



**MINERAL AND ENERGY RESOURCE EXPLORATION
PRODUCTIVITY COMMISSION ISSUES PAPER**

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About The AusIMM

The Australasian Institute of Mining and Metallurgy (The AusIMM) was formed in 1893, representing professionals engaged in all facets of the global minerals sector. With a focus on 'enhancing professional excellence', The AusIMM delivers an ongoing program of professional development services to ensure our members are supported throughout their careers to provide high quality professional input to industry and the community.

The AusIMM is the leading organisation representing minerals sector professionals in the Australasian region, primarily in the disciplines of mining engineering, metallurgy and geoscience. Our purpose is to provide leadership and opportunities for minerals industry professionals.

We have more than 12 500 members spread across industry, government and academia, of which over 1600 are student members currently enrolled in undergraduate studies.

As a professional organisation whose members have an ethical duty to put the community first, The AusIMM constitutes a forum through which technical experts in the minerals sector can comment on policy for a sustainable industry, free of private and sectional interests.

This submission

The AusIMM welcomes the Productivity Commission's inquiry into Mineral and Energy Resource Exploration. Exploration is an essential foundation for a successful minerals sector in Australia.

Many AusIMM members are involved in mineral resource exploration. AusIMM members place a high priority on ensuring there is a sustainable 'pipeline' of future minerals development projects which is only possible if the exploration sector is healthy and enjoys ongoing community and government support.

It is pleasing to see the Commission's *issues paper* for this inquiry acknowledges the fundamentally important role that a healthy minerals exploration sector plays in sustaining Australia's future mining industry. The economic and social significance of the minerals sector was further highlighted subsequent to the publication of the Commission's *issues paper* by the Reserve Bank of Australia Research Discussion Paper *Industry Dimensions of the Resource Boom*¹.

This submission is split into two parts as follows:

1. An overview of minerals exploration issues and the role of governments in supporting an effective and productive minerals exploration sector.
2. Comments in response to the Commission's issues paper for this inquiry.

¹ <http://www.rba.gov.au/publications/rdp/2013/2013-02.html>

1. OVERVIEW OF MINERALS EXPLORATION ISSUES

Companies and investors make decisions about investing in minerals exploration on the basis of three key considerations:

1. Below ground – is the geology prospective?
2. Above ground – can you effectively work in the area?
3. Can you fund it?

Governments influence all three of these considerations, and have enormous power to influence the level of minerals exploration investment in a region.

The following table presents a brief overview of the key roles that governments should play in order to support minerals exploration investment in an area:

Key consideration	Key government roles
Below ground – is the geology prospective?	<ul style="list-style-type: none"> • Pre-competitive geological information generation and dissemination
Above ground – can you effectively work in the area?	<ul style="list-style-type: none"> • Establishing minerals exploration tenure • Facilitating access to land for exploration • Access to information relevant to an exploration tenure
Can you fund it?	<ul style="list-style-type: none"> • Fiscal policy that supports capital raising and business investment in exploration

There is considerable diversity in the way State and Territory governments deal with some of these issues. For example, State and Territory governments have a multiplicity of approaches to regulating land access for mineral exploration.

The AusIMM would welcome this Productivity Commission inquiry making clear recommendations that help State and Territory governments to focus on their core regulatory roles and moving towards more consistent approaches that adopt best practice regulatory administration.

This framework of the three key considerations in minerals exploration investment decisions may provide a framework for the Commission to use in exploring best practice in government's facilitation and regulation of minerals exploration.

An initial analysis, informed by the minerals industry professionals who contributed to this AusIMM submission, is set out below.

Key consideration 1: Below ground – is the geology prospective?

The essential role of governments (as the resource owner) in producing pre-competitive geological data is well described in the Commission's issues paper. 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. AusIMM members believe that governments are under-investing in the development of pre-competitive data sufficient to support an adequate level of future greenfields minerals exploration investment.

Key consideration 2: Above ground – can you effectively work in the area?

Minerals exploration tenure

As noted in the Commission's issues paper, there are diverse approaches to establishing and administering minerals exploration tenure across Australia's various governments. This diversity imposes unnecessary costs and challenges for minerals professionals and businesses who work across State and Territory borders. A move to uniform approaches would be welcomed.

AusIMM members have direct experience of regulatory agencies responsible for minerals exploration tenure management being unable to effectively administer their obligations. This includes significant delays in the processing of applications and the failure of regulators to communicate effectively with tenure applicants. Communications failures described by AusIMM members include a lack of acknowledgement of applications and payments received, an inability to get advice regarding the status of a tenure application, and evident gaps in communication between government agencies dealing with related regulatory requirements (for example native title and environmental obligations).

These issues cause considerable delay costs and uncertainty. They can adversely impact the ability to negotiate land access with landholders and can damage relationships with local communities. These factors have significant potential to reduce minerals exploration investment.

AusIMM members are not in a position to present a comprehensive analysis of the reasons for these problems in obtaining minerals exploration tenure, but it is thought that a lack of staff resources, under-investment in modern information management systems and overly complicated regulatory requirements that are inefficient to administer are all contributing factors.

Access to land for exploration and access to relevant information

There is considerable diversity between States and Territories regarding access to land regimes. These issues are well documented in the Commission's issues paper.

AusIMM members are very supportive of the role of Governments in protecting community interests through ensuring appropriate controls to protect heritage and environmental values. There are a number of changes that could be made to improve the targeting, transparency and speed of these regulatory systems. Suggestions include:

- Establishing or improving public registers of native title status of land and public registers of past heritage or environmental surveys in a region. Such registers could significantly reduce the risks and costs inherent in seeking exploration tenure and land access.
- Improved information provided by governments to assist landholders and communities to understand the minerals exploration land access process and the rights and obligations of the minerals explorer, the landholder and community members.

Key consideration 3: Can you fund it?

Access to funding is a key factor that limits the level of minerals exploration in Australia. AusIMM members believe that this issue is particularly important for low-capital 'junior' explorers who dominate greenfields exploration investment.

The AusIMM strongly supports government initiatives to improve access to capital by minerals explorers. Specific recommendations are:

- The Australian Government should establish a flow through shares scheme or an alternative instrument that assists capital raising for greenfields minerals exploration.
- Governments should continue to co-invest in minerals exploration. To choose just one example, the West Australian Exploration Incentive Scheme² makes a substantial contribution to boosting greenfields exploration investment in that State.

² The WA Exploration Incentive Scheme co-funds greenfields minerals exploration, and is funded from a portion of minerals royalty receipts. <http://www.dmp.wa.gov.au/7743.aspx>

2. COMMENT IN RESPONSE TO THE ISSUES PAPER

This section of The AusIMM's submission provides specific comments in response to the inquiry *issues paper*.

The inquiry's terms of reference

The AusIMM understands that the terms of reference for this inquiry are not within the Commission's control, and that the Commission's inquiry must be limited by those terms.

It is unfortunate that the terms of reference specifically prohibit the consideration of a number of matters of regulatory policy and fiscal policy. It is particularly disappointing that the inquiry is unable to consider the impact of the taxation regime on minerals exploration. These exclusions inevitably reduce the value of the inquiry.

The taxation system is a major influence on business decisions regarding investments in minerals exploration. The AusIMM strongly encourages the Australian Government and State and Territory governments to comprehensively examine how Australia's taxation systems can better support a healthy and productive minerals exploration sector. The AusIMM encourages the Government to ask the Productivity Commission to undertake such a review.

The scope of 'exploration'

The AusIMM is comfortable with the scope of 'exploration' for the purposes of this inquiry as set out in the discussion paper, and summarised in Figure 1.

In considering the policy and regulatory environment for minerals exploration, The AusIMM encourages the Productivity Commission to further explore the 'sub-markets' within minerals exploration and consider whether there should be differentiated policy and regulatory arrangements to support appropriate levels of minerals exploration investment:

- In greenfields environments,
- For high value non-bulk mineral commodities, and/or
- By low-capital minerals explorers.

Further comments on these issues are contained below.

The economics of exploration and the role for government

Greenfields and brownfields exploration

AusIMM members believe that there are a number of factors that underpin the well documented trend of Australian exploration investment shifting towards brownfields areas. This trend reflects the current economic and regulatory environments in which the exploration sector operates.

Brownfields exploration is seen as a less risky business investment. There are a number of obvious reasons for this including:

- The higher prospects of finding further deposits in close proximity to known resources than in an entirely new area,
- Brownfields areas may have a stronger 'baseline' of existing exploration data (from pre-competitive and post-competitive sources), and
- The fact that local communities and landholders are likely to be experienced in dealing with minerals exploration proposals and therefore land access will be faster in many cases.

Exploration expenditure, productivity of exploration expenditure and Australia's share of world exploration expenditure

The issues paper highlights trends towards lower exploration expenditure productivity and a declining Australian share of world exploration expenditure. AusIMM members confirm these changes are being observed by minerals professionals working in exploration. Some of the explanatory factors are thought to include:

- Australia's 'sovereign risk' advantages have been diminished as many developing nations have improved their environments for minerals exploration and mine development.
- Australia's competitive position for exploration and mine development is perceived to have been diminished by increased royalty and tax rates³ and by an increasingly complex regulatory regime.
- Australia's competitive position for exploration and mine development being diminished by high operating costs and by challenges in raising capital.
- Underinvestment in pre-competitive data to support effectively targeted exploration by commercial explorers.
- The geological reality that Australia's ancient and deeply weathered landscape involves challenging exploration environments⁴.

Bulk commodities versus high value non-bulk minerals

AusIMM members have also observed that there is a worrying trend of exploration for high value non-bulk minerals⁵ receiving a diminishing share of total exploration expenditure. This issue is not highlighted in the Commission's issues paper.

The Centre for Exploration Targeting analysis '*Where are Australia's mines of tomorrow?*' highlights the fact bulk commodity⁶ exploration's share of total exploration expenditure has grown rapidly in recent years, and that 'expenditures on non-bulks have plateaued'.

This expanding focus on bulk commodity exploration may indicate that Australian minerals exploration is under-investing in finding the future sources of (comparatively) low-volume, high value mines of the future.

It would be extremely valuable for the Productivity Commission's investigation process to further analyse and consider the drivers behind this apparent trend towards bulk commodity exploration by large corporates in brownfield environments while non-bulk minerals exploration by small corporates in greenfield environments appears to be shrinking.

The current exploration approvals system and processes

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.

³ Some commentators believe that changing taxation and royalty rates are also a contributor to the perception that Australia's 'sovereign risk' advantages have been diminished.

⁴ The weathered surface of the Australian landscape increases the costs and complexity of exploration compared with relatively fresh outcrops of minerals in other more geologically active parts of the world. Australian mineral deposits are often deep underground and can require more expensive exploration techniques to be applied when compared to some other parts of the world.

⁵ Non-bulk commodities include: copper, lead, zinc, rare earth minerals. Bulk commodities are iron ore, bauxite and coal.

⁶ Richard Shodde and Pietro Guj, Centre for Exploration Targeting analysis '*Where are Australia's mines of tomorrow?*' September 2012. <http://www.cet.edu.au/research-outcomes/publications/revised-cet-paper---australian-mineral-exploration-3-sept-2012927088b5f038>

Regulators have considerable scope to change their regulatory oversight practices when it is clear that an explorer is effectively controlling the risk which the regulatory requirement is designed to address. Where there are external processes for ensuring a business is performing to a high standard, they should be recognised and supported by regulators who will then be able to divert their scarce resources to higher risk issues.

Change in the content and administration of regulations is required to adjust to the fact that many regulators have had significant reductions in staffing and resources over recent decades. It is believed that this has created a number of problems, including a loss of key industry and regulatory expertise and reduced capacity to effectively administer regulatory requirements which have not been streamlined to match the reduced resources available to the regulatory agencies.

Reducing the diversity of regulatory models and approaches across State and Territory boundaries is also highly desirable.

Exploration approval

As noted in part 1 of this submission, AusIMM members report personal experience with cases of unacceptable delays in the consideration and approval of tenure applications. Poor administration and poor communication by regulators can impose significant costs, and presents a significant barrier to minerals exploration investment.

Access to land, heritage and environmental issues

The AusIMM supports systems for proper designation and management of areas to protect environmental and heritage assets, and for ensuring landholders and communities are well informed and able to have appropriate input to the exploration process. AusIMM members understand that landholder and community engagement is fundamental to successful minerals exploration. They also understand that negative landholder and community perceptions that develop during an exploration phase will have a significant adverse impact on the ability to develop a future mining project in that area.

AusIMM members' feedback indicates that, of the range of regulatory obligations of minerals explorers, those relating to landholder and community engagement are:

- the most changeable and volatile over time – with regular changes in government and regulatory policies experienced by minerals professionals,
- the most diverse between different states and territories, and
- a large source of project uncertainty – both in terms of timing and possible costs to be able to proceed with exploration.

Regulatory requirements for landholder and community engagement need to be outcome-oriented, allowing flexibility for adaptive processes that meet the needs of the individual situation. Prescriptive or one-size-fits-all approaches to landholder and community engagement are inappropriate and can exacerbate already challenging working relationships between minerals professionals and the landholders and/or community in minerals exploration areas.

Governments and regulators are encouraged to do more to provide information and support to landholders and communities about the minerals exploration processes. Governments are often a more trusted source of advice (seen as independent from the commercial interests of the minerals exploration businesses).

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.

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.

In 2008, the Minerals Exploration Advisory Group⁷ (which was chaired by AusIMM Board member Derek Carter) presented a report to the Ministerial Council on Mineral and Petroleum Resources (MCMPR) that outlined the regulatory failures in the exploration sector including the approvals process and issues with Indigenous heritage requirements. The Minerals Exploration Advisory Group recommended 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)'. This recommendation of the Minerals Exploration Advisory Group still requires attention.

The MCMPR endorsed the Minerals Exploration Advisory Group's report in May 2009 and in April 2010 Government and industry participants confirmed that an Indigenous Heritage Database was being pursued under the MCMPR Land Access Working Group's program. The AusIMM strongly recommends that the necessary resources be allocated to the creation and maintenance of such a database. Given MCMPR no longer exists (following reform of Australia's ministerial council arrangements), the fate of this project is uncertain.

Other issues impacting resource exploration in Australia

Workforce issues

Australia is fortunate to have high quality educational institutions that educate world-class minerals professionals. Ongoing government investment in training and education facilities is essential for the minerals exploration sector's future health and for underpinning the broader minerals sector's future contribution to the Australian economy. The mining industry responds rapidly to international market conditions and there can be rapid changes in the mining employment market. Governments and the university sector need to provide long term and stable skills development to meet the future skills needs of the minerals sector. This includes ensuring there are sufficient places in courses for geologists and community engagement specialists in particular to support a minerals exploration sector that is successful and viable into the future.

Governments have a role to play in ensuring there is a continuing focus on highlighting the skills needs of the Australian economy (including the minerals exploration sector), and attracting high quality students into the relevant disciplines. Ongoing investment in high quality education and training is essential to retain Australia's capacity for innovation in minerals exploration.

Governments have many options to improve workforce participation. Government programs to support indigenous Australians to be trained and work as minerals exploration professionals would be very welcome. Women's participation in the sector can be supported through access to affordable, high quality childcare facilities, by encouraging businesses to have effective strategies for gender equity in employment and by encouraging women to study core disciplines such as geology.

Government provision of geological information

Improved availability of high quality pre-competitive geoscientific information to reduce the exploration risk and to support better area selection is urgently needed by industry. The further development of Australia's pre-competitive geoscience information is increasingly important as mineral deposits at or near the surface are becoming harder to find.

The development and communication of pre-competitive data is a key area for inter-governmental collaboration, with State and Territory agencies responsible for much of the data gathering and

⁷ MCMPR Minerals Exploration Advisory Group, *Report to Ministers*, May 2008

Geoscience Australia playing a crucial role in coordination and in data communication, for example in the form of national geophysical maps.

In 2010 the Policy Transition Group was 'strongly of the view that the role of Geoscience Australia and similar State and Territory geological surveys in acquiring and supplying pre-competitive data was important for a healthy commercially based exploration effort'⁸. The Policy Transition Group also acknowledged the importance of Geoscience Australia as a national repository for both publicly and privately acquired geoscience information. The AusIMM strongly endorses these views.

Governments are major beneficiaries of investment in pre-competitive data to assist the minerals exploration effort. Without this public-good investment by governments, Australia would have much lower levels of exploration activity and therefore the future community and economic benefits and royalties and taxation receipts collected by governments would be substantially lower.

In addition to government investment in pre-competitive data, minerals professionals are very supportive of government co-investment programs to support greenfields minerals exploration. Programs such as the Exploration Incentive Scheme in Western Australia and the South Australian PACE scheme are strongly supported.

As the Exploration Investment and Geoscience Working Group report notes: 'Drilling co-funding with industry has been a popular initiative with junior companies, particularly since it was introduced in South Australia under the PACE program in 2004. The outcomes of this program are well documented and demonstrate its success in fostering exploration in greenfields areas'⁹.

AusIMM members believe that consistent government support for minerals exploration and mining industry development by successive South Australian governments has made a significant contribution to the State's long term economic development. This is a model that other governments could usefully emulate.

Access to capital

Measures to assist low-capital 'junior' explorers to access finance (for example through a flow-through shares scheme) should also be examined in investigating ways to increase Australia's levels of greenfield exploration investment.

As the Commission's issues paper notes, much minerals exploration is conducted by small, low-capital companies. These companies operate in a dynamic and competitive environment. They can be subject to frequent corporate restructuring, mergers and takeovers – often necessitated by capital raising efforts as an exploration project moves into a further stage of investigating a possible mineral resource. Stamp duties levied at the State level can be a significant barrier to such restructuring and capital raising, and their impact on the sector should be further investigated.

Resource Reserve Disclosure by non-ASX companies

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 via 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. An analysis of the options and cost-benefits for addressing this issue would be welcomed by The AusIMM.

⁸ Policy Transition Group, *Minerals and Petroleum Exploration*, Policy Transition Group Report to the Australian Government, December 2010

⁹ Exploration Investment and Geoscience Working Group, *Levers to Improve Australia's Global Position for Attracting Resource Exploration Investment*, Report to the Standing Council on Energy and Resources, April 2012