focuses on attracting petroleum and mineral exploration in less-explored areas of the state.

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In their annual report, the New South Wales Department of Trade and Investment, Regional Infrastructure and Services (NSW DTI) described the funding initiative as:

A new rental fee on the mining industry to fund the continuance of the New Frontiers initiative will commence on 1 July 2012. This funding mechanism is expected to generate some \$4.5 million in 2012-13, ramping up to \$6.5 million per annum in future years. This level of funding represents an expansion of New Frontiers and will underpin its success into the future. (2012c, p. 56)

The recently announced funding for the Geological Survey of Queensland's Future Resources Program has been funded from cash bidding systems introduced in that state (Nicholls and Cripps 2013; Queensland Government 2013) — however no commitment has been given to the ongoing hypothecation of the cash bidding revenue to fund pre-competitive geoscience. As noted in chapter 3, opposition to cash bidding for exploration licences is widespread among mining and exploration companies and peak bodies.

*The Commission's view on recovering the costs of pre-competitive geoscience information*

The Commission reaffirms its view that the cost recovery initiatives in New South Wales and Queensland provide opportunities to observe the impacts of cost-recovery charging.

As a principle of good regulation, the Commission considers that policy action should only occur if there are demonstrable net benefits. The New South Wales cost recovery model provides an explicit funding stream for geoscience in that state. Given that explorers benefit from the provision of pre-competitive geoscience information, a case can be made that they should contribute to the cost of collecting and maintaining this information.

Explorers may also benefit from cost recovery if it contributes to geological agencies being less reliant on short-term, non-recurrent funding or if cost recovery allows explorers to have greater say on the priorities of these agencies. However, cost recovery policies also have scope to adversely impact explorers and potentially the community as a whole if they result in substantially less exploration activity being undertaken, or a less stable stream of funding.

The New South Wales and Queensland approaches provide governments in these and other jurisdictions an opportunity to monitor and assess the costs and benefits of these systems.

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## **Priority setting and performance management**

Rigorous priority setting and performance management processes are important means of ensuring that public funding is allocated effectively. Used properly, these processes also ensure that work conducted by each geological survey organisation is not duplicated by other agencies nor extends into areas that might otherwise be performed by private explorers. The potential for duplicated effort is especially relevant where resource basins cross jurisdictional boundaries and where other public sector research agencies, such as the CSIRO and Cooperative Research Centres (for example, the Deep Exploration Technologies CRC) are involved in related areas of research including land, environmental and hazard management.

While the priority setting and performance management approaches appropriate to different parts of Australia's public research system will reflect differences in purpose and function, sound governance arrangements share some common features. This is particularly the case for mission-based research agencies, such as Australia's geological surveys which conduct strategic research with public good attributes. These characteristics are common to the work conducted by a number of other public sector research agencies, notably the CSIRO.

In that context, the Commission's report into *Public Support for Science and Innovation* (PC 2007) argued that aspects of the CSIRO's approach to priority setting and performance management may have wider applicability to other parts of Australia's innovation system (including geological survey work). The aim of adopting such an approach would be to increase accountability across that system. CSIRO's approach incorporates both ex-ante and ex-post appraisal processes, combines bottom-up and top-down input to research planning, involves broad consultation with potential users and other stakeholders and actively manages projects against performance benchmarks.

Most of Australia's geological survey organisations rely on informal networks with industry and their representative associations to inform decisions about how and where pre-competitive geoscience funding should be allocated. Few of these organisations have employed structured performance management systems to evaluate research outcomes.

Some geological survey organisations do have more developed priority setting approaches. In particular, the Geological Survey of Western Australia (GSPA) formed the Geological Survey Liaison Committee. The process provides input into the strategic direction and planning of GSPA's future work program. The Committee meets bi-annually, is chaired by the WA Department of Mines and Petroleum and includes CSIRO, Curtin University, University of Western Australia,

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APPEA, AMEC, the Chamber of Minerals and Energy and direct industry representatives.

Likewise, the Queensland Government has recently announced that it would use peak bodies to assist with the setting of priorities for geoscience research:

Industry will be consulted through the Queensland Exploration Council, the Queensland Resources Council, the Association of Mining and Exploration Companies and the Australian Petroleum Production and Exploration Association to identify priority geoscience projects which will have the greatest contribution to maximising exploration success. (Cripps 2013)

The New South Wales Government has established a Geological Survey Advisory Committee to provide a forum for obtaining input and feedback from industry representatives (individual company executives) on the activities and outputs of the Geological Survey of NSW. The move to industry funding of pre-competitive data acquisition will see a restructuring of the membership of that committee with broader representation being provided by industry associations such as the New South Wales Minerals Council and AMEC. This will reduce the risk of potential conflicts of interest emerging compared with individual company representation.

Further, as discussed earlier in this chapter, the pre-competitive geoscience data available in many jurisdictions in Australia is well regarded by explorers. This can be considered as evidence that, in general, the current arrangements of setting priorities and performance management are broadly effective, but that there are leading practices in some jurisdictions that others could learn from.

### **Extending database coverage**

Although Australia ranks highly in international comparisons of database quality, there are opportunities to improve on those databases without the need for any additional public funding. This is due to significant gaps in resource reserve information from inadequate disclosure of that information by certain corporate entities.

Currently, resource companies listed on the Australian Stock Exchange (ASX) are required to report (with a lag) publicly on exploration results, mineral resources and ore reserves. However, unlisted title holders (such as foreign companies and privately-owned Australian companies) are not required to publicly report on mineral and energy resources. According to an issues paper prepared by Department of Resources, Energy and Tourism on behalf of the Standing Council on Energy and Resources (SCER 2012b), takeover and merger activity by foreign resource firms over time has reached a point where ‘... Australia no longer has an accurate

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Economic Demonstrated Resource for a range of minerals' (p. 4). The potential consequences are that a:

Lack of accurate, consistent data could reduce governments' ability to forecast production for policy and revenue purposes. It also reduces the ability to make informed decisions on land use planning. (SCER 2012a)

Although the states and the Northern Territory impose reporting requirements on mineral and petroleum exploration and production licences, these are primarily focused on production data (for the purpose of royalty collection) and vary by commodity and jurisdiction. According to an issues paper prepared by the Department of Resources, Energy and Tourism and Geoscience Australia on behalf of SCER:

Reporting requirements for minerals inventory and for production vary across the States and Territories ... Reporting has not been systematically enforced by jurisdictions and information reported is focused more on production. (SCER 2012b, p. 4)

Moreover, according to the issues paper, the lack of systematic reporting has left gaps in the resource information base across commodities and jurisdictions. The Department of Industry is preparing a regulatory impact statement which examines the extent to which data collection issues have hampered access to sufficiently reliable information on Australia's resource reserves and production, and whether the imposition of reporting requirements on non-reporting companies is warranted.

The issues paper advanced three options to improve data collection rates from non-reporting companies: a voluntary survey; a regulatory approach; and improved use of current data collection mechanisms.

- A voluntary survey could be administered by jurisdictions to collect resource information from companies. Jurisdictions would collate information and supply the data to GA by 30 September each year for inclusion in the national dataset.
- Under a regulatory approach, a compulsory requirement at the Commonwealth level for non-listed companies could be developed which mirrors the current compulsory reporting requirements for listed companies.
- Existing mechanisms could be used, such as state and territory legislation and direct approaches by data collection and analysis agencies, to capture data from non-reporting companies. (SCER 2012b)

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Submissions to this inquiry generally supported the aim of improved disclosure but warned against imposing additional regulatory costs on business. For example, AusIMM said:

AusIMM supports the development of a more comprehensive understanding of mineral resource and reserve estimates for Australia by establishing a mechanism to gather key data from companies not reporting to the ASX. However, this must be done in a way that does not impose significant administrative costs on businesses or discourage investment in minerals exploration and development in Australia. (sub. 12, p. 8)

The Department of Industry is currently examining options to extend requirements for reporting known reserves by foreign and privately-owned exploration companies. The Commission strongly supports the universal disclosure of resource reserves in Australia by all types of exploration companies.

#### RECOMMENDATION 8.1

*The Australian Government should require foreign exploration companies operating in Australia and private exploration companies to publicly disclose information about resource discoveries in Australia on the same basis as the current requirements for exploration companies listed on the Australian Stock Exchange.*



# 9 Workforce Issues

## Key points

- The resource exploration industry is characterised by rapid expansions and contractions. As a result, the industry can experience periods of skills shortages and surpluses.
- While there were pronounced shortages in key occupations during 2011 and 2012, recent evidence suggests that the situation has moderated.
- However, analysis of structural issues facing the resources sector in the medium to long term indicate the likely future occurrence of short and longer term skills shortages.
- Skilled migration remains important to the industry. Between 2005-06 and 2010-11, over 2000 mining engineers and over 3000 geologists and geophysicists have entered Australia under employer sponsored subclass 457 visas.
- Ongoing implementation of the National Resources Sector Employment Taskforce (2010b) recommendations will help to foster a culture of training and workforce planning within the exploration industry in the long term.
- While reforms to workplace regulations (such as those relating to workplace health and safety and workplace relations) may reduce the cost of exploration, the implications of such regulatory changes would extend far beyond the exploration industry and are best addressed in economy-wide reviews of those regulations.
  - Recent broad reviews of workplace regulations examined a number of proposals that have also been recommended by participants to this inquiry, but did not support the proposed reforms.

This chapter discusses a range of workforce issues that participants in this inquiry have raised that may act as a barrier to exploration. These issues include the impact of skills shortages, workplace health and safety (WH&S) regulations and workplace relations policies.

Many of these issues relate to regulatory regimes that are the subject of ongoing COAG intergovernmental review and implementation processes, such as WH&S reform, or have been the subject of recent reviews, such as workplace relations regulations. The Commission notes that, unlike inquiries where workforce issues loom large, the exploration sector is only a small window through which to view these issues. It would be inappropriate to propose reforms to economy-wide regimes solely on the basis of overcoming barriers to exploration.

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## **9.1 Skills shortages**

Skills shortages can impact on the ability of explorers to undertake exploration in a timely and efficient manner. Insufficient access to skilled labour may place cost pressures on exploration activity as explorers may need to offer higher remuneration in order to compete for limited skills. In times of severe shortages, insufficient skilled labour may result in some exploration activity not occurring.

### **Prevalence of skills shortages in 2011 and 2012**

The highly cyclical nature of resource exploration (Hogan et al. 2002; Stoltz 2009) means that the industry is likely to experience skills shortages during times when exploration activity is high and demand for skilled labour by explorers, producers and regulators is strong.

A workable definition of what constitutes a skills shortage is when:

... employers are unable to fill or have considerable difficulty filling vacancies for an occupation, or significant specialised skill needs within that occupation, at current levels of remuneration and conditions of employment, and in reasonably accessible locations. (DEEWR 2013a, p. 1)

Several occupations critical to resource exploration were in shortage during 2011 and 2012. The Australian Government's Skills Shortage List for 2012 identified geologists, geophysicists, mining engineers, petroleum engineers and metal machinists as being in shortage (DEEWR 2012). Other reports dating from this time, including those by the National Resources Sector Employment Taskforce (NRSET 2010a), Kinetic Group (2012) and Michael Page International (2011), also identified skills shortages in the mining sector. In 2012, The Australian Workplace and Productivity Agency (AWPA) — who have been tasked by the Australian Government to publish annual reports on the skills needs of the resource sector — also identified the presence of shortages.

Prior to the draft report, several submissions pointed to skills shortages existing in the resource exploration industry. For example, the South Australian Chamber of Mines and Energy (SACOME) said:

... the human capital side of the resources industry is struggling. There simply are not enough trained people to meet the needs of resources companies in South Australia — and it would appear this problem is a national one. (sub. 9, p. 9)

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Similarly, the Minerals Council of Australia (MCA) commented:

Despite less buoyant industry conditions, the minerals sector continues to experience notable skills gaps, most apparent for professional, skilled trades and skilled operator categories. On current trends, Australia will not be able to supply sufficient technicians, geologists, mining engineers or other related skills to meet immediate industry needs (sub. 27, p. 34).

## **2013 — a turning point**

Input into this inquiry since the release of the Commission's draft report has been more mixed. In their post draft submission, the MCA reaffirmed that skills shortages remain an issue:

As earlier submitted, the minerals industry's demand for skilled labour remains high and notable skills gaps remain, despite less buoyant industry conditions. (sub. DR63, p. 16)

However, other participants have commented on a possible softening of labour market conditions for many occupations that are critical for resource exploration. AusIMM, in giving evidence at the public hearings for this inquiry, referred to:

... a lot of stories from members who have been recently made redundant, who have been involved with projects that they thought were going ahead that have either been put on ice or been cancelled ... (AusIMM, trans., pp. 93–94)

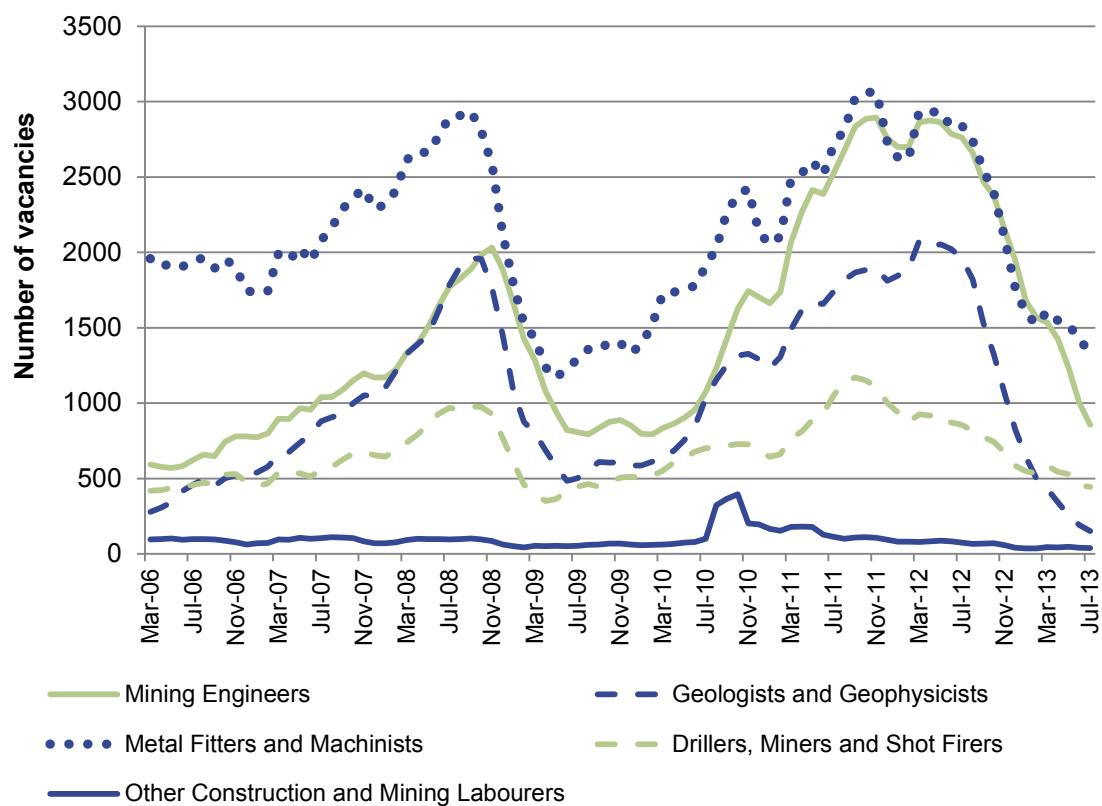
The Australian Institute of Geoscientists, through a survey of their membership base and the wider geoscience community, point to growing unemployment across geoscience fields:

... The survey responses have shown a marked and continuing upward trend in unemployment and underemployment amongst geoscientists since June 2012 ...

Exploration geoscientists are reporting the highest rate of unemployment, but there is also an increase in reported job losses amongst geoscientists in the mining and environmental sectors, indicating a flow-through effect in the industry as exploration investment declines. (sub. DR56, p. 1)

In the draft report, the Commission analysed vacancy data to assess the demand for occupations key to resource exploration. Since its release, another four months of vacancy data has been released which show that the pronounced downward trend in vacancy numbers since mid-2012 has persisted. The number of vacancies for geologists and geophysicists is now lower than at any other point since data collection began in March 2006 (figure 9.1). Other occupations are approaching the recent trough in vacancy levels recorded during the Global Financial Crisis (GFC).

**Figure 9.1 Vacancy rates have declined sharply in recent months**  
 Monthly online vacancy data from March 2006 to July 2013



Data source: DEEWR (2013b).

Furthermore, the latest version of the Australian Government's *Skills Shortage List*, released in September 2013, no longer lists geologists as being in a national shortage, although it noted that unfilled vacancies remain in regional Western Australia (DEEWR 2013a).

This evidence suggests that the extent of skills shortages in resource exploration have at least eased, as has the impetus for shorter term policy response. The Commission notes that the forthcoming 2013 update of the *Resources Sector Skill Needs* report, to be undertaken by the Australian Workforce and Productivity Agency (AWPA), will provide further insight into this issue.

## Addressing future skill needs of the industry

The cyclical nature of resource exploration means that labour shortages (and surpluses) in essential skills can quickly appear in the industry. Regulators can also face volatile workloads while having limited capacity to compete with explorers and miners to attract and retain skilled workers by offering higher salaries. As such,

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there is value in examining the responses and adjustment mechanisms available to industry in these situations.

### *Short term options to address shortages*

There are two approaches to increase the supply of skilled workers for resource exploration in the short term. The first involves encouraging already appropriately trained workers from other sectors in Australia to enter resource exploration and the second is to promote skilled migration in occupations that are subject to shortages.

The first approach is likely to have limited impact. As of August 2011, more than half of all mining engineers and geologists and geophysicists were working in resource exploration and extraction (table 9.1). Furthermore, most of those who work within the professional, scientific and technical services industry provide work indirectly for the mining sector through contract and consulting work (AWPA 2012). The vast majority of drillers, miners and shot firers also already work in the resources sector. On the other hand, most metal fitters and machinists work in non-mining industries.

**Table 9.1 Industry employment breakdown for selected occupations**

Per cent of workers in occupation, August 2011

Industry	Mining engineers	Geologists and geophysicists	Drillers, miners and shot firers	Metal fitters and machinists
Mining	58	56	82	17
Professional, scientific and technical services	25	30	1	2
Public administration and safety	-	6	-	2
All other industries	17	8	17	79
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ABS (2013a).

A second option is to recruit workers from other countries. Submissions to this inquiry emphasised the current importance of skilled migration to the resource sector. For example, in their March 2013 submission, APPEA stated:

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. (sub. 22, p. 22)

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AMMA echoed the importance of skilled migration to resource exploration:

... skilled migration plays a small but particularly important role in meeting Australia's complex skills challenges. It constitutes a flexible contingency option for resource employers, and an essential means to supplement the local workforce, particularly when local workers are unwilling to relocate to regional and remote areas. Skilled migration also facilitates access to highly specialised skills that may not exist locally. (sub. 32, pp. 7–8)

Also confirming this view, SACOME said:

SACOME would contend ... that employer sponsored migration is needed and an effective way to address skills shortages ... (sub 9, p. 13)

The Temporary Business (Long Stay) visas — commonly known as subclass 457 — is the primary vehicle for allowing foreign workers to fill temporary skills shortages. In 2011-12, there were 6460 mining industry workers who entered Australia on 457 visas. This represents over 9 per cent of all 457 visas issued to primary applicants (DIAC 2013b).

Employers have used 457 visas to fill particular occupational shortages. Between 2005-06 and 2010-11 over 2000 mining engineers and 3000 geologists and geophysicists entered Australia under employer sponsored 457 visas (figure 9.2). The annual intake peaked in 2007-08, the year before the onset of the GFC. While it is not possible to determine how many of these visa recipients proceeded to work in resource exploration, the entry of workers with these specific skills into the workforce would have moderated the severity of skills shortages generally and reduced the difficulty resource explorers have found in attracting appropriately skilled workers.

Participants to this study expressed concerns that recent reforms to 457 arrangements would have a detrimental impact on the extent that employers could use skilled migration to counteract skills shortages. In their initial submission to this inquiry, AMMA stated that:

... proposed Federal Government reforms to the *Migration Act 1958* (Cth) regarding the 457 visa programme and offshore resource workers would operate to the marked detriment of the resource industry and our access to critical skills. (sub. 32, pp. 2–3)

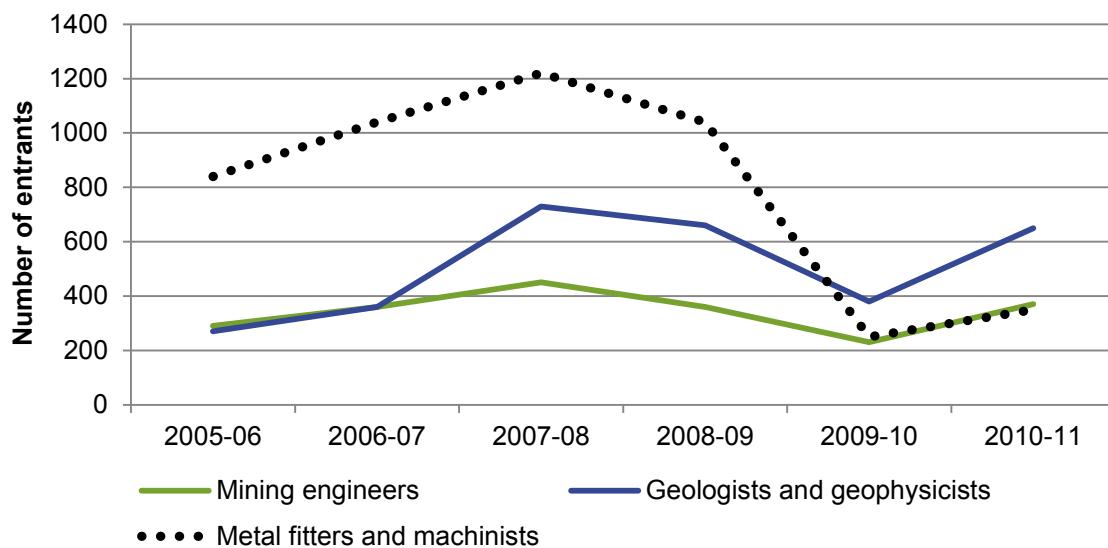
The MCA was concerned about changes to the fees and requirements for 457 visas:

The minerals industry welcomes an effective temporary skilled migration program that has the capacity to respond to economic demand within a framework that ensures integrity and efficiency. It is too early to determine what impact the Government's recent increases to fees, charges and bureaucracy will have on the minerals sector, but it is important to note the tenor of the debate will also have an effect. (sub. DR63, p. 17)

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**Figure 9.2 Entrants under employer sponsored subclass 457 visas**  
Selected occupations

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Data source: AWPA (2012).

Skilled workers can also enter Australia permanently under the ‘Skill Stream’ of Australia’s *Migration Program*. The majority of migrants who enter Australia under this stream do so as employer sponsored migrants or as ‘general skilled migrants’. General skilled migration consists of skilled migrants entering Australia independently, with sponsorship by a family member, or with sponsorship from a state or territory. Nearly 126 000 people entered Australia under the Skills Stream program in 2011-12. No sectoral breakdown of employment under this stream is available (DIAC 2013b).

The Skilled Occupations List (SOL) determines what occupations are eligible for permanent independent and family sponsored skilled migration into Australia (DIAC 2013a). The Department of Immigration and Citizenship administers the SOL, with the list updated annually to keep abreast of the changing skills needs of the economy. The Department gives considerable weight to advice from the Australian Workplace and Productivity Agency (AWPA) as to what occupations should be included on the SOL. The Agency uses multiple criteria to assess whether an occupation should be listed on the SOL (box 9.1).

The Commission notes that AWPA encourages consultation and input from stakeholders as part of its assessment as to whether occupations are listed on the SOL. The Commission has not been presented with evidence that the criteria and process used to identify occupations that should be placed on the SOL is inadequate.

### **Box 9.1 Assessing occupations for the Skilled Occupations List**

AWPA assesses specialised occupations for listing in the Skilled Occupations List (SOL) against five criteria. An occupation *is not* listed on the SOL if it meets any of the following:

- If the evidence shows it is an occupation likely to be in surplus in the medium-to-long term (based on a combination of data including the size and age of the current workforce, expected employment growth rates, labour force turnover, and trends in student enrolments and completions).
- If there are other more appropriate and specific migration options (e.g. temporary skilled migration or employer sponsored or state migration).
- If the job requires the person to be an Australian citizen.
- If the course of study required to undertake the occupation can, and usually is, completed without a long lead in time and is not sufficiently skilled.
- If it is a niche occupation (i.e. with very few employers or employment opportunities as these are more appropriately addressed through Employer Nominated or Regional sponsored skilled migration).

Source: Skills Australia (2012).

### *Longer term options to address shortages*

The recent study by the National Resources Sector Employment Taskforce (NRSET 2010b) modelled the future skills needs of Australia's resource sector to 2015. It found that the sector could face skills shortages across a number of key occupations, some of which have relevance to resource exploration. That study outlined 31 recommendations 'for governments, the resources sector and stakeholders to address critical skill needs and plan for future growth' (NRSET 2010b, p. iii) within the resources sector.

The NRSET recommendations spanned themes covering workforce planning, training, participation and migration, and were all accepted by the Australian Government. A subset of these recommendations — namely those with the potential to have the greatest impact on the skill needs of resource exploration — are listed in box 9.2.

These recommendations formed the basis of the National Resource Sector Workforce Strategy (NRSWS), to be overseen by a steering committee consisting of Australian Government departments, state and territory governments, industry associations, unions and training providers. The steering committee has developed an implementation plan, with the latest update on the strategy — released in March 2013 — indicating that to date, 27 of the 31 recommendations have been actioned

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with the remaining four recommendations ‘expected to be “actioned”<sup>12</sup> during 2013’ (NRSWS Steering Committee 2013, p. 1).

The Commission considers that the implementation of the NRSET recommendations will assist with moderating the effects of skills shortages in resource exploration, particularly over the longer term. The value of continuing the work of the NRSWS has also been identified in submissions to this inquiry (such as by the MCA sub. 27) and in the Australian Government’s Energy White Paper (DRET 2012).

Several of the recommendations of the NRSET centre on the provision of training and apprenticeship opportunities by the resources sector. The NRSET noted:

Although some companies have a strong commitment to apprentice training, the resources sector as a whole does not train enough apprentices. There is a reluctance by many employers to hire young people. Companies prefer to attract mature workers in their mid twenties and older with life and work experience. (2010b, p. 3)

Karmel and Mlotkowski (2010) found that the exploration industry employs a disproportionately low level of trade apprentices compared to trade workers. In December 2009, the resource exploration industry employed about 0.1 per cent of all (economy-wide) trade apprentices but employed 0.3 per cent of all trade workers. As such, Karmel and Mlotkowski estimated that the exploration industry would need to increase its employment of trade apprentices by 150 per cent if it were to employ the same proportion of trade apprentices as it does trade workers in the economy.

SACOME identified issues with apprenticeship training, but suggested the problem was the result of inadequate access to trainers, rather than the industry failing to provide sufficient training places:

Providing more training to unskilled or new-to-resources workers is not a viable short-term solution — because there are not enough trainers to meet current needs, let alone the growing future requirements of the industry. First of all, trainers must be found or created. (sub. 9, p. 9)

One major cause of the problem is that with current mining sector wages, trainers can make a lot more money actually doing their trade, rather than training others to do it. (sub 9, p. 10)

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<sup>12</sup> “Actioned” is defined in the progress report as ‘recommendations for which implementation activities are now part of normal service delivery arrangements and the implementation of which will continue without direct engagement or directive from the NRSWS.’ (p. 1)

## **Box 9.2 Selected recommendations from the NRSET Report**

### **Recommendation 1.3**

That Skills Australia report annually through the Ministerial Council for Tertiary Education and Employment to the Ministerial Council for Mineral and Petroleum Resources and the Ministerial Council on Energy on the status of skills shortages in the resources sector.

### **Recommendation 1.4**

That resources and construction companies place a very high priority on training as a means of addressing their current and future skills needs and consider adopting a training culture similar to their approach to safety.

### **Recommendation 2.1**

That the resources sector significantly increase the number of apprentices it employs. The sector currently employs considerably fewer apprentices than would be expected given its share of trade employment.

### **Recommendation 2.2**

That the Australian Government work with industry, unions, training providers, state and territory governments, industry skills councils, state skills bodies and industry associations to trial alternative apprenticeship models with a view to increasing the number of trade-qualified people in occupations and locations where a shortage is expected.

### **Recommendation 3.1**

That universities with a teaching profile that delivers professionals to the resources and construction sectors formalise and strengthen their ties with each other and industry, and articulate their role and strategic intentions in their mission statements.

### **Recommendation 6.3**

That the Australian Government work with education authorities to ensure future rounds of Trades Training Centre funding take into account the anticipated strong demand for skills in the resources and construction sectors. Schools with strong links to the resources and constructions sectors could be targeted as they should have the greatest capacity to graduate year 12 students into those sectors.

### **Recommendation 6.5**

That the Australian and state and territory governments continue to work together on strategies to urgently increase senior schools students' participation, attainment and engagement in mathematics and science, noting these subjects open the door to careers in the resources and construction sectors.

Source: NRSET (2010b).

The MCA (sub. DR63) suggested that more recent research, undertaken by the National Centre for Vocational Education Research (NCVER) points to an acceleration of apprenticeships and traineeships since 2010. The NCVER study found that around 5 per cent of the mining workforce are apprentices or trainees. However, as 'small companies whose activities were primarily involved in

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exploration' (NCVER 2013, p. 11) were excluded from the survey from which this result is drawn, the extent that the resource exploration industry is employing apprentices is not known. However, as many of the skills used by the resource extraction industry overlap with resource exploration, any increases in apprenticeship and traineeship rates by the wider resources sector is likely to be of benefit to the exploration industry.

Winthrop Professor John Dell, of the University of Western Australia, also suggested that there is a mismatch between the number of industry placements and the number of students undertaking study in relevant fields, with implications for the work-readiness of new graduates:

The number of industry placements needed for the professional practicums have not kept up with the increased number of students undertaking the professional programs that used to require them. Therefore, there are now a number of universities graduating students in professional programs some of whom may have had no industry experience. (University of Western Australia, sub. DR66, p. 17)

## **9.2 Workplace health and safety**

The state and territory governments are responsible for the onshore workplace health and safety (WH&S) regulations that apply to resource exploration. These regulations are set out in sector specific safety legislation or general WH&S legislation or a combination of the two. The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is responsible for WH&S regulations for offshore exploration.

The MCA (sub. 27) endorsed current movements towards harmonised WH&S regulation for the resources sector, and recommended that governments reinvigorate attempts to develop uniform regimes across jurisdictions. APPEA (sub. 22) stated that while some jurisdictions have started to implement the model (harmonised) WH&S reforms, the interaction of these regulations with existing state-based requirements is causing confusion. AusIMM also highlighted that 'consistent, effective, streamlined and efficient health and safety regulatory and administrative frameworks' would be of value to the resources sector (sub. DR49, p. 7).

The reforms to sectoral WH&S requirements are associated with attempts to harmonise all WH&S requirements on an economy-wide scale. As resource exploration represents a small part of the broader resources sector, the Commission will not be examining this issue further as part of this inquiry.

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The Doctors for the Environment Australia (DEA) noted that ‘often occupational health and safety is dealt with separately from health impact assessment’ (2013, p. 34) and submitted to this study that exploration may damage human health, in part as a result of environmental impacts (sub. 70). The DEA suggest that human health assessments ‘should be intimately bound up in the assessments for exploration and development’ (p. 4). This illustrates the importance of assessing all potential impacts when considering reforms to current regulations, including impacts on human health.

### **9.3 Workplace relations**

Australia’s current workplace relations system — the Fair Work system — commenced operation in July 2009 and took full effect from January 2010. As part of the inquiry, the Commission asked participants for comment on current workplace relations regulations and their impact on the productivity and competitiveness of the sector. To the extent that such issues predominately relate to exploration, it would be appropriate to review those issues as part of this inquiry. However, almost all of the issues raised in this regard related to the economy-wide impact of the *Fair Work Act 2009* (Cth) rather than issues of specific relevance to the resource exploration industry.

The issues identified spanned themes linked to bargaining, flexibility, union rights of entry and greenfield agreements.

#### *Bargaining*

The MCA (sub. 27) proposed that: good faith bargaining rules be amended so that the confidentiality of commercial operations is respected; legislative protection from legal actions for ‘fanciful claims’ be removed; and that bargaining representatives be appointed explicitly by employees, and not by default. AMMA proposed a wide suite of reforms to the bargaining arrangements, including that the default bargaining representative status for employee organisations be removed (sub. 32, attachment 3).

The MCA also suggested that arbitration should be available if agreed to by both parties, with compulsory arbitration only used where it is in the national interest. AMMA also have expressed misgivings about the use of compulsory arbitration. Both the MCA and AMMA suggest changes to the circumstances under which protected action can be pursued during a bargaining process.

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Dr Jacqui Hutchinson, of the University of Western Australia, suggested that there is evidence in support of modifying the *Fair Work Act 2009* (Cth) to introduce good faith code and ‘a revision of the complexity of multi-representation bargaining’ (sub. DR66, p. 20).

### *Flexibility*

Both the MCA and AMMA argued that the current industrial relations environment is not conducive to individual flexibility. The MCA (sub. 27) suggested that agreements should be prohibited from restricting Individual Flexibility Agreements (IFAs). This concern is shared by AMMA, who also suggests, among other reforms in this area that it should be possible to make IFAs a condition of employment and be able to run for the nominal term of an enterprise agreement (sub. 32, attachment 3).

### *Union right of entry*

AMMA submitted that the *Fair Work Act 2009* (Cth) has increased union access to worksites, imposing additional costs on employers. AMMA also suggested that current provisions have allowed a greater number of unions to visit worksites and this is being used by unions to promote membership (sub. 32, attachment 3).

The MCA (sub. 27) also expressed broader dissatisfaction with current right of entry provisions, suggesting that the rules should reflect the interests of the workers and not unions’ claims.

### *Greenfield agreements*

Several submissions pointed to inflexibility around the establishment of greenfield agreements within the framework of the *Fair Work Act 2009* (Cth). Greenfield agreements are enterprise agreements between one or more employers and one or more unions for a genuinely new enterprise that does not have employees as yet (Fair Work Ombudsman 2013).

Business SA noted the degree of union influence in greenfield agreements and suggested that the *Fair Work Act 2009* (Cth) be amended to:

... allow employers the option of a non-union greenfield agreement that would be tested against the relevant modern award, minimum standards and a ‘no disadvantage test’. (sub. 7, p. 2)

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The MCA also noted that:

... greenfield agreements should not be subject to lengthy tortuous, onerous negotiation process arrangements caused by default representatives of a yet to be appointed workforce. (sub. 27, p. 37)

#### *The Commission's view*

The resource exploration workforce represents a very small proportion (about 0.2 per cent) of employment in the national workforce and also a small proportion (about 8 per cent) of those in the mining sector. It is not possible to estimate what proportion of employees who work in resource exploration are covered by the *Fair Work Act 2009* (Cth), given that many workers offer their services on a contract basis.

While modifications to the *Fair Work Act 2009* (Cth) could reduce the cost of exploration, the ramifications of such changes would extend well beyond resource explorers. As such, any recommendations for reforms in this area could result in unintended impacts in other sectors. Consequently, they would best be dealt with in wider reviews. In this context, the Commission notes that the Review of the *Fair Work* legislation, commissioned by the Australian Government in 2011-12, examined Australia's industrial relations system. The Review's scope included the issues identified above, and no substantive changes were recommended in these areas. The modern award covering exploration activities — the Mining Industry Award — was also reviewed in 2012.

Any future reviews of the *Fair Work Act 2009* (Cth) or the Mining Industry Award would represent more appropriate fora for examination of the issues canvassed above.

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## A Conduct of the inquiry

The Commission received the terms of reference for this inquiry on 27 September 2012 and subsequently released an issues paper on 14 December 2012 to assist inquiry participants in preparing their submissions.

The Commission has held informal consultations with governments, regulatory bodies, Indigenous heritage organisations, conservation groups, peak industry groups in the minerals and energy resources sector, as well as with a number of companies and individuals. A list of the meetings and informal discussions undertaken is provided below in table A.2.

A total of 34 submissions were received prior to the draft report released for public comment on 31 May 2013. A further 39 submissions were received in response to the draft report (denoted in table A.1 with the prefix ‘DR’).

Public hearings were held to discuss the draft report in Perth, Brisbane and Canberra, in late June and early July 2013. A list of participants at the public hearings are provided in table A.3.

The Commission would like to thank all those who contributed to the inquiry.

**Table A.1 Submissions received**

<i>Participant</i>	<i>Submission No</i>
Aboriginal Areas Protection Authority	23, DR55
Association of Mining and Exploration Companies	24, DR51
Australian Institute of Geoscientists	DR56, DR59
Australasian Institute of Mining and Metallurgy	12, DR49
Australian Association of Consulting Archaeologists	DR42
Australian Conservation Foundation	DR41
Australian Mines and Metals Association	32, DR60
Australian Network of Environmental Defender's Offices	17, DR52
Australian Petroleum Production and Exploration Association Limited	22, DR68
Australian Uranium Association	4
Basin Sustainability Alliance	18
Business SA	7, DR54
Chamber of Minerals and Energy of Western Australia	DR62
Conservation Council of Western Australia	DR44
Cotton Australia	DR58
Department for Manufacturing, Innovation, Trade, Resources and Energy	DR72
Department of Sustainability, Environment, Water, Population and Communities	33
Doctors for the Environment Australia Inc	DR70
Dwyer, Terry	DR64
Energy and Minerals Institute, University of Western Australia	DR66
Geoscience Australia	6
Gold and Copper Resources Pty Ltd	DR69
Greenwood, Kate	DR57
Hetherington, Melissa	16
Minerals Council of Australia	27, DR63
Monckton, David	DR38
National Offshore Petroleum Safety and Environmental Management Authority	28
Native Title Services Victoria	DR48
Ngarluma Aboriginal Corporation	DR45
Northern Territory Department of Mines and Energy	2
NSW Aboriginal Land Council	10, DR47
NSW Department of Planning and Infrastructure	DR67
NSW Farmers' Association	21
NSW Irrigators' Council	5, DR50
NSW Minerals Council	11, DR61
NTSCORP	31, DR73
Pastalatzis, Nick	DR71
Peabody Energy Australia	DR39
Queensland Government	25, DR53
Queensland Murray-Darling Committee	20, DR46
Queensland Resources Council and Queensland Exploration Council	13, DR43
Resource Futures Pty Ltd	14, DR40
South Australian Chamber of Mines and Energy	9, DR37

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**Table A.1 (continued)**

<i>Participant</i>	<i>Submission No</i>
SRA Information Technology Pty Ltd	DR36
Turnstone Archaeology	DR65
Watkins, David	1, DR35
Western Australian Government	29
Wildlife Preservation Society of Queensland – Upper Dawson Branch	8
WWF-Australia	26
Yamatji Marlpa Aboriginal Corporation	34
Confidential	3, 15, 19, 30

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**Table A.2 Meetings**

<i>Participant</i>
<b>Australian Government and national bodies</b>
Association of Mining and Exploration Companies
Australasian Institute of Mining and Metallurgy
Australian Coal Association
Australian Petroleum Production and Exploration Association
Austwide Mining
Blue Planet Marine
BP Australia
Bureau of Resources and Energy Economics
Department of Finance and Deregulation
Department of Resources, Energy and Tourism
Department of Sustainability, Environment, Water, Population and Communities
Geoscience Australia
Herbert Smith Freehills
Minerals Council of Australia
National Farmers' Federation
National Offshore Petroleum Safety and Environment Management Authority
WWF-Australia
<b>Queensland</b>
AgForce Queensland
Arrow Energy
Balkanu Cape York Development Council
Basin Sustainability Alliance
Cape York Land Council
Central Downs Irrigators Limited
Converge Heritage Consultants
Department of Aboriginal and Torres Strait Islander and Multicultural Affairs
Department of Environment and Heritage Protection
Department of Natural Resources and Mines
GasFields Commission Queensland
North Queensland Land Council
Queensland Exploration Council
Queensland Gas Company
Queensland Murray-Darling Committee
Queensland Resources Council
Western Downs Regional Council
Wik Projects
<b>Victoria</b>
Department of Primary Industries
Department of Sustainability and Environment
O'Neill, Dennis

(Continued next page)

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**Table A.2 (continued)**

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*Participant*

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**New South Wales**

Department of Trade and Investment, Regional Infrastructure and Services  
Geological Survey of New South Wales  
Independent Commission Against Corruption  
NSW Minerals Council

**Northern Territory**

Aboriginal Areas Protection Authority  
Department of Mines and Energy  
Department of Lands, Planning and the Environment  
Northern Land Council

**South Australia**

Department of Environment, Water and Natural Resources  
Department of Manufacturing, Innovation, Trade, Resources and Energy  
Department of Premier and Cabinet  
Rex Minerals  
South Australian Chamber of Mines and Energy  
South Australian Native Title Services

**Tasmania**

Department of Infrastructure, Energy and Resources

**Western Australia**

Alchemy Resources Limited  
Archae-Aus  
Chamber of Minerals and Energy  
Conservation Council of Western Australia  
Department of Indigenous Affairs  
Department of Mines and Petroleum  
Department of Premier and Cabinet  
Finder Exploration  
Phoenix Gold Limited  
Western Australian Local Government Association  
Woodside Energy  
Yamatji Marlpa Aboriginal Corporation

**United States of America**

National Mining Association  
Department of the Interior  
White House Council on Environmental Quality

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**Table A.2 (continued)**

<i>Participant</i>
<b>Canada</b>
Alberta Energy, Government of Alberta
Athabasca Chipewyan First Nation
Canadian Association of Petroleum Producers
Canadian Environmental Network
Commissioner of the Environment and Sustainable Development, Auditor General's Office
Ecojustice
Explorers and Producers Association of Canada
Fraser Institute
Major Projects Management Office, Government of Canada
Mining Association of Canada
Natural Resources Canada
Pembina Institute
Sierra Club

**Table A.3 Public hearings**

<i>Individual or organisation</i>	<i>Transcript page numbers</i>
<b>Perth – 27 June 2013</b>	
Conservation Council of Western Australia	3-22
KRED Enterprises	23-40
Association of Mining and Exploration Companies Inc	41-59
Yamatji Marlpa Aboriginal Corporation	60-69
<b>Brisbane – 3 July 2013</b>	
Australian Mines and Metals Association	72-89
Australasian Institute of Mining and Metallurgy	90-107
Queensland Resources Council and Queensland Exploration Council	108-122
Australian Network of Environment Defender's Offices	123-133
Mark Vale	134-135
<b>Canberra – 4 July 2013</b>	
Australian Conservation Foundation	138-155
Australian Property Institute	156-175
Department of Sustainability, Environment, Water, Population and Communities	176-189
Australian Petroleum Production and Exploration Association	190-205

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