MINERALS COUNCIL OF AUSTRALIA

SUBMISSION TO THE PRODUCTIVITY COMMISSION MINERAL AND ENERGY RESOURCE EXPLORATION INQUIRY

MARCH 2013

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EXECUTIVE SUMMARY

The Minerals Council of Australia (MCA) is the peak national body representing Australia's exploration, mining and minerals processing industry. It represents the minerals industry both nationally and internationally in its contribution to sustainable economic and social development.

The minerals industry is Australia's principal export earner and most globalised industry. It has been a major driver of growth, investment and higher living standards in Australia over the last decade as rapid growth in emerging Asia has led to higher demand for mineral commodities.

Exploration is a fundamental component of the success story of the Australian minerals industry. Broadly defined, it is the process by which information is collected and evaluated to identify mineral deposits and to assess the economic feasibility of their exploitation. Exploration is clearly necessary to ensure continuing production in the minerals industry. In the words of the Argus-Ferguson Policy Transition Group (PTG) report on Minerals and Petroleum Exploration, released in December 2010:

> *A strong resource exploration sector is the backbone of the resource industry in Australia, ensuring continued future access to high quality deposits. The amount of investment in exploration affects the ability of Australia's resources to sustain strong growth and expand its contribution to national economic growth over the medium to long term.*[i]

The Productivity Commission's exploration inquiry is an opportunity to examine the entire exploration landscape in both a legislative and practical sense. While there are challenges specific to exploration such as financing, land access and approvals processes, many of the barriers to exploration are the same productivity and competitiveness challenges confronting the Australian economy more broadly.

Ensuring a strong and successful exploration sector is an issue of national importance. The UNCOVER group, which operates under the auspices of the Australian Academy of Science, stated in 2012:

> *Our national prosperity, derived from mineral wealth, is at risk if our economic mineral wealth cannot be renewed and expanded.*[ii]

Australia's exploration sector is engaged in a highly competitive, globalised industry. Natural endowment alone is not enough to secure the highly mobile resources of capital and labour required to find and develop mineral resources. As the Minister for Resources and Energy has acknowledged:

> *We cannot underestimate the importance of sound government policy in attracting investment and facilitating economic growth. Investment capital is footloose, and Australia is competing globally to attract this capital and investment.*[iii]

The minerals industry is pleased that the Council of Australian Governments' (COAG) Standing Council on Energy and Resources (SCER) has made addressing this need a key priority. At its December 2012 meeting, the SCER approved the *National Mineral Exploration Strategy* which includes in its mission "to ensure continuity of the pipeline of mineral resource investments" acknowledging that:

> *The ongoing strength of the minerals sector and its capacity to support the Australian economy into the future is dependent on [a] sustainable development regime and efficient and effective legislative frameworks.*[iv]

The MCA welcomes the release of the Strategy and the Productivity Commission's inquiry into the barriers confronting the Australian exploration sector. Regrettably, the industry agrees that Australia's standing as a destination for exploration expenditure has been "diminished" by a range of factors, including:

- perceptions of Australia as a mature exploration destination where there are fewer opportunities for new discoveries;
- challenges in exploring for deposits buried under the overlying sand, soil and sediment that covers much of Australia;
- high cost of exploration in Australia, through factors such as the high Australian dollar and labour costs; and

- increasing global competition with every jurisdiction that permits and promotes exploration.

The MCA submits that the third and fourth factors understate the scope and significance of the most significant trends buffeting Australia's reputation and its success as an exploration investment destination.

The relative expense of exploration in Australia is not only influenced by the high dollar and high input costs, it is compounded by the high price and opportunity cost of negotiating an increasingly complex and ever-expanding web of red and green tape. The MCA has commissioned consultancy company URS to update its 2006 *Scorecard of Mining Project Approval Processes*. The preliminary results are disturbing. Across the nation there are 144 pieces of primary legislation faced by the sector in seeking project approvals, compared with 94 in 2006. There are today 119 pieces of subordinate legislation or guidelines, up from 66. In the two largest mining states the regulatory landscape is particularly onerous with 23 pieces of primary legislation in Western Australia (up from 15) and 24 in Queensland (up from 12).

The most recent survey of mining executives by the Canadian-based Fraser Institute showed a further decline in Australia's stature as a mining region. In its headline composite Policy Potential Index, all Australian states and territories except Western Australia rate below Botswana while Chile, French Guiana and Namibia score more favourably than Queensland, New South Wales and Tasmania.[v] On the question of "uncertainty concerning the administration, interpretation and enforcement of existing regulations", the Northern Territory came 9th; South Australia and Western Australia placed 21st and 22nd below Mexico; while New South Wales and Queensland placed 44th and 49th below Colombia; and Victoria and Tasmania ranked 57th and 60th below Mali and PNG. More than half of the survey's respondents cited this factor as a deterrent to investment.

Meanwhile, the risk-profiles of lower-cost, emerging resource nations are declining and there is increasing willingness in capital markets and within the mining industry to invest in "risky" destinations – a trend impelled by the current "super-cycle" of demand generated by China's urbanisation.

The number and attractiveness of Australia's competitors is growing. The most recent analysis of non-ferrous global exploration expenditure by SNL Metals Economics Group published in March 2013 reported that Latin America attracted the largest share of global expenditure (25 per cent). Africa overtook Canada to rank second drawing 17 per cent of global metals exploration budgets. In contrast, Australia's share declined to 12 per cent putting it in in fifth place behind Canada (16 per cent) and Eurasia (14 per cent)[vi]. On this measure, Australia lost nine percentage points as a share of global metals exploration in the 16 years to 2012.

This trend makes it more critical than ever for Australian governments to address *all* barriers to exploration as each cumulatively weakens Australia's competitive position. Just as natural endowment is no guarantee of success, Australia's historical reliance on the strengths of political stability, geology and a skilled and educated workforce are no longer sufficient to secure the share of global exploration expenditure it used to enjoy.

The potential for growth is great if Australia can remedy its policy settings and demonstrate a commitment to international best practice. The barriers in Australia are not unique and removing them offers the real prospect of restoring Australia's competitive advantage.

If Australia can redress the opportunity-cost acceleration created by excessive governmental delays, the real cost escalation caused by overlapping and duplicated legislation, and the sovereign risk concerns raised by the "regulatory churn" which now characterises public administration, Australia could better realize the opportunity presented by the ongoing resource-intensive development in emerging economics.

This Submission will outline the opportunity "at stake" in Chapter 2; the Australian exploration environment and performance in Chapter 3; address the specific barriers that governments and industry requiring redress in Chapter 4; and preview in Chapter 5 the conclusions of URS which is updating its 2006 Scorecard of Mining Project Approval Processes. In so doing, the MCA will advance the following policy reform imperatives:

1. An internationally competitive taxation system – Notwithstanding significant reforms to Australia's taxation system over several decades, it remains complex, economically inefficient, administratively complex and too prone to government amendment. The tax system should enhance competitiveness by providing a stable regime conducive to

improved investment with measures that proactively address tax asymmetry problems such as that faced by, particularly, junior miners unable to utilise legitimate immediate deductions for exploration expenditure.

2. Best practice regulatory reform – Reforms are urgently needed to poorly developed and administered regulation at all levels of government. Effective regulation can be pro-competitive promoting growth in productivity and living standards as well as the protection of heritage, biodiversity and other environmental values. Ineffective, inefficient regulation and the variability of its administration and enforcement, increase compliance costs for no appreciable social or environmental gain. Further the continual regulatory "churn" of recent years has generated considerable uncertainty and expense for explorers. 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.

- Efficient capacity building – Efficient public sector investments and targeted policy reforms are needed to overcome current and future capacity constraints. Governments should lift the speed limits to national growth by building the pool of skilled labour, through market responsive education and training in vocations and professions and enabling the ready import of labour where there are critical skills shortages. Attracting, retaining and keeping safe the highly skilled people required to find and develop Australia's mineral wealth requires:
    - nationally uniform, risk-based and consistent occupational health and safety legislation;
    - flexible workplace arrangements that encourage direct collaborative relationships to promote productivity and safety and health; and
    - education and migration policies that address an ongoing shortage of experienced earth science, metallurgy and engineering professionals.

3. Sustaining Australia's pre-eminent place in geoscience and innovation – Australia needs to invest in the next generation of geoscience in order to expand the mineral exploration effort, the sector's competitive standing as an exploration investment destination and ensure the development of Australia's next generation of mineral resource projects. Support for innovation is also crucial to improving productivity and cost competitiveness in the mining industry.

- Deep benchmarking for global competitiveness – The Government's Asian Century White Paper establishes a broad framework for enhanced prosperity, but it is not compelling on the mechanisms to drive and enable higher productivity. The Productivity Commission should be given a sweeping mandate for 'deep benchmarking' of Australia's international competitiveness with an enhanced focus on Asian benchmarks.

The industry well recognises the Federalist nature of the Australian mining sector. In this, the MCA appreciates and recognises the division of legal responsibilities between the Commonwealth and the States and Territories – including the constitutional determination that ownership of Australia's mineral resources rests with the States. It is the MCA's submission that underlines, rather than removes, the need for consistency (in form, content and application), simplicity and efficiency.

It is critical that Australia's current success harnessing the opportunities presented by the urbanisation and industrialisation of emerging economies does not veil complacency. Given the long lead times between discovery and production, governments should act now to implement the reforms necessary to improving Australia's competitive position and to finding the pipeline of projects that will generate wealth for subsequent generations.

The following is a summary of the recommendations contained in this submission:

Regulatory reform

Develop minimum effective regulation that conforms with best practice without diminishing standards and that:

- is not unduly prescriptive;
- is clear and concise;
- is the best regulatory approach available to address a defined problem (government should assess whether self-regulation, co-regulation or no regulation is the efficient response);
- is enforceable;

- can be administered by accountable bodies in an equitable and consistent manner by competent and adequately resourced regulator; and
- is monitored and periodically reviewed.

Tax stability and equity measures

- Introduce a flow-through-share scheme that addresses the tax asymmetry faced by explorers (the timing gap between business expenditure and revenue), such as the minerals industry's Exploration Tax Credit scheme.
- Maintain existing taxation treatment for exploration expenditure for stability and certainty.

Land Access

Shift from the existing state-based model of ad-hoc and localised decision-making regarding land use values and their compatibility with proposed development, to a national strategic land use assessment and planning framework with:

- consistent, transparent and accountable decision-making in weighing up and determining land use compatibility;
- merit based assessment of all possible land uses, including concurrent (multiple) and sequential land uses;
- maximisation of the social, environmental and economic benefit for current and future generations;
- assessment of values at a landscape/systems level, enabling a recognition of the cumulative impacts of development;
- adoption of the precautionary principle (allowing for careful and cautious progress) in the absence of certain scientific understanding;
- flexibility to accommodate changing community expectations and technological advances, whilst providing certainty for investments; and
- the effective engagement of stakeholders who may be affected by proposed developments.

Environmental assessment

Streamline and simplify national project approvals processes under the Environmental Protection and Biodiversity Conservation Act (EPBC). The Commonwealth should have a strategic role underpinned by full implementation of bilateral agreements for assessment and approvals processes, endorsement of regional planning instruments that meet EPBC requirements and strategic investment and planning support. This means:

- increased co-operation between Australian governments and greater harmonisation of environmental assessment processes;
- use of strategic assessments and other strategic approaches, as opposed to project level environmental assessment;
- environmental risks as the focus of assessments with documentation and conditions to reflect the level of risk;
- focus on clear and measurable 'outcomes', rather than process. In addition, adaptive management and environmental management systems should be recognised;
- investment in better information/data as the basis for assessment; and
- focus on follow-up and review.

Governments should deliver on the 2012 COAG commitment to expand bilateral agreements (assessments and approvals) to all States and Territories to reduce compliance costs and delays in approval processes.

Heritage Protection

Address the following barriers:

- end process duplication and "forum shopping" between the dual and parallel layers of Commonwealth and State heritage legislation – 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;
- consider rolling the Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act into the Environment Protection Biodiversity Conservation Act (EPBC Act). State processes could then be accredited by the Commonwealth as they meet pre-determined national standards;
- develop a consolidated heritage list 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. Heritage matters could be flagged in accordance with their significance at a State or national level to avoid any perception that all matters have national value and therefore trigger Commonwealth legislation;
- reform Australian Heritage Council processes. Ensure greater transparency and consultation under heritage listing processes. Property owners and those with interests in an area should be entitled to make submissions on listing proposals which may fundamentally affect the value of, and use that can be made of, their assets; and
- consider economic and social factors – the Heritage listing process should not be 'siloed' from important social and economic factors within a region. Accordingly, potential impacts (positive and negative) on these factors should be considered as part of the Heritage listing process.

Geoscience and innovation

There should be a commitment to public investment in pre-competitive geo-scientific data in recognition of its significant contribution to the future development of Australia's resource sector through:

- encouraging research programs such as the Australian Academy of Science's UNCOVER vision and its four-part work program to improve the predictive and detection capabilities for searching under cover, namely:
    - characterising Australia's cover – new knowledge to confidently explore the cover,
    - investigating Australia's lithospheric architecture – a whole-of-lithosphere architectural framework for mineral systems exploration,
    - resolving the 4D geodynamic map and metallogenic ore deposit origins for better prediction, and
    - characterising and detecting the distal footprints of ore deposits – towards a toolkit for minerals exploration;
- supporting the ASX Listing Rules and the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) to engender investor confidence;
- developing an overall roadmap for a step change in mining and minerals-related innovation;
- addressing the shortfall of tertiary and technical graduates;
- ensuring programs encourage an openness to innovation – including encouraging cross-disciplinary approaches along the value chain and supportive of the social licence to operate;
- retaining graduates in Australian centres of excellence and attracting offshore talent; and
- exploring easier and more efficient intellectual property transfer between publicly-funded research and entrepreneurs.

Workplace Environment

Safety

The MCA continues to advocate that the Australian minerals industry be entirely regulated within the Model Act and Regulations and that no separate or additional laws be adopted in any jurisdiction. This will achieved by:

- reinvigorating the Inter-Governmental Agreement (IGA) adopted by COAG which commits jurisdictions to a uniform safety and health regulatory regime and hold all parties to account; and

- Federal commitment to ongoing reforms towards a single national work health and safety regime, administered by State and Territory Governments.

Education and Skills

The minerals industry's demand for skilled labour remains high. Minerals-related higher education courses have been chronically underfunded. And while progress towards a demand-driven VET sector is occurring, concerns continue to surround the variable quality of training outcomes within the sector. Governments need to:

- continue to resource the National Resources Sector Workforce Strategy implementation program;
- refocus support for entry level training to the jobs available in the services and other sectors created by experienced people taking up opportunities in the resources sector;
- continue to fund pre-employment training initiatives for Indigenous Australians where these training programs are sponsored by an employer and linked to a real job outcome;
- ensure that 'disciplines of national interest' with small enrolments and high teaching cost are viable under the demand-driven funding;
- review cluster funding and ensure that for science and engineering courses funding is increased sufficiently to reflect actual costs of teaching;
- in funding discussions with the States, support greater emphasis on the VET sector responding to the needs of employers via industry-led training and support VET quality assurance via outputs-based measures; and
- keep the temporary skilled migration program (sub class 457 visas) uncapped and ensure that initiatives to improve processing efficiency are maintained.

Workplace relations

- Agreements should only be about employee entitlements and employer/employee responsibilities. There should be a clear definition of responsibilities and activities so third parties cannot seek to veto decisions of management.
- Individual Flexibility Agreements should be a viable and competitive employment instrument as intended. It should be prohibited for any agreement to constrain the use of IFAs. A legislated model IFA Agreement should be inserted into the Fair Work Act.
- Good faith bargaining rules should be amended to:
    - strengthen the specific provisions that good faith bargaining does not necessarily require one party to concede to the demands of the other. Good faith bargaining orders should be rare and only for egregious behaviour;
    - remove the legislated protection from legal action for fanciful claims or claims contrary to the national interest and ensuring good faith bargaining rules respect commercial arrangements and the confidentiality of companies' commercial operations; and
    - change the rules associated with the appointment of bargaining representatives of employees so that the representative is expressly appointed by the employees, not appointed by default.
- Arbitration should be available by agreement of the parties – compulsory arbitration must only be a last resort and then only where there is a national interest test.
- Right of entry rules should reflect worker interest not union claims or coverage rules. Employees should not be required to be subject to a default union or other third party representative.
- Similarly, greenfield agreements should not be subjected to a lengthy tortuous, onerous negotiation process arrangements caused by default representatives of a yet to be appointed workforce.

Minerals Council of Australia
March 2013

CHAPTER 1 THE OPPORTUNITY AFFORDED AUSTRALIA'S MINERALS INDUSTRY

1.1 ECONOMIC CONTRIBUTION

Australia is a world leading mining nation. It ranks in the top six producing nations of 15 important minerals including: iron ore, coal, copper, gold, nickel, uranium, bauxite and alumina, silver, lead, zinc, manganese and mineral sands such as rutile and zircon. The minerals industry has been a major driver of growth, investment and higher living standards in Australia over the last decade:

- The minerals industry accounted for 52 per cent ($163 billion) of Australia's export income in 2011-12.
- The gross value of Australia's mine production (including oil and gas) increased to $145 billion in 2012, which is about 10 per cent of Australia's GDP driven by additional capacity and sustained demand from key export markets in Asia.
- Annual mining capital expenditure has grown markedly in recent years to exceed $95 billion in 2012 which is more than 58 per cent of total capital expenditure in Australian industry. The August 2012 capital expenditure survey forecasts mining capital expenditure to increase to $119 billion in 2012-13.
- There were 67 minerals mining and infrastructure projects at a committed stage with total value of approximately $73 billion in October 2012. There were a further 244 minerals mining and infrastructure projects at the publicly announced or feasibility stage with total potential value of $284 billion. These are projects for which a final investment decision has yet to be made.
- Direct employment in the minerals industry (excluding oil and gas) totalled 246,054 workers in February 2013, approximately 2.1 per cent of the total Australian workforce. Over the past three years, employment has increased by 55 per cent, compared with 5 per cent growth in total employment over the period.
- The industry contributes significantly to remote and regional communities through employment, procurement and social infrastructure development. More than 60 per cent of mineral operations in Australia neighbour Indigenous communities, and the minerals sector is the largest private sector employer of Indigenous Australians. Indeed, Professor Marcia Langton in her 2012 Boyer lectures said that the minerals industry has led to the "mobilisation of an Aboriginal workforce unprecedented in Australia's history".
- Exploration, development and production underpin a growing mining technology services (METS) sector which reports mining-related turnover in excess of $71.5 billion, exports valuing $12 billion and 265,000 employees.[vii]
- Minerals industry exploration expenditure totalled $4 billion in 2011-12. Modelling undertaken for the 2002 Ministerial Inquiry into Greenfields Exploration in Western Australia using the MMRF-Green model developed by the Centre of Policy Studies, Monash University estimated that for every $1 million of exploration investment, four jobs are created in remote areas and six in Perth.[viii]
- More recent analysis by economists at the Reserve Bank of Australia concluded:

  > *The resource economy accounted for around 18 per cent of gross value added (GVA) in 2011/12, which is double its share of the economy in 2003/04. Of this, the resource extraction sector – which we define to include the mining industry and resource-specific manufacturing – directly accounted for 11½ per cent of GVA. The remaining 6½ per cent of GVA can be attributed to the value added of industries that provide inputs to resource extraction and investment, such as business services, construction, transport and manufacturing. This 'resource-related' activity is significantly more labour intensive than resource extraction, accounting for an estimated 6¾ per cent of total employment in 2011/12, compared with 3¼ per cent for the resource extraction sector.*[ix]

- The contribution from the minerals industry to government revenues in Australia has risen markedly over the last decade. Research by Deloitte Access Economics shows a high and stable industry tax ratio averaging 41.3 per cent over the period from 1999-00 to 2011-12 (calculated as Federal company tax and State royalties over taxable income before royalties). Total revenue from these two primary sources of returns from the minerals industry has exceeded $130 billion since 1999-00.

1.2 GLOBAL DEMAND OUTLOOK

Recent experience has underlined the vulnerability and volatility of the minerals industry in the face of cyclical factors and sudden economic "shocks". Even so, the longer term mineral demand outlook remains positive.

The structural transformation which has seen the share of emerging economies in the global economy rise to just on 50 per cent still has a long way to run. By 2050, these economies are expected to account for almost 80 per cent of global GDP. With per capita incomes and per capita consumption of key commodities still well below that of major advanced economies, emerging economies will continue to drive further growth in consumption of mineral and energy commodities.

The fundamental drivers of minerals demand growth are urbanisation and industrialisation. Increased urbanisation and rising investment in construction and transport infrastructure lies at the core of resource-intensive growth in economies such as China and India. On some estimates, by 2025 China will have 163 cities with one million inhabitants or more, compared with 63 cities of that size in Europe. The United Nations projects the world's urban population to increase by 70 million people every year from 2010 to 2050.

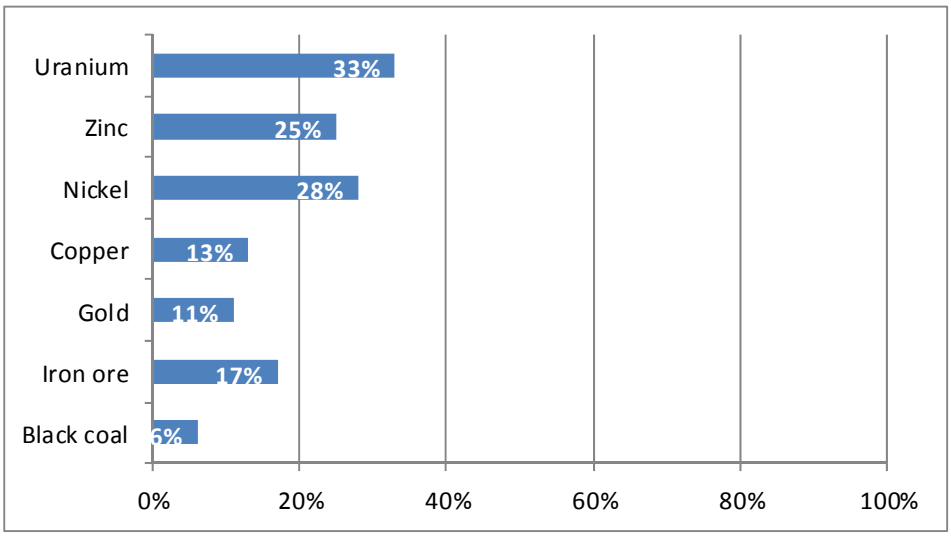
Demand from this new middle class and associated growth in global urban infrastructure will continue to drive demand for steel, copper and a range of metals and energy commodities. Analysis shows the consumption of metals typically grows together with income until real GDP per capita reaches about $15,000 to $20,000 (in 2005 PPP adjusted US dollars) as countries go through a period of industrialisation and infrastructure construction. Depending on assumptions, global demand for key minerals will therefore increase by between 50 per cent and 200 per cent over the next two decades.

The opportunity at stake was set out last September by Port Jackson Partners in a landmark report for the MCA. It concluded that if Australia can simply maintain market share through the next two decades, the nation's minerals revenue could increase by more than $120 billion per annum by 2031 – a 65 per cent increase for a sector already twice the size it was in 2006.[x] What is clear is that volume growth in exports will need to be the fundamental driver of revenue growth.

1.3 THE SUPPLY CHALLENGE

Demand is one side of the commodity equation – the other is supply. As Chart 1 below demonstrates, Australia does not enjoy a monopoly on resource endowment.

Chart 1: Australia's share of world economic demonstrated resources - select minerals



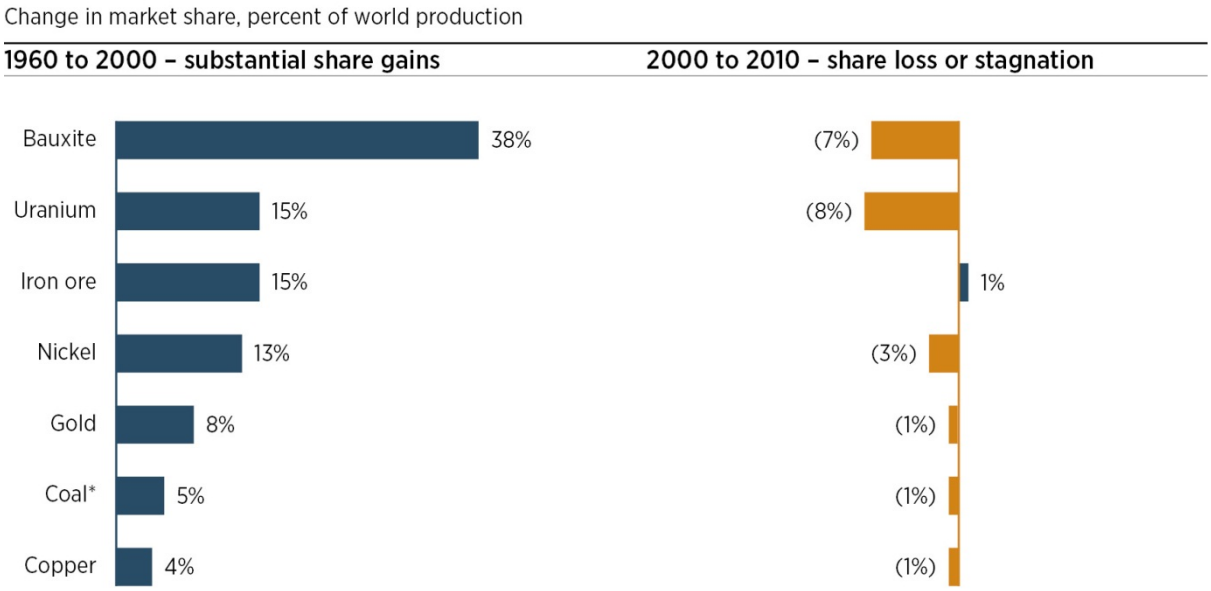
Source: Australia's Identified Mineral Resources, 2011

While the execution of new projects continues is challenging in light of capacity constraints, declining ore grades, escalating capital costs and resource nationalism, expanded supply continues to come on stream and is expected to strengthen in the medium-term across a range of commodities underlining the competitive challenge facing Australian mineral producers.

For example, coal is mined commercially in more than 50 countries, with Australia accounting for less than 9 per cent of global black coal production. Australia faces stiff competition for market share from a range of other low-cost producers in Indonesia (thermal), Columbia (thermal), South Africa (thermal), Mozambique (metallurgical and thermal), Mongolia (metallurgical and thermal) and India (thermal), as well as interior provinces of China (metallurgical and thermal). High grade iron ore resources remaining in Western Australia are eclipsed by those in the Carajas region in Brazil and there are substantial high-grade resources in other countries. According to one study, Brazil, Guinea in West Africa and also India combined have more than enough resources to take all of the future growth in demand.

The global mining industry is part way through an era of profound transformation driven by the emergence of new suppliers. Australia lost market share in most key mineral commodities through the first decade of the 21st century as the number of rivals (overwhelmingly in emerging economies) increased significantly. Over this period Australia's market shares stagnated or declined. (Chart 2)

Chart 2:
Australia's Market Share of Global Production



* Includes bituminous and anthracite, lignite and brown coal

Source: US Geological Survey Minerals Yearbook; British Geological Survey World Minerals Statistics; BP Statistical Review of World Energy; ABARE

The Port Jackson Partners report highlighted the ways in which policy reforms, new technologies and new investors are unlocking new, high-quality minerals provinces around the world. It found that the "speed and methods by which new rivals are emerging, and their quality when they do emerge is not widely appreciated".

These trends are apparent across the range of Australia's mineral commodities:

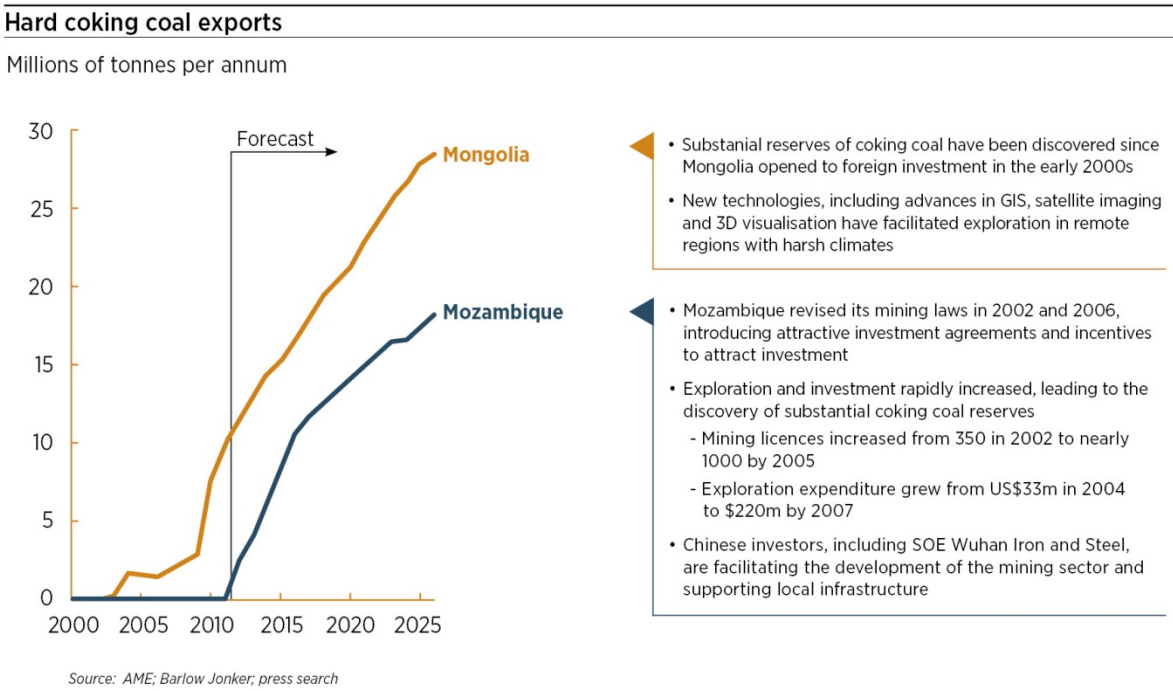
- Iron ore - While Australia's share of global iron ore exports has remained relatively stable over the last decade, new sources of supply continue to be developed and brought to market. There has been a steady expansion in the number of countries supplying iron ore to China over the last decade and Chinese SOEs are making substantial investments in new iron ore projects, especially in Africa. West Africa has reserves of high-quality iron ore that are estimated to match those in Australia, while offering much lower capital costs.

- Metallurgical coal - Countries such as Mongolia and Mozambique are emerging as major new producers. Mongolia has massive reserves of metallurgical coal which are undergoing rapid development. Production is expected to reach 54 million tonnes per annum by 2020, more than four times larger than in 2010. The flagship Tavan Tolgoi project has the potential to produce tonnages on par with Australia's largest mines. Similarly, Mozambique's metallurgical coal industry has developed rapidly since large resources were discovered in the mid-2000s. It is expected to be the world's fourth largest seaborne exporter by 2020. (Chart 3)

- Thermal coal - Global supply has increased as a consequence of the discovery of large, high-quality resources in many locations, high rates of investment in resource extraction (particularly in Indonesia) and, more recently, a surplus of cheap domestic gas in the United States which has redirected coal production from the domestic to export markets. US thermal coal exports rose more than 30 per cent in 2012.

Chart 3:

Emerging Competitors – Mongolia and Mozambique



Source: AME; Barlow Jonker; press search

- Copper - Mine production from the Americas and Africa is forecast to increase further in 2013, including expected double digit growth in the US, the Democratic Republic of the Congo and Zambia. Looking ahead, Asian copper mine production is expected to increase due to the commissioning of the Oyo Tolgoi mine in Mongolia and the mining of higher ore grades at the Grasberg mine in Indonesia.

- Gold - A diverse range of producers – including the world's largest gold producer, China – have increases production and market share. Australia's gold sector also faces a longer term challenge with the focus of exploration activity increasingly on 'hot spots' in the Americas and Africa.

- Nickel - market appears marked by oversupply as a result of greenfield projects coming on stream and further steady growth in lower cost Chinese nickel pig iron production, the swing factor in the market. In 2013, higher world nickel mine production is forecast to be driven by new operations in Madagascar and New Caledonia.

1.4 A "PERMANENTLY LARGER MINING SECTOR"? AUSTRALIA'S CHOICE

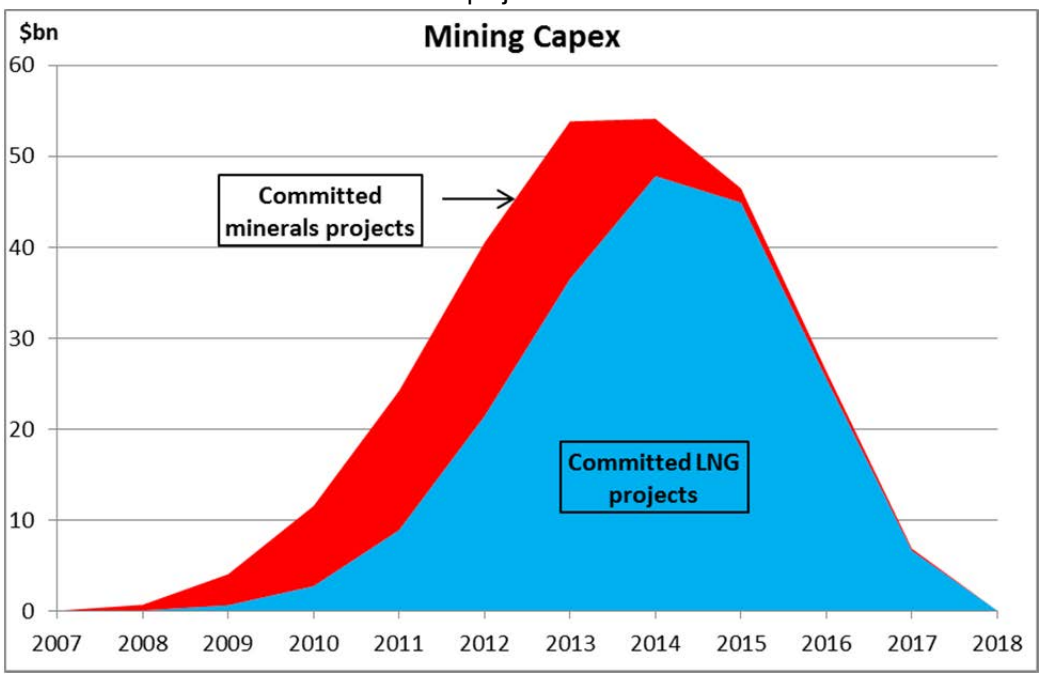
The Reserve Bank has indicated that the peak in mining investment is now "close", earlier and at a lower level than had been expected previously (around 8 per cent of GDP rather than around 9 per cent). Notwithstanding the expected pickup in mining sector production and exports, the dimensions and timing of new sources of growth remain unclear.

With lower mineral prices and projects being either deferred or cancelled, the minerals investment pipeline dries very quickly in the absence of new additions. Mine and infrastructure projects worth more than $284 billion remain uncommitted. At the same time, survey data from Access Economics and elsewhere confirms that "the value of projects under consideration, that would normally take up the slack as existing schemes wind down, is dropping rapidly". (Chart 4)

Recent economic commentary has tended to focus on when precisely the current wave of mining investment will peak and what should be the macroeconomic response, given the expected near-term impact on domestic demand. This has

overshadowed a bigger question – is Australia's economy-wide policy framework equipped to secure future investment, jobs and export growth over the longer term?

Chart 4: Resources investment – committed projects



Source: BREE, Commonwealth Bank

The opportunity on offer is historic. Treasury Secretary Martin Parkinson has observed that the structural changes taking place in the global economy are likely to support structural change in the Australian economy too.

> *Yes, the terms of trade are coming off, but they remain, and are likely to remain, high by historical standards. In other words, we're unlikely to see a bust - what we're seeing is a longer, more complex story than the boom-and-bust cycle of generations past... What we will see ultimately is mining becoming a much larger share of a reshaped economy. The mining sector is expected to rise from 5 per cent of gross value added in the early 2000s, to in the order of 10-12 per cent in the decades to come.* [xi]

The risks presented by poor policy should not be underestimated. While market conditions will be the critical determinant of business decisions, it is wrong to think that policy makers are somehow powerless in the project value and investment equation, especially in a highly capital-intensive sector like mining. The history of mineral resources development around the world shows that institutions, policy and political culture matter profoundly; and that once a policy course has been adopted, this choice has implications for decades into the future.

As a recent study by Professor Henry Ergas and Joe Owen for the MCA has pointed out, there is a temptation "to view these phases as unfolding relatively smoothly". Yet in reality, "the adjustment process defines a new and more challenging benchmark for Australian resources supply… we cannot take our future earnings from resource exports for granted".[xii]

Ergas and Owen frame the challenge of "rebooting the boom" around two elements:

- securing new investment projects beyond 2013; and
- delivering on projected export volume growth out to 2025 in a much tougher global supply environment.

The point the Ergas and Owen study drives home is that:

> *Good results will not simply fall from the sky. Rather, as prices continue to adjust and the scarcity premium we have enjoyed fades away, Australia's prosperity will be ever more dependent upon the efficiency of our export supply chain, from exploration and initial development through to final shipment. Unless we achieve and retain global cost competitiveness in each stage of that chain, we will benefit less than we should have during upswings and suffer more*

than we need to when times turn tough. And as unsustainably high prices return towards long run levels, it is our cost competitiveness that will determine how much of the current investment pipeline ultimately translates into completed projects.

Economic modelling conducted by BAEconomics[xiii] shows the potential for policy settings to have a negative impact on Australia's competitiveness as a supplier of mineral resources. Two economic scenarios were modelled – a "Competitive" scenario (the reference case) and a "Headwinds" scenario. The Competitive scenario envisages policy settings that prioritise mineral resources development and competitiveness. The alternative, Headwinds scenario lies at the other end of the policy spectrum with a less benign mining investment environment based on current workplace relations settings, continued project approval delays, a failure to invest in skills and innovation and higher taxes on the industry (the MRRT, the Carbon Tax and the Emissions Trading Scheme as modelled by Treasury) in line with existing policies.

As shown in Chart 5 the opportunity lost under the Headwinds Scenario is very large. Policy decisions made now can create or destroy an economic opportunity equal to more than 5 per cent of the Australian economy in 30 years' time, with lower minerals industry growth quickly translating into poorer economic performance. The modelling suggests that, without improvements in our competitiveness, real GDP in 2040 is 5.3 per cent lower than it would be under the Competitive scenario. That equates to a reduction in income relative to that scenario of more than $5,000 per person in today's dollars. Compared with the Competitive scenario, real wages are lower by 6.3 per cent under the Headwinds scenario.

Australia has a choice about the size of its mining industry in the decades to come. The BAEconomics modelling highlights the nature of that choice: government can either implement reforms to deliver on the potential of "a "permanently larger mining sector" or let the opportunity pass Australia by. The window to take advantage of resource-intensive Asian development remains open, but Australia's position as a premier minerals supplier is more fragile than it should be.

Chart 5: Headwinds to growth scenario

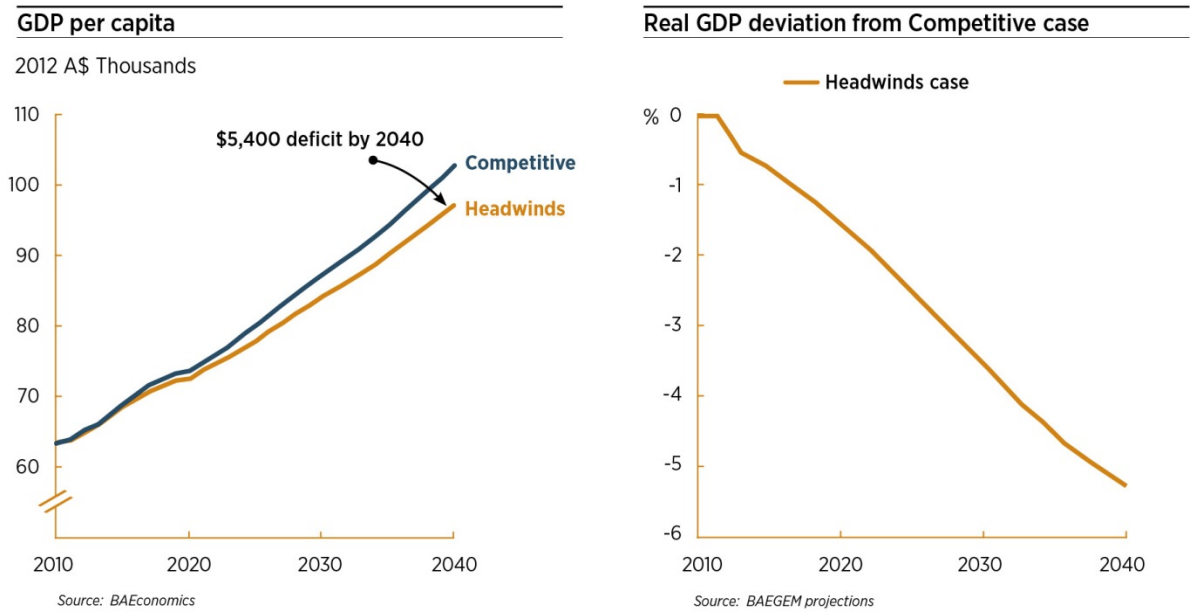
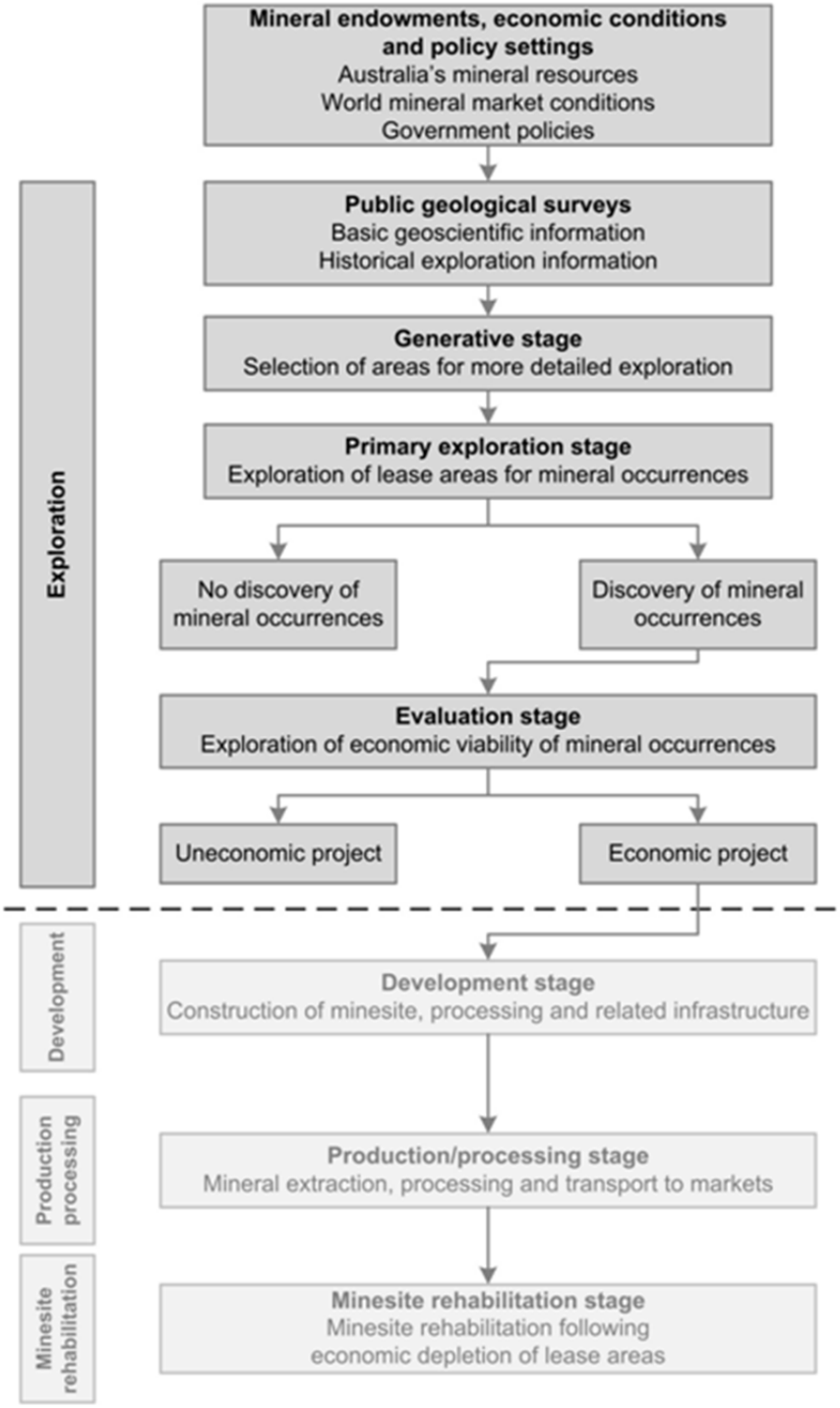


Chart 6: Key stages in mineral exploration, production and processing



Source: Productivity Commission, adapted from ABARE's *Mineral Exploration in Australia*, 2002

CHAPTER 2 AUSTRALIA'S EXPLORATION PERFORMANCE

2.1 THE CHALLENGE

Minerals exploration is intrinsically high-risk. The exploration process is lengthy, expensive, often conducted in remote and inhospitable environments and scientifically complex. The total global exploration budget (for all minerals including iron ore) in 2012 was estimated at $23.42 billion[xiv] of which Australia's share was 15.6 per cent (non-ferrous metals, 12 per cent).

The exploration process encompasses multiple phases as is illustrated in Chart 6. The funds invested are substantial and increase significantly at each stage. In the initial "grassroots" phase, a company assesses existing information, acquires minerals rights, commences community engagement and conducts regional geological, geochemical and geophysical examinations. In the subsequent "detailed target evaluation" phase costs are likely to be higher based on activities such as closer-scale drilling and geological and metallurgical analysis to construct a three-dimensional model of the deposit and begin evaluating the viability of its extraction. In the third stage, a company prepares a feasibility study, including mineral reserve estimates, undertakes mine and plant designs, environmental management plans, detailed cost estimates and full technical and financial assessments – all targeted towards evaluation and assessment of economic viability. These assessments are the basis for an investment decision as to whether the project is commercially viable. In total, an exploration process of this nature might take as many as 15 years.[xv]

Using international data, the Colorado School of Mines concludes that it takes 500-1,000 grassroots exploration projects to identify 100 targets for advanced exploration which lead in turn to 10 development projects, one of which becomes a profitable mine.[xvi] In short, exploration typically has a very high failure rate and rarely leads to creation of continuing asset value.

Exploration is also vulnerable to the highly cyclical nature of the minerals industry. As the Reserve Bank has noted, exploration increases during periods when commodity prices are high and decline when they are low. [xvii] (Chart 7) However while higher prices make any potential discovery worth more and tend to make exploration in marginal areas more attractive, heightened competition makes mineral rights, labour and equipment expensive to source. When the cycle turns, finance is more difficult to secure both internally and externally[xviii] and the focus of globalised companies may shift to extending the lives of existing operations and more cost-effective exploration in under-explored regions.

Chart 7:

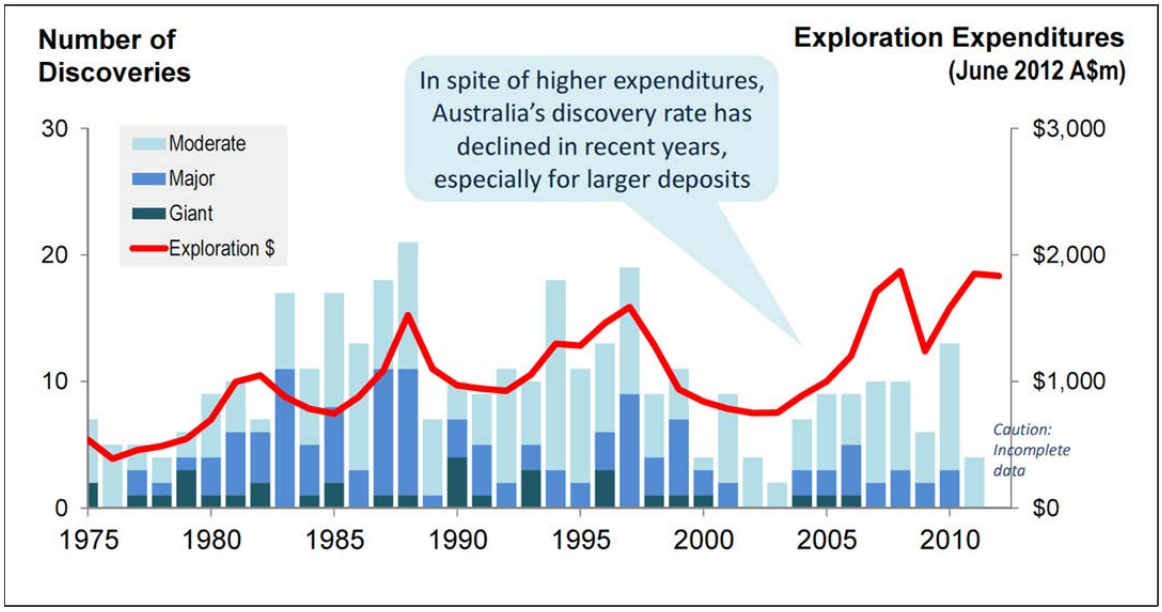
Other structural changes impacting on mineral exploration in Australia include:

- considerable consolidation and rationalisation of ownership within the industry;
- increased globalisation both within the resources industry and the supporting investment market;
- difficulties accessing land due to expanding regulatory factors;
- difficulties accessing finance, particularly for junior exploration companies;
- fewer significant commercial discoveries due to the relative "maturity" of the Australian exploration environment; and
- gradual increase in the minimum size of an economic resource, in concert with rapid escalation of discovery and assessment costs.[xix]

2.2 AUSTRALIA'S RECENT EXPLORATION PERFORMANCE

Australia's competitive position as an exploration jurisdiction has been described as "like the 'curate's egg', good in parts". Australia possesses a strong mineral endowment, but discovery is "becoming harder and more costly"[xx]. This is consistent with the view expressed by the chief of Geoscience Australia's Energy and Minerals Division that: "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 to upgrade known deposits to make them competitive on the world market". There have been "very few world class discoveries in Australia over the last two decades and the inventory has been sustained largely through delineation of additional resources in known fields".[xxi] The Policy Transition Group (PTG) process found similarly that most of Australia's major discoveries were made more than 20 years ago and "there has been a decline in the success rates and in the average size and quality of deposits discovered".[xxii]

Figure 8: Exploration expenditure and mineral discoveries for non-bulk commodities (1996-2012)



Sources: ABS and MinEx Consulting. Discoveries and expenditures exclude bulk minerals (coal, iron ore and bauxite), includes uranium.

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.[xxiii]

Analysis by MinEx Consulting has found that in the last decade Australia made fewer discoveries, found a declining share of global discoveries (including among "mature" mining jurisdictions) and paid substantially more for them. The cost of each "giant discovery" was twice that of comparable discoveries elsewhere.[xxiv] (Table 1)

Table 1: Discovery rates and costs by size: Australia versus the rest of the Western World:

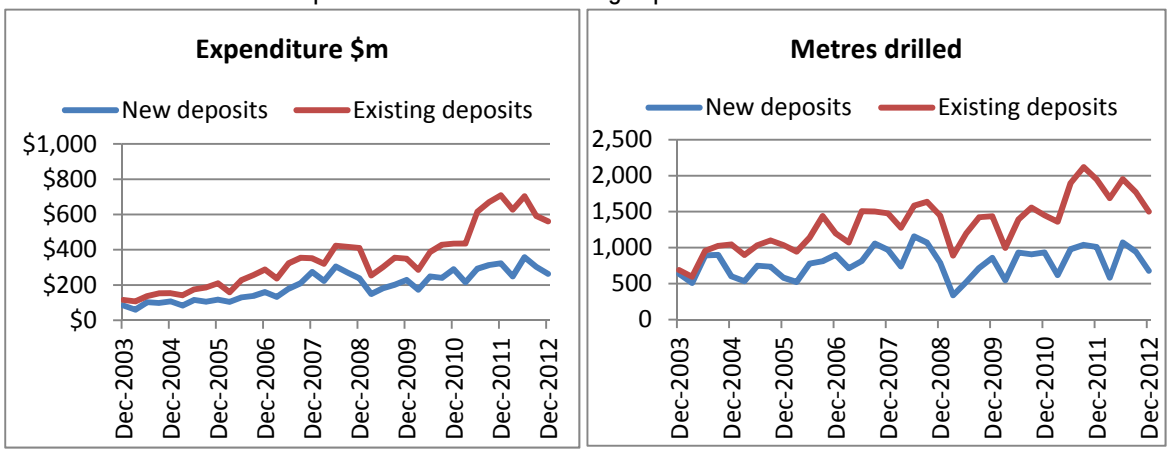
Period	No of discoveries in Aust / WW	Australia's share of discoveries	Australia's share of WW exploration expenditure	Cost per discovery US$2011m	
				Australia	Rest of WW
Moderate discoveries*					
1980-89	125 / 520	24%	17%	$55m	$85m
1990-99	116 / 559	21%	19%	$70m	$79m
2000-10	73 / 412	18%	13%	$126m	$189m
Major discoveries*					
1980-89	65 / 260	25%	17%	$106m	$171m
1990-99	49 / 313	16%	19%	$165m	$133m
2000-10	25 / 220	11%	13%	$367m	$329m
Giant discoveries					
1980-89	10 / 55	18%	17%	$688m	$742m
1990-99	13 / 87	15%	19%	$622m	$475m
2000-10	3 / 44	7%	13%	$3056m	$1564m

* Note: Includes discoveries from the larger size range. Excludes bulk mineral exploration and discoveries. Source: MinEx Consulting

It is widely accepted that one consequence of the increasing cost of exploration has been is "a profound decrease" in the ratio of exploration dollars committed to greenfields programs compared to brownfields programs.[xxv] Brownfield exploration involves searching more deeply or laterally for mineralisation related to a known deposit. Greenfield exploration investigates outside areas of known deposits[xxvi].

As the charts below illustrate, a decade ago, expenditure and the number of metres drilled on greenfield and brownfield sites was broadly approximate. However over the past eight years a gap has opened - and widened - between expenditure and the metres drilled on new and existing deposits. In both expenditure and metres drilled, the effort on brownfields sites is now approximately double that of greenfields.

Charts 9 and 10: Australian exploration on new and existing deposits

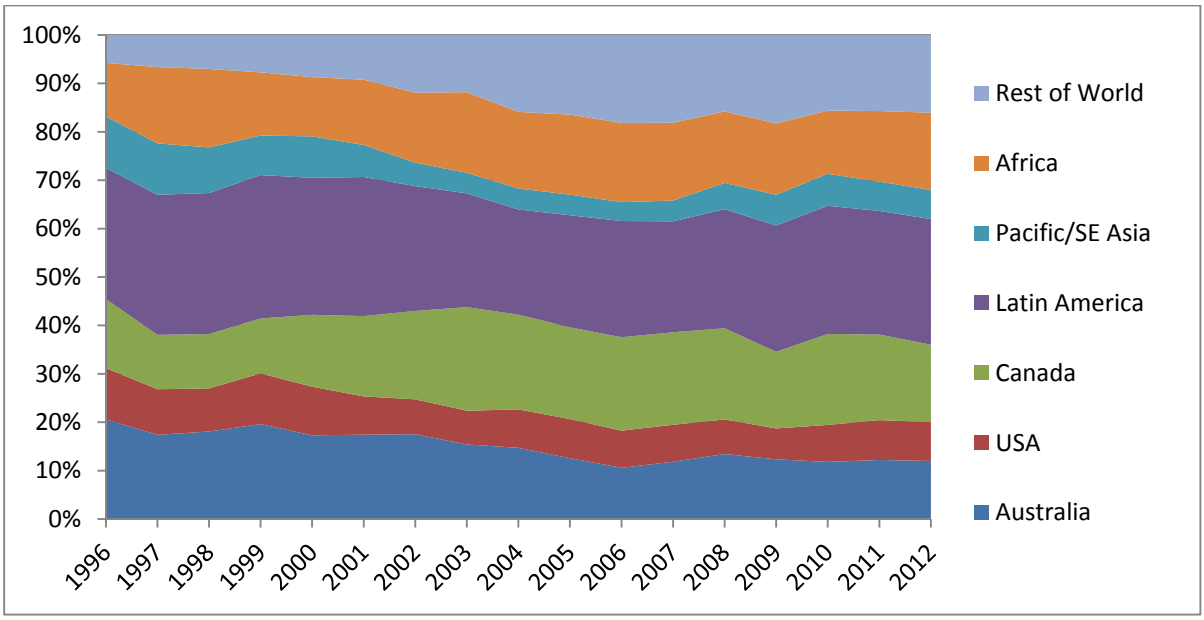


Source: ABS

While brownfields exploration has the potential to add to the life of an existing mining project, the University of Western Australia notes: "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.[xxvii]" As Professor Suzanne Cory, President of the Australian Academy of Science has stated, "It is of serious concern that discovery of new deposits has not kept pace with depletion".[xxviii]

Cost escalation is one factor driving the increasing exploration competiveness of emerging mining nations. The most recent analysis of nonferrous global exploration expenditure by SNL Metals Economics Group published in March 2013 reported that Latin America attracted the largest share of global expenditure (25 per cent). Africa overtook Canada to rank second drawing 17 per cent of global exploration budgets. In contrast, Australia's share declined to 12 per cent putting it in in fifth place behind Canada (16 per cent) and Eurasia (14 per cent)[xxix]. On this measure, Australia lost nine percentage points as a share of global exploration expenditure in the 16 years to 2012. In absolute terms, the total non-ferrous exploration budget rose 19 per cent to record high levels. Australia's exploration expenditure growth was significantly lower at 11 per cent.

Chart 11: World exploration expenditures 1996-2012: Percentage of total spent by region



Source: SNL Metals Economics Group

In addition, an increasing number of Australian explorers are investing overseas. It is estimated that half of locally sourced exploration funds are now spent offshore notably in developing nations with increasingly stable governments, attractive mining and taxation policies and where the early-mover advantage still exists. It has been reported for example, that there are now 325 Australian based companies operating about 850 projects (including 45 operating mines) worth around $40 billion in of the 54 African countries.[xxx] As a report to State and Federal Energy and Resources Ministers concluded: "Clearly Australia needs to do better in attracting exploration investment, particularly for base and precious metals, to ensure that we have the inventory of producing mines for the longer term."[xxxi]

2.3 AUSTRALIA'S INVESTMENT REPUTATION

The Institute for Management Development's *World Competitiveness Yearbook 2012* ranks Australia 15th out of 59 nations, a fall from ninth last year and fifth the year before. On "government efficiency", Australia places 14th, a fall of nine places in four years.

The World Economic Forum's *Global Competitiveness Report 2012-13 ranks* Australia 20th of 144 nations. This is level with last year's result but five places lower than achieved in 2009-10. On the "transparency of government policymaking", Australia ranks 29th (down from 24th last year) and on the "burden of government regulation" it ranks 96th (down from 75th last year). The top three of 15 "most problematic factors" for doing business in Australia were "restrictive labour regulations", "inefficient government bureaucracy" and "tax rates".[xxxii]

Table 2: Fraser Institute Annual Survey of Mining Companies Policy Potential Index

	2008-09	2009-10	2010-11	2011-12	2012-13
WA	21st	19th	17th	12th	15th
Qld	25th	24th	38th	28th	32nd
NSW	23rd	20th	20th	32nd	44th
SA	16th	10th	11th	19th	20th
NT	20th	14th	27th	11th	22nd
Victoria	29th	30th	31st	44th	24th
Tasmania	31st	23rd	28th	30th	49th

Source: Fraser Institute

Mining industry specific analysis confirms this decline. The Fraser Institute's Annual Survey of Mining Companies 2012-13 dispels the myth that political stability has been enough to maintain Australia's position. In its headline composite Policy Potential Index, all Australian states and territories except Western Australia rate below Botswana while Chile, French Guiana and Namibia score more favourably than Queensland, New South Wales and Tasmania.[xxxiii] As Table 2 (above) demonstrates, the ranking of every Australian state except Victoria fell in the last 12 months.

The Fraser Institute identifies 96 national and sub-national exploration jurisdictions in its annual survey assessing the impact of public policy decisions on minerals investment noting that there are exploration projects vying for finance on every continent except Antarctica. It's key findings were:

- The Current Mineral Potential Index (which assumes current regulations and land use restrictions and which the Fraser Institute says "provides the best measure of investment attractiveness") has Western Australia 9th, Northern Territory 10th, South Australia 20th, Queensland 25th, New South Wales 46th, Victoria 57th and Tasmania. 61st.
- On the question of "uncertainty concerning the administration, interpretation and enforcement of existing regulations", *the* Northern Territory came 9th; South Australia and Western Australia placed 21st and 22nd below Mexico; while New South Wales and Queensland placed 44th and 49th below Colombia; and Victoria and Tasmania ranked 57th and 60th below Mali and PNG with significantly more than half of respondents citing this factor as a deterrent to investment.
- "Environmental regulations" were cited as a deterrent by 27 per cent of respondents in the Northern Territory, approximately a third in WA and SA; and by more than half in Queensland and New South Wales (57 and 58 per cent) to more than three-quarters in Tasmania (76 per cent) and Victoria (81 per cent).
- The results for "regulatory duplication and inconsistencies (includes federal/provincial, federal/state, inter-departmental overlap etc)" ranged from 24 per cent of respondents regarding this factor as an investment deterrent in the Northern Territory to 67 per cent in Tasmania.
- More than a third of respondents in all states and the Northern Territory said "uncertainty concerning disputed land claims" was a deterrent to investment.
- More than a third of respondents in all jurisdictions said "uncertainty over which areas will be protected as wilderness, parks or archaeological sites" deterred investment. More than half responded negatively in Victoria, Queensland and Tasmania where nearly two – thirds (63 per cent) of respondents described this issue as a deterrent to investment.
- States and territories also fared poorly on the question of taxation ranking between 40th and 62nd of the 93 mining nations and provinces. More than a half of respondents in every Australian jurisdiction except Victoria said the taxation regime is a deterrent to investment.

These findings were foreshadowed in the *2012 Ranking of Countries for Mining Investment* by analysts Behre Dolbear. Australia retained its number one ranking overall but was fourth behind Canada, Chile and the United States for "political system" and equal 7th on par with Peru, Tanzania, China, PNG and Russia on "tax regime". Notably the report stated:

> *Politically stable countries with stable regulatory environments help create viable resource bases that can provide competitive returns for investors relative to other asset classes. Conversely, mineral-rich nations with less stable or changing political environments (e.g., Australia, Mongolia, Chile, Ghana, and South Africa) can add uncertainty to*

the development of mining projects, ultimately resulting in downward pressure on returns due to project delays or in extreme cases, project cancellations.[xxxiv]

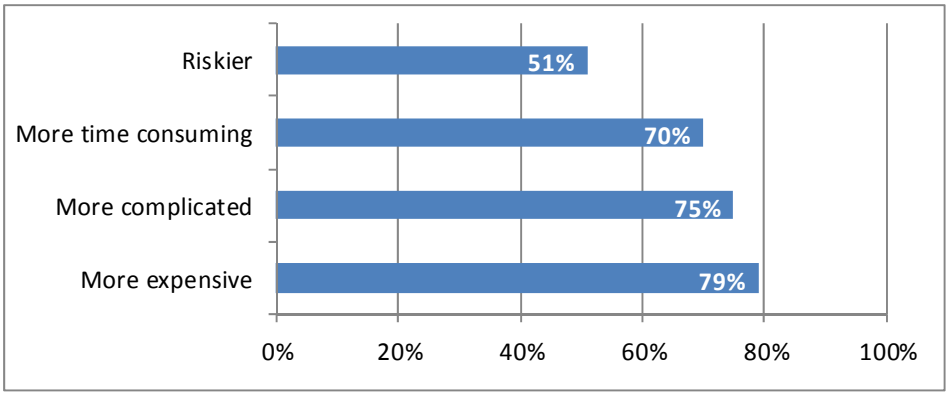
Newport Consulting's *Mining Business Outlook Report: Canvassing the views of Australia's mining leaders 2012-13*, reported:

> *Mining leaders across the board also voiced their concerns of the impact of increasing costs on the industry's broader appeal to the global markets as an attractive investment destination. With investments expected to increasingly go offshore instead of being injected into the Australian economy, mining leaders don't feel confident that the current government has the right policies in place to address this emerging predicament. By comparison, resource-rich regions such as Africa and South America will become attractive investor alternatives due to their lower costs, fewer government burdens and a more supportive environment.*[xxxv]

Grant Thornton's *International Mining Report 2013* surveyed mining executives in Australia, Canada, South Africa and the UK. It found that 58% of Australian mining executives rate "increased government involvement and/or regulation" as a major constraint to growth, the highest of all countries surveyed. Fewer than half (47 per cent) of the domestic respondents believe public policy in Australia supports exploration. Grant Thornton further concluded that increased regulation has "dampened the enthusiasm" of international investors in the Australian mining sector.[xxxvi]

Baker & McKenzie's report, *Mining investment: local challenges - global implications*, similarly reported "a growing perception amongst the industry of a complex maze of green regulations and red tape" in Australia. It's survey of mining industry leaders from Australia, Brazil, Canada, China, Indonesia and South Africa found unnecessary delays or duplication to be a "a source of frustration" and cited a Queensland respondent as saying, "When you look at a megaproject, there are up to 1,800 permits and approvals to go through."[xxxvii]

Chart 12: Responses to question: Over the last 10 years, has investing in mining in Australia generally become...



Source: Baker & McKenzie

The company president of an Australian exploration company who responded to the Fraser Institute survey offered this particularly 21st century interpretation of current government administration:

> *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.*

The findings of URS, which has conducted face-to-face interviews with mining companies and government agencies, for the 2012 update of the MCA 2006 Scorecard of Mining Project Approval Processes confirms these concerns. The results of this research are presented in Chapter 5.

CHAPTER 3 REFORM PRIORITIES

3.1 PRINCIPLED REGULATION

Economic prosperity and growth depend on stable, well performing government institutions. The regulatory system – the laws, regulations, standards and codes, and the ways in which they are implemented in practice – provides the "nuts and bolts" to implement government policy.

The prosperity Australia has enjoyed in the last few decades is one dividend of deregulation and reforms that have advanced our international competitiveness. Paradoxically, in recent years, the addition of new rules has exceeded the rate of reform. The mining industry has been the target of a disproportionate share of this burden.

Mining is a complex undertaking which involves multiple interactions with regulators at all levels of government, contractual arrangements with multiple entities – public and private – as well as formal and informal commitments with the communities in which it operates. Faced with such complex relationships, governments have found it difficult to balance effective regulation with efficient, procompetitive administration across the suite of policy concerns affecting the resources sector.

The MCA does not seek to diminish the importance of effective protection of the environment or communities in which the industry operates. The MCA's objective is to promote efficient and coordinated regulation that achieves better outcomes for all stakeholders securing the industry's competitiveness and social license to operate.

The MCA submits that the volume and complexity of the current web of land access rules, project approval requirements and environmental and heritage regulations fails to meet this objective and falls well short of the best practice advanced by the Council of Australian Government Principles of Good Regulation ("the Principles"), which promote:

- clear intent based on an establish case for action;
- flexibility in instruments, including self-regulatory, co-regulatory and non-regulatory approaches;
- avoiding restrictions on competition;
- clear guidance on compliance requirements;
- reviews of regulation to ensure they remain relevant and effective;
- consultation with stakeholders; and
- consistency, transparency and proportionality in the exercise of bureaucratic discretion.

Much more competitive, market-orientated reform is needed at the State, Territory and local Government levels. While some States are attempting to improve their approach to regulation, in general, the effort is too narrow and independent, regulatory review agencies overseeing this reform work are inadequately resourced.

According to a qualitative survey of mining stakeholders by URS, commissioned by the MCA, stakeholders believe that the principles are being given only cursory attention. It finds that the greatest challenge facing governments is to change the mind-set that views regulation as the natural first, and sometimes only, means of addressing perceived problems with market outcomes.

The minerals industry recommends regulatory reform approach that:

- embraces the primacy of the market – that the free and unhindered operation of the market will lead to efficient outcomes;
- enacts regulation only when it is demonstrably the most economically efficient way of addressing market failure and /or a specific social objective;
- applies "light-handed" measures such as reporting and monitoring when market failure warrants regulation;
- applies more intrusive approaches only when light-handed approaches and non-regulatory options have demonstrably failed;

- sets efficiency (least cost), national consistency, harmonisation and coordination as the hallmarks of regulation;
- assigns responsibility for prioritising streamlining and simplifying Australian regulations to the COAG Ministerial Councils; and
- targets regulations at the identified problem or issue without imposing unnecessary burdens on those affected.

Regulatory reform, then, means developing minimum effective regulation that conforms with best practice without diminishing standards and that:

- is not unduly prescriptive;
- is clear and concise;
- is the best regulatory approach available to address a defined problem (Government should assess whether self-regulation, co-regulation or no regulation is the efficient response);
- is enforceable;
- can be administered by accountable bodies in an equitable and consistent manner by competent and adequately resourced regulator; and
- is monitored and periodically reviewed.

Regulation that falls short of these criteria is likely to fail in its objectives, impose unnecessary costs, impede innovation and/or create barriers to efficiency and productivity. Former Commissioner Gary Banks summarised the case for reform this way:

> *… what is needed is an approach to 'productivity policy' that embraces both the drivers and enablers of firm performance, and is consistently applied. That in turn requires policy-making processes that can achieve clarity about problems, reach agreed objectives and ensure the proper testing of proposed solutions (including on the 'detail' and with those most affected). The beneficial and enduring structural reforms of the 1980s and 1990s are testimony to the value of these policy-making fundamentals. Good process in policy formulation is accordingly the most important thing of all on the 'to do list', if we are serious about securing Australia's future productivity and the prosperity that depends on it.*

3.2 TAXATION

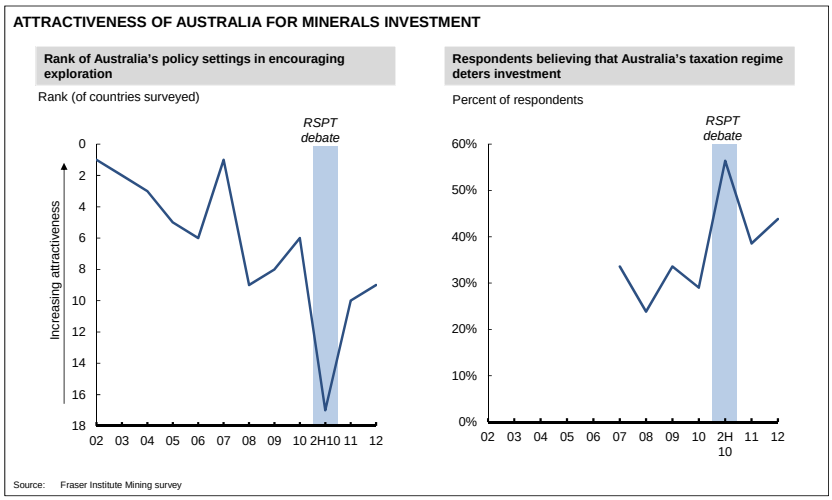
This inquiry's Terms of Reference specifically state "Local, State, Territory and Commonwealth taxation and fiscal policy is not to be examined."[xxxviii] Nevertheless, analysis of barriers to Australia realising its full exploration potential should not ignore policy of such critical importance. Simply stated, tax matters.

Taxation treatment is a crucial influence on exploration expenditure decisions. As the Colorado School of Mines has observed: "Both the rate and form of taxation affect the relative attractiveness of different countries or sub-national regions for investment in mineral exploration and development… Exploration is footloose in that explorers can redirect their activities to regions or countries with more favourable tax regimes."[xxxix] The investment economics of projects are assessed based on the overall tax burden such that it is the combination of all business tax rates and measures (not just the corporate rate or any other single tax measure) that is used to assess project viability. Tax settings are central to economic decision-making and the allocation of resources in the economy. Mineral resource companies make multi-decade investment decisions based on risk-weighted, after-tax returns. There is acute sensitivity to inflated discount factors on account of increasing risk, actual or perceived, in the net present value calculations for mining projects. The stability and predictability of fiscal regimes is also a critical factor influencing commercial decision-making.

The flawed Resource Super Profits Tax (RSPT) is a compelling case study, clearly demonstrating the impact tax policy can have on Australia's reputation as a stable and attractive minerals investment destination. (Chart 13) Higher taxes act as a barrier to growth and uncertainty over tax arrangements erodes confidence and impairs or delays investment decisions. The minerals industry is already among the highest taxed industries in Australia and the industry's contribution to revenues has

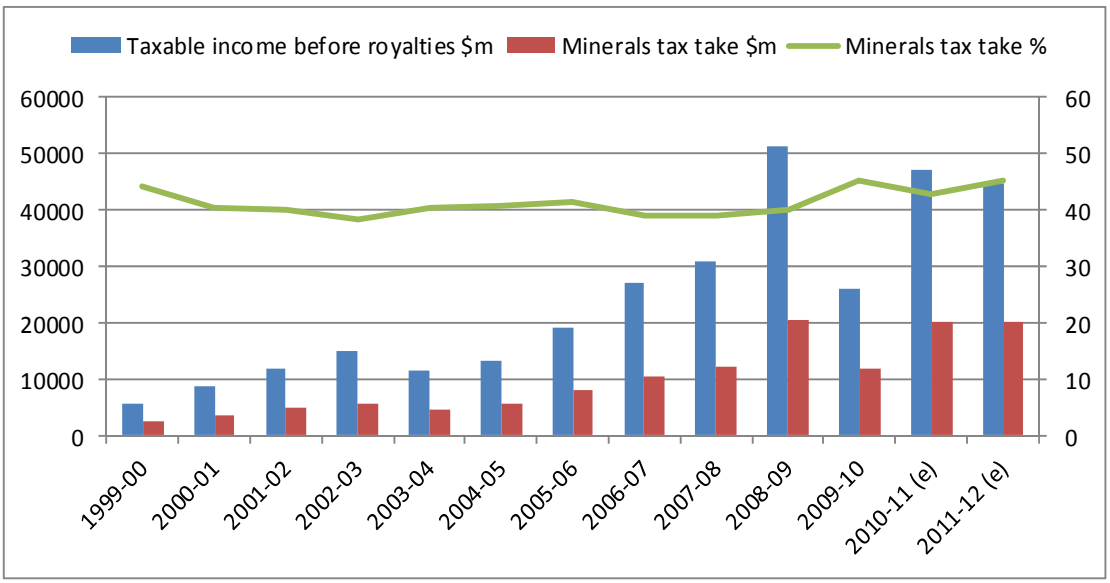
risen markedly over the last decade, even before the introduction from 1 July 2012 of the Minerals Resource Rent Tax (MRRT) and the Carbon Tax.

Chart 13:



Research by Deloitte Access Economics shows a high and stable industry tax ratio averaging 41.3 per cent over the period from 1999-00 to 2011-12 (calculated as Federal company tax and State royalties over taxable income before royalties). Total revenue from these two primary sources of returns from the minerals industry have been more than $130 billion since 1999-00. (Chart 14) This is in addition to the industry's indirect tax contribution is also significant. Higher average wages in the industry have resulted in higher average tax rates, higher average tax payments per person and higher tax collections by the Commonwealth. Returns to the Australian community also come via payroll tax, fringe benefits tax, GST and other indirect taxes, charges and levies.

Chart 14: The minerals industry tax take ratio



Source: Deloitte Access Economics

Securing the benefits of Australia's comparative advantage in mineral resources requires stable and globally competitive tax arrangements that encourage investment.

A competitive fiscal regime is a policy imperative for future mineral resource development. Consideration of measures to limit the immediate and legitimate deductibility of exploration expenditure under income tax laws (including most recently by the Commonwealth Business Tax Working Group) would impose an effective tax increase on the resources sector should be resisted. The immediate deductibility of exploration expenditure acknowledges that:

- such expenditure is an ongoing, necessary and ordinary business expense analogous with other normal operating expenses that are immediately deductible, such as those geared towards market research or marketing;
- general exploration expenditure cannot be viewed as capital expenditure creating a long-term asset because most exploration expenditure does not result in discovery;
- similarly, exploration cannot be deducted over life of mine (LOM) because – by definition – it occurs before there is a mine and in most instances a mine never eventuates; and
- there is a need to encourage discovery of new deposits to support the growth of a sector in which Australia has a demonstrable comparative advantage.

Both the Industry Commission (the forerunner to the Productivity Commission) and the 1999 Ralph Review into business taxation concluded that the immediate deductibility of exploration expenditure provides the least distorting and most practical way to treat exploration expenses notwithstanding the fact that it may not benefit junior miners who do not have income against which expenses can be deducted.

The MCA would be keen to participate in a considered process to examine what fiscal measures might provide industry-wide support for exploration. Evidence supporting the imperative of addressing the asymmetry of the current regime to support Australian exploration projects compete for investment funds in global markets is clear. The 2012 Grant Thornton JUMEX Survey concluded that "the difficulties attracting funding for early stage exploration and for more marginal projects have not been this great since the depths of the GFC."[xl] The head of one private Australian investment company has argued that the mining sector is at a difficult point where:

> *If we don't see some encouragement for that level of expenditure soon, we are going to have a decline over the next 15 years and we won't have the reserves and resources replaced… "There has been a noticeable deceleration in the amount of new discoveries we are seeing, which is directly proportional to the money coming into the exploration sector. Pre-1997, back into the 1980s, greenfields exploration is where most of the discoveries happened for Australia. We just haven't seen anything like the level of exploration over the last decade that we saw in that period. And the country will pay for it in 10 years' time because the brownfields opportunities which have been recycled -- such as iron ore, nickel and gold projects from the 60s, 70s and 80s -- are going to run out.*[xli]

In November 2012, the Managing Director and CEO of the Australian Stock Exchange, Elmer Funke Kupper, added the weight of the ASX to the calls for tax reform to assist junior explorers:

> *There has been a lot of talk recently about the mining boom, its length, the sustainability and what pace is it running at. These are good conversations to have. We must also focus our conversations on the next mining boom and the one after that. It takes at least seven years to get a mine up and running from when the discovery takes place, so what we do now shows up in the economy in the later part of this decade and the next. We expect that the next few years will be challenging for exploration companies and start-up resource projects. Therefore, we should ensure that the conditions for investment are as attractive as they can be under the circumstances. One of the options that we should consider to support investment is the adoption of an Exploration Tax Credit Scheme. A similar scheme in Canada has been very successful. Of the $220 billion in mining equity capital raised between 2007 and 2011, 35% was raised in Toronto, 24% in London and only 14% in Australia. ASX sees merit in the development of an Exploration Tax Credit Scheme for Australia. It may be an effective way to support long-term investment in the current environment.*[xlii]

The Canadian Flow Through Shares (FTS) scheme addresses the structural imbalance by allowing a percentage of unrealised tax deductions to be passed through to shareholders. An FTS was also a commitment of the incoming Labor Government in 2007.

Alternatively, the Australian minerals industry proposes a scheme where junior exploration companies undertaking greenfields exploration in Australia are able to pass a percentage of their unrealised tax deductions to Australian shareholders via exploration tax credits (ETCs) at the Australian company tax rate.

Australia's suboptimal level of exploration expenditure relates directly to the tax asymmetry problem faced by many explorers, particularly junior ones, unable to utilise immediate deductions for exploration expenditure due to their lack of

taxable income. This effectively increases the costs for junior and mid-size explorers of carrying out exploration. As a result, small exploration companies exploring in Australia are less attractive as investment options compared with other industries and exploration companies in competing jurisdictions with pro-exploration policies.

The form Australian Bureau of Agricultural and Resource Economics (ABARE) (now Bureau of Resources and Energy Economics) has estimated that this asymmetry increases exploration costs of small exploration companies by around 7-8 per cent.[xliii] This is a significant structural barrier to an activity already characterised by high risk, escalating costs, extensive regulatory requirements and pressures for new restrictions (for example, new land access provisions in States such as Queensland and additional monitoring and compliance requirements in NSW).

By distorting the allocation of finance to the junior sector, and hence penalising risky projects, this feature of the tax system can result in a degree of financial market "incompleteness". Revising those features of the tax system, or attempting to offset them through other measures, is likely to yield important net welfare gains.

To address this problem, the minerals industry considers the Australian Government should adopt an Exploration Tax Credit scheme, a variation on the Canadian Flow-Through Shares scheme tailored for Australia's unique policy context. An ETC would enable the transfer of eligible deductions of eligible individual exploration companies operating in Australia to individual Australian resident investors at the company income tax rate. Rather than being accumulated as tax losses which are only realisable if and when the company earns a taxable income, the tax credit for exploration expenditure is leveraged in the capital markets so as to attract external investors. By targeting only those exploration companies with unutilised tax deductions, the ETC will necessarily target juniors and, by default, greenfields exploration.

The industry's aim is to promote a simple and workable mechanism which:

- encourages eligible junior exploration companies to undertake exploration for mineral deposits in Australia;
- minimises administrative costs for companies, regulators and investors;
- minimises distortions between shareholders;
- minimises tax compliance costs;
- minimises risk for investors and regulator; and
- minimises distortions for investment decisions by companies.

Most significantly, a study by Synergies Economic Consulting and the Centre of Policy Studies found that such a scheme for Australian junior explorers would induce 10 to 30 per cent more exploration expenditure.

3.3 LAND ACCESS

Access to land is fundamental for exploration and minerals development. The Australian minerals industry recognises that access to land is earned by demonstrating responsible land stewardship throughout the mining life cycle. While mining is a temporary land use, the minerals industry acknowledges its long-term responsibility to contribute towards sustainable land use outcomes.

The agricultural industry, excluding forestry, occupies almost 70 per cent of the Australian landmass. Mining leases cover 0.64 per cent.[xliv]. Notwithstanding the marked difference in the area of land occupied by the agricultural and minerals industries, circumstances arise where the demand for resources can overlap.[xlv]

Tensions between agriculture and the minerals industry have recently been couched in terms of food security and contamination of waters and State Governments have responded through enhanced zoning regimes for 'prime agricultural land'. However, the December 2010 Prime Minister's Science, Engineering and Innovation Council (PMSEIC) Expert Working Group report on "Australia and Food Security in a Changing World" [xlvi] did not identify mining as a threatening factor.

This point was reinforced in a report to the MCA by Professor Michael D'Occhio, one of Australia's leading experts on food security. He found that while mining has the potential to influence food production at a local scale, particularly in intensive

dryland farming and irrigated farming areas, it also has the potential for a positive effect on food security because of the mutual interdependence of agriculture and mining in many rural and regional communities. Accordingly, a balance between agriculture, mining and biodiversity, supported by sustainable natural resources and healthy ecosystems, and with resilient communities in cities and rural and regional centres, should be the goal.[xlvii]

Land access arrangements

The MCA has long contended that access to land, and the approvals required for its effective development, are issues of national significance, warranting a coordinated and strategic response from governments. The industry is seeking to develop a holistic approach to land use assessment and planning to ensure consistency and provide certainty for all regional stakeholders. As part of a strategic planning approach, there is a need for greater alignment and simplification of the existing multi-layered jurisdictional regulatory requirements to avoid duplication and to ensure consistent land use, social and environmental values are met.

Significant failings of the current regulatory arrangements for land use decision-making include:

- 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;
- the fractured nature of biodiversity conservation arrangements – Australia currently has at least six layers (Commonwealth, Inter-jurisdictional bodies, State government agencies, regional Nature Resource Management bodies, local governments and finally the landowner) which overlap in different ways depending on land tenure and which aspect of biodiversity is of interest; hence, the landscape is being managed, at all levels, as a conglomerate of silos; and
- inconsistency in government interpretation and application of requirements relating to key land use issues such as offsets, financial surety, lease relinquishment and rehabilitation.

With the clear trend towards a national approach to managing land access, there is an imperative to shift from the existing state-based model of ad hoc and localised decision-making regarding land use values and their compatibility with proposed development, to a national strategic land use assessment and planning framework.

A national framework for strategic land use assessment and planning would provide:

- consistent, transparent and accountable decision-making in weighing up and determining land use compatibility;
- merit based assessment of all possible land uses, including concurrent (multiple) and sequential land uses;
- maximisation of the social, environmental and economic benefit for current and future generations;
- assessment of values at a landscape/systems level, enabling a recognition of the cumulative impacts of development;
- adoption of the precautionary principle in the absence of certain scientific understanding;
- flexibility to accommodate changing community expectations and technological advances, whilst providing certainty for investments; and
- the effective engagement of stakeholders who may be affected by proposed developments.

COAG Ministerial Standing Council on Energy and Resources - Multiple Land Use Framework

In recognition of ongoing tensions, primarily around the coal seam gas (CSG) industry and agriculture, the COAG Ministerial Standing Council on Energy and Resources (SCER) initiated the development of a 'nationally harmonised regulatory framework for the coal seam gas industry' in December 2011. Part of this initiative included the development of a Multiple Land Use Framework (MLUF) for the resources sector, including the minerals industry.

The MLUF provides a number of principles and components for success in multiple land use planning, however leaves the interpretation and implementation to the States/Territories. The framework is an important step in developing a more strategic approach to land use assessment and planning, however considerable work is required in developing a suitable

model for implementation and the integration of Commonwealth values in the absence of bilateral agreements under the EPBC Act.

3.4 ENVIRONMENTAL ASSESSMENTS

Environmental Impact Assessment (EIA) processes are important for ensuring proper consideration of environmental issues and community engagement in development proposals. However, there has been a growing lack of confidence in environmental assessment process at all levels of government.

The MCA considers that greater business and community confidence in environmental assessment processes can be achieved through the application of best practice principles, many of which align with the ongoing reform process. These include:

- increased co-operation between Australian governments and greater harmonisation of environmental assessment processes;
- use of strategic assessments and other strategic approaches, as opposed to project level environmental assessment;
- environmental risks as the focus of assessments with documentation to reflect the level of risk;
- focus on clear and measurable 'outcomes', rather than process. In addition, adaptive management and environmental management systems should be recognised;
- investment in better information/data as the basis for assessment; and
- focus on follow up and review.

As noted, the Commonwealth and State and Territory governments in Australia all have EIA regimes. The Commonwealth's regime is largely based on Australia's international environmental obligations spelt out in a raft of international agreements. On the other hand, state and regional issues guide State and Territory EIA.

All Australian EIA regimes have essentially the same objective of ensuring proper attention is paid to environmental considerations when development proposals are being considered. While there are differences in the way that the various regimes are implemented, all governments broadly follow a series of steps from the original project referral or screening, through an assessment process, to an approval decision, followed by a post-decision monitoring and auditing regime.

Such similarities would suggest ample room for cooperation between Australian governments in dealing with environmental approvals of major proposals and this is generally the case. Different perspectives have nevertheless been the cause of tensions between the Commonwealth and the States and Territories over the years and these tensions have operated against achieving best practice.

As identified by COAG, governments need to cooperate more effectively in administering their EIA 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.

For example, while there will always be a place for the more traditional project-level EIA, 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; and it can also provide industry with much more certainty about acceptable parameters for future development proposals.

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. Greater risk management within EIA would enhance environmental protection by concentrating most attention on those matters of the most significance. It would also simultaneously simplify processes.

Other initiatives that would move Australian EIA closer to best practice include more use of adaptive management and environmental management systems; better information and data effort; and more attention to follow-up.

The key principles of best practice that are relevant to improvement of Australian EIA as it affects major development proposals are:

- environmental effectiveness (ie success in meeting the purpose of ecologically sustainable development);
- cost effectiveness;
- strategic-level (ie high level) EIA;
- integration, consistency and certainty;
- focus;
- transparency and participation;
- adaptive management; and
- follow-up.

Were Australian EIA to consistently meet these key principles at a high level across all Australian jurisdictions, then confidence would be correspondingly high that EIA was being used well in Australia in the consideration of major development proposals.

Governments need to provide proper resourcing for the task. Australia has a history of expecting environmental reform to come at no cost, despite the considerable financial benefit for the economy. However, effective reform requires environmental authorities to embrace initiatives in parallel with existing arrangements and workloads. Strategic approaches also put much more onus on governments to prepare relevant policies, plans and programs.

Finally, while better cooperation between Australian governments is clearly necessary, it alone is not sufficient to achieve the necessary reforms. Sustained reform requires community confidence about the legitimacy of the process and this can occur only through genuine engagement with stakeholders about objectives, outcomes, design and implementation.

Implementing the COAG commitment and Hawke review recommendations supported by the Australian Government[xlviii] provide a catalyst for furthering many of the above recommended reforms. However, other recommendations may require further analysis and reform of existing environmental assessment approaches.

The MCA continues to recommend that the Australian Government:

- Delivers on the 2012 COAG commitment to expand bilateral agreements (assessments and approvals) to all States and Territories to reduce compliance costs and delays in approval processes.
- Introduces amendments to Environment Protection and Biodiversity Conservation Act to improve the efficiency and effectiveness of project approvals.
- Effectively resources the COAG commitment to a comprehensive regulatory reform process, particularly focused on improving co-ordination and integration with State/Territory processes, red tape reduction and duplication associated with project approval processes and related monitoring and reporting requirements, in line with the findings of the Productivity Commission Review.
- Provides businesses with longer term certainty about areas for investment, reduces regulatory overlap and provides more consistent service delivery from the Commonwealth in biodiversity protection.
- Reviews the environmental assessment process to improve national harmonisation; increase the use of strategic approaches; re-focus assessments on those matters of significant environmental risk; and shift approvals towards outcomes, rather than process.

3.5 HERITAGE PROTECTION

Heritage protection is important to ensure the recognition and management of Australia's unique or outstanding historical, cultural or environmental values. MCA members are signatory to *Enduring Value - The Australian Minerals Industry Framework for Sustainable Development* which includes a commitment to 'respect cultures, customs and values' of those affected by mining activities.

In addition, 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.

Where current State processes are ineffective, high transactional costs are imposed, both in terms of direct costs and time imposts on project approval timelines. For example, where the self-nomination of Aboriginal parties with interests in an area is permitted, and there is a lack of recognition of the specific rights of Traditional Owners, negotiation with multiple parties, and parties without traditional ownership escalates cost.

However, existing heritage processes are impeded by complexity, duplication and a lack of transparency. Reforms are required to address the following barriers:

- Process duplication and forum shopping – 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.

  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.

- Development of a consolidated heritage list - In line with ongoing reforms of National Environmental Law, the 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. Consistent with the reforms to the EPBC Act, heritage matters can be appropriately flagged in accordance with their significance at a State or National level to avoid any perception that all matters have national value and therefore trigger Commonwealth legislation.

- Australian Heritage Council Processes - The existing process of heritage listing is not transparent. There is little opportunity for stakeholders which may in the future be impacted by heritage listing to have adequate input. As listings can significantly impact on the approval pathway for future proposals. Property owners and those with interests in an area should be entitled to make submissions on listing proposals which may fundamentally affect the value of, and use that can be made of, their assets. Accordingly, the MCA considers that Australian Heritage Council recommendations should be published prior to Ministerial decision and be open for public submission.

- Consideration of Economic and Social Factors - The MCA considers that the Heritage listing process should not be 'siloed' from important social and economic factors within a region. Accordingly, potential impacts (positive and negative) on these factors should be considered as part of the Heritage listing process. Without consideration of these factors, a potential listing may impact on regional development and future opportunity which should be seen as complementary to sustainably managing heritage values in longer term.

  Consideration of social and economic factors would enhance more sustainable outcomes for heritage, including the management of financial risks to individuals and communities highlighted in the 2006 Productivity Commission Report

described in the Consultation paper. Additionally, through the consideration of these other factors it may be demonstrated that a 'reserve' approach may not be the most viable option to management in the long term.

Unfortunately, the administration of Native Title legislation is outside the remit of this inquiry. Nevertheless it provides a "case study" to demonstrate the extensive time it takes explorers to comply with heritage processes, the gap that has widened between the theory and practice of compliance, and why an ongoing process to ensure ensuring that these regulations are both effective and efficient is so critical.

Table 3: Steps from mineral exploration to a mine: theory and practice[xlix]

Steps as outlined by the National Native Title Tribunal	Member experience
Step 1: The explorer may walk or drive and use hand tools on the land to collect small samples.	6 to 24 months
Step 2: If there is a regional standard heritage agreement, the explorer tries their best to inform native title parties of what they plan to do (the requirement to consult with native title parties or traditional owners may also be addressed in an alternative heritage agreement).	This occurs at the start of Step 1.
Step 3: If non-ground disturbing exploration indicates there may be minerals in the ground, the explorer informs the traditional owners or native title parties (depending on the nature of their agreement) of plans to drill holes in certain areas.	Before Step 4
Step 4: If there is a heritage agreement, the traditional owners or native title parties decide whether a heritage survey is required.	Before Step 5
Step 5: If a heritage survey is done the report will say where drilling cannot happen in order to protect heritage sites.	6 to 12 months depending on the availability of consultants, traditional owners, the time of year and the size of the exploration program.
Step 6: Geologists and labs analyse samples taken from the drill exploration to see if minerals are present.	3 to 6 months
Step 7: If there are minerals present the explorer will usually drill closer spaced holes and this information is used to make: • geological models, which help engineers estimate how much ore there is and its quality • resource models, which help engineers estimate how much ore reserves there are • feasibility studies, which help decide whether mining, processing and marketing the ore will be profitable. The models and studies help make estimates and decisions about whether there will be a mine.	12 months to 5 years
Step 8: If the mining company decides to start a mine, it will need to apply for a mining lease and negotiate with all registered native title claimants. Mining companies usually need to raise money before they can begin mining. This can take one to two years.	The average length of a mining lease application to get through the RTN process is over 40 months and RTN process commences after the Mining Act process has all but been completed (therefore add another 12 months). However it should be noted that the trigger for applying for a mining lease is not usually because a company has made the decision to start a mine as Step 8 suggests. It is usually made well before any decision to mine is made.

Source: National Native Title Tribunal, MCA Member Company

3.6 GEOSCIENCE AND INNOVATION

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.

Pre-competitive geoscience information reduces the technical risk of exploration by assisting explorers in the assessment of minerals potential and selection of target areas. Soundly-based area selection is critical to successful and cost-effective exploration. Lack of geoscience information increases exploration risk and is an impediment to exploration investment and discovery.[i]

We cannot rest on past achievements. Public investment and policy support is required to advance the next generation of exploration geoscience. Australia must leverage its capability and launch new programs to search and understand the potential endowments that lie under cover at greater depths.

One of the factors behind the decline in Australia's standing as an exploration investment destination is the belief that the continent has reach a level of exploration "maturity" that significantly diminishes the likelihood of further major discoveries.

It is true that most near-surface deposits have been discovered but exploration has taken place over only about 20 per cent of Australia's land mass. The remaining 80 per cent of the continent which is covered by regolith and sedimentary basins is largely unexplored. This represents an exploration opportunity of more than 7.5 million square kilometres[ii].

The MCA supports the collaborative agenda advanced by the Australian Academy of Science's UNCOVER vision and its four-part work program to improve the predictive and detection capabilities for searching under cover, namely:

- characterising Australia's cover – new knowledge to confidently explore the cover;
- investigating Australia's lithospheric architecture – a whole-of-lithosphere architectural framework for mineral systems exploration;
- resolving the 4D geodynamic map and metallogenic ore deposit origins for better prediction; and
- characterising and detecting the distal footprints of ore deposits – towards a toolkit for minerals exploration.

Realising the potential of this agenda will require unprecedented collaboration between governments, industry and Australia's research community but such a renewed national commitment will reduce exploration risk, promote cost-effective exploration and thereby encourage greater exploration investment in Australia.

Innovation

Innovation policy is also crucial to improving the productivity and cost competitiveness of exploration.

Australia's mining sector has increased research and development (R&D) activity substantially in the last decade. According to the Australian Bureau of Statistics (ABS), the mining industry spends around $4 billion per annum on R&D with R&D intensity at around 4 per cent of industry gross value added.

As well as being central to the industry's economic performance, innovation has been a vital driver in meeting environmental and social steward responsibilities. The mining equipment, technology and services (METS) sector is now a significant export sector and, on one measure, is worth more than $6 billion (which is larger than the automotive industry).

The challenge, however, is to improve innovation *efficiency*. As Port Jackson Partners stated in its report for the MCA "we get fewer rewards from innovation effort than our peers". Though a leading minerals producers, Australia is rarely the first to benefit from minerals sector innovation. Key minerals innovations are frequently developed and first applied elsewhere, and can be surprisingly slow to reach Australia.

Competing countries have stepped up their mining innovation programs and will be strong competition in attracting investment and talent. Chile and Brazil, for example, have increased incentives for mining R&D and innovation. India continues to promote itself as an attractive, low cost and highly skilled destination for IT focussed R&D.

There are identifiable issues within the innovation process (some of which apply to all sectors) which, if addressed, suggest greater opportunities could be realised. These include:

- perceptions of 'stickiness' of the flow of innovation (intellectual property) from the research field to the commercial sector;
- a lack of engagement by the research community with the small to medium-size firms, with a traditional over-reliance on funding from a handful of larger companies. A greater focus on demand-orientated policy could lead to more engagement (as shown in Canada where there is a tradition of professors serving on boards of smaller companies);
- barriers to entrepreneurial/commercial development compared with other developed countries;
- changes in R&D tax programs that discriminate against production-based developments; and
- excessive administrative requirements where reporting activities is mistakenly seen as progress in innovation.

In response to these challenges the MCA recommends:

- a roadmap for a step change in mining and minerals-related innovation;
- addressing the shortfall of tertiary and technical graduates by:
  - ensuring programs encourage an openness to innovation – including encouraging cross-disciplinary approaches along the value chain and supportive of the social licence to operate, and
  - retaining graduates in Australian centres of excellence and attracting offshore talent;
- reversing changes to the R&D tax credit system to re-incentivise commercial application of new technologies;
- building a home-grown, innovative services cluster by catalysing growth through initiatives including:
  - facilitating access to capital markets,
  - identifying and retaining Australian innovation leaders needed to seed a new cluster, and
  - encouraging entrepreneurial risk-taking;
- reviewing publicly funded basic research programs, including CSIRO's activities, for appropriateness and applicability (such as strengthening Australian Research Council linkage grants):
  - exploring easier and more efficient intellectual property transfer between publicly-funded research and entrepreneurs.

3.7 WORKFORCE ENVIRONMENT

Occupational health and safety

The goal of implementing a nationally uniform, risk-based Model Work Health and Safety Regime was not realised as planned in 2012.

Development of a Model Work Health and Safety (WHS) regulatory regime to replace existing State and Territory occupational health and safety law commenced in early 2009. The Model WHS Act was finalised in 2010. The Model regime incorporates a duty of care qualified by what is reasonably practicable, based on the principles of natural justice, whereby the burden of proof of contraventions is on the prosecution and that only the regulator can bring proceedings for an act of non-compliance.

Some jurisdictions met the Inter-Governmental Agreement commitment to have the model regime in place for the scheduled commencement of the regime on 1 January 2012. Other jurisdictions either sought substantial amendment or delayed introduction of the regime pending the finalisation of the Model Regulations. The Regulations remain incomplete with the mines chapter still to be finalised. Consequently regardless of whether the Model regime has been adopted by a jurisdiction, the existing mines regulations are still operative in some form.

While significant policy and regulatory developments progressed throughout 2012, by the end of the year the reforms had effectively stopped. In response to the less than complete reform, COAG has committed to review the Model regime by the end of 2014 - three years earlier than the original commitment to review after 5 years.

The MCA continues to advocate that the Australian minerals industry be entirely regulated within the Model Act and Regulations and that no separate or additional laws be adopted in any jurisdiction. It is clear however, that the ability to deliver a nationally consistent WHS system is further compromised by the actions of three jurisdictions that insist on regulating the minerals industry separately to all other industries.

The 'non-core' process that was intended to provide consistency of regulatory regimes for those jurisdictions that insist on retaining separate safety legislation for mining (WA, NSW and QLD) has also all but stalled. Further, the QLD regulator has recommended that there be limited change to their existing mining regime.

Consequently the MCA recommends that the Government reinvigorates the Inter-Governmental Agreement (IGA) adopted by COAG which commits jurisdictions to a uniform safety and health regulatory regime and hold all parties to account.

Education and skills

Demand for skilled labour remains high in the minerals industry. Existing education and training programs and institutional structures are not in a position to supply sufficient mining engineers, geoscientists and traditional tradespeople.

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. New graduates in geoscience between 2010 and 2015 are forecast to meet less than 20 per cent of new and replacement demand. In mining engineering, the figure is 40 per cent.

These fields already rely on skilled immigration to meet demand. In mining engineering, temporary migration visas outstripped university graduations by more than 2 to 1 between 2006 and 2010. In geosciences, the ratio was more than 4 to 1. Shortages are also acute in key trades. Between 2005 and 2010, for example, supply of newly qualified electrical and telecommunications tradespeople was only 55 per cent of new job growth before replacement.

These gaps are likely to be exacerbated by an ageing workforce. In 2010, National Resources Sector Employment Taskforce (NRSET) estimated that around 16,000 persons would be retiring from or leaving the sector in the five years to 2015.

Exploration is particularly effected by the Government's continuing rejection of the industry's annual applications to add geologists and geophysicists to the Skilled Occupation List. The Minister has made the judgment (based on significant consultation) that it is not a medium-to long-term skills need in Australia. It is true that demand for exploration geologists is

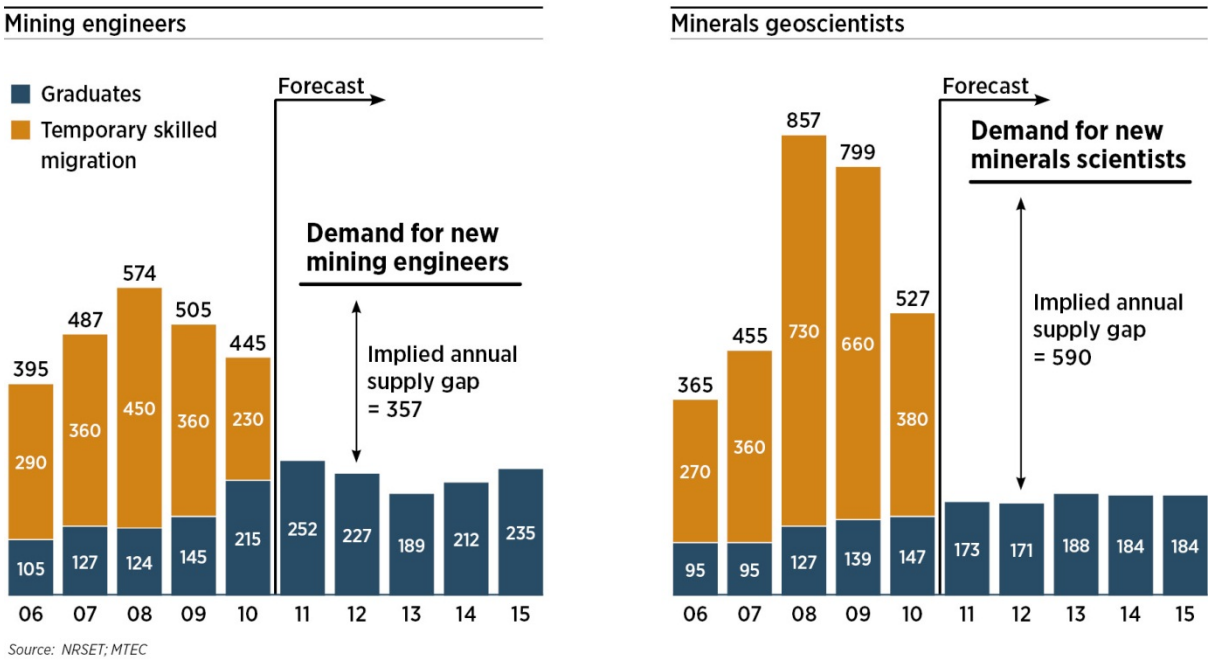
highly cyclical. The industry submits that this is an argument *for* inclusion – not against. Exploration expertise is a highly mobile resource within a globalised industry. The Australian exploration sector should be enabled to compete effectively for such critical expertise – particularly as our institutions are unable to produce sufficient post-graduate qualified professionals.

As Chart 15 illustrates, Australia continues to suffer a shortage of exploration geologists. While a 2011-12 report by the Department of Education, Employment and Workplace Relations (DEEWR) found a significant easing in the labour market for geologists and geophysicists compared to 2010-11, it also found:

> *Many vacancies for geologists were advertised at the senior or exploration level and these were more difficult to fill than graduate roles. Employers also noted particular difficulty attracting geologists who had the levels of experience required for positions at the middle management level.*[lii]

Chart 15

Supply of Minerals Sector Specific Skills



Source: NRSET; MTEC

It should be noted that industry contributes significantly to developing the Australia's exploration skills supply. Geology is one of the ore disciplines of the Minerals Geoscience Honours Program of the Minerals Tertiary Education Council (MTEC) established by the MCA[liii]. The MGH teaches a set of specialist skills that industry has identified graduates entering the minerals industry should possess. This direct industry investment into the minerals geoscience discipline has had a direct and significant impact on the number of students completing Honours qualifications. The Earth Science MGH program has resulted in an 83% increase in Honours student numbers from 95 in 2007 to 174 in 2012. The number is forecast to increase to 185 by 2015.[liv]

Despite less buoyant industry conditions, the minerals industry's demand for skilled labour remains high. Minerals-related higher education courses have been chronically underfunded. And while progress towards a demand-driven VET sector is occurring, concerns continue to surround the variable quality of training outcomes within the sector. Governments need to:

- continue to resource the National Resources Sector Workforce Strategy implementation program;
- refocus support for entry level training to the jobs available in the services and other sectors created by experienced people taking up opportunities in the resources sector;
- continue to fund pre-employment training initiatives for Indigenous Australians where these training programs are sponsored by an employer and linked to a real job outcome;
- ensure that 'disciplines of national interest' with small enrolments and high teaching cost are viable under the demand-driven funding;

- review cluster funding and ensure that for science and engineering courses funding is increased sufficiently to reflect actual costs of teaching.
- in funding discussions with the States, support greater emphasis on the VET sector responding to the needs of employers via industry-led training and support VET quality assurance via outputs-based measures; and
- keep the temporary skilled migration program (sub class 457 visas) uncapped and ensure that initiatives to improve processing efficiency are maintained.

Workplace laws

The MCA supports comprehensive reform of workplace relations laws. The dangers of economic reform complacency after a sustained period of growth are manifest in deteriorating productivity, escalating operating costs structure, a structural budget deficit, and a regressive transformation in workplace relations to a past era marked by a culture of confrontation and divisiveness.

Reform of the workplace relations system, and specifically the Fair Work Act (FWA), is critical in regaining the momentum of the past thirty years of economic reform that transformed the culture of the workplace in providing for flexibility and choice and direct employee and employer relationships. This transformation gave rise to a safe and healthy, harmonious and productive workplace environment founded in a culture of individual enterprise and personal accountability, proper recognition of individual contribution and performance, a shared commitment to skills and personal development, and a culture of mutual dependency and prosperity. These factors have been critical to ensuring that the workplace is responsive to the needs and expectations of the employee and the employer to mutual benefit and to the dynamic operating environment of a mining enterprise competing for finance and human capital, technology and custom in a highly competitive, globalised industry.

The imperative is safety and competitiveness, the driver is productivity growth, the benefit is national prosperity and improving quality of life, and the opportunity cost is a deterioration in investment, growth and national welfare.

Fundamentally, productivity growth, and thus economic growth and the quality of life, is founded in the quality of the direct relationship between the employer and the employee, and the effectiveness of that direct engagement in determining to mutual benefit, the terms and conditions of employment and the functioning of the business. The legal instruments governing workplace arrangements, in whatever form, should give effect to that relationship, not compromise it.

The MCA contends that the national workplace relations system should provide for flexibility and choice in the full range of employment instruments underpinned by an effective safety net; and that system should provide for, and ensure the observance of, freedom of association – the right to belong or not to belong to an organisation or a union, and the right to choose or refuse to be represented by an external third party in any negotiations or bargaining in the workplace.

- Agreements should only be about employee entitlements and employer/employee responsibilities. There should be a clear definition of responsibilities and activities so third parties cannot seek to veto decisions of management.
- Individual Flexibility Agreements should be a viable and competitive employment instrument as intended. It should be prohibited for any agreement to constrain the use of IFAs. A legislated model IFA Agreement should be inserted into the Act.
- Good faith bargaining rules should be amended to:
    - strengthen the specific provisions that good faith bargaining does not necessarily require one party to concede to the demands of the other. Good faith bargaining orders should be rare and only for egregious behaviour;
    - remove the legislated protection from legal action for fanciful claims or claims contrary to the national interest and ensuring good faith bargaining rules respect commercial arrangements and the confidentiality of companies' commercial operations; and
    - change the rules associated with the appointment of bargaining representatives of employees so that the representative is expressly appointed by the employees, not appointed by default.
- Arbitration should be available by agreement of the parties – compulsory arbitration must only be a last resort and then only where there is a national interest test.

- “Protected action” during a bargaining period should only be available where a party can show it has undertaken exhaustive negotiations and reached an impasse; parties seeking protected action must show that their claims are not fanciful; parties should not be able to conduct secret ballots unless bargaining on permitted content has taken place (not just by an assertion). The Act must not create an environment that relies upon, or presumes, the invocation of compulsory conciliation.
- Right of entry rules should reflect worker interest not union claims or coverage rules. Employees should not be required to be subject to a default union or other third party representative.
- Similarly, greenfield agreements should not be subjected to a lengthy tortuous, onerous negotiation process arrangements caused by default representatives of a yet to be appointed workforce.
- Adverse action deliberations must make an assessment of subjective intent; the “sole and dominant purpose test” for judging an adverse action claim flowing from the introduction of contractors should be re-introduced (that is, introduction of contractors alone should not be grounds for an adverse action claim).

CHAPTER 4 REGULATION SCORECARD

In January 2006, URS Australia Pty Ltd (URS) prepared a report for the MCA *entitled National Audit of regulations influencing mining exploration and project approval processes*. The audit involved the application of the best regulation principles of the Council of Australian Governments (COAG) with respect to both the design and operation of the relevant regulations that formed part of the approval processes then in operation for each jurisdiction. It also covered the major project facilitation initiatives of the States and Territories, as well as National Agreements and Arrangements affecting the mining sector.

The audit prepared by URS was used to inform a companion exercise which involved the preparation of a national assessment (or scorecard) of the relative performance of the regulatory approval processes for mining activities of Australian jurisdictions. The relative assessment was prepared as a separate report (May 2006) and was informed by a panel consisting of representatives from five consultancy firms (which included URS) who held direct experience in the regulatory approval processes for the mining sector that covered all Australian jurisdictions (except the Australian Capital Territory).

The timing of this work by URS coincided with the then Prime Minister's Taskforce on Regulation chaired by Mr Gary Banks, Chairman of the Productivity Commission. An outcome following the report of the Taskforce was the agreement of COAG that all Australian governments will ensure that regulatory processes in their jurisdiction are consistent with the Principles of Best Practice Regulation endorsed by COAG. (Box 1)

PROJECT PURPOSE

The MCA engaged URS in May 2012 to review and update the *National Audit* of regulations influencing mining exploration and project approval processes which it prepared for the Council in 2006. New Zealand was included in the update of this audit, through the New Zealand counterpart of the Council, Straterra.[lv] In addition, URS undertook a new national comparative assessment of the performance of the regulatory approval processes for all Australian jurisdictions (except the Australian Capital Territory).

In commissioning URS to update the 2006 reports, the overarching objective of MCA was to identify leading practice regulation across the States, Territories and the Commonwealth, as well as New Zealand. As such, the review of regulatory practices is seen as means of providing a constructive basis for the minerals industry and governments to engage in the development and implementation of regulatory changes designed to optimise the long-term economic, social and environmental benefits to the wider community from the mineral endowments of Australia and New Zealand. In essence, to develop the most cost-effective regulatory framework that is possible, including its ongoing administration.

Box 1: 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: Council of Australian Governments, Best Practice Regulation: A guide for Ministerial Councils and National Standard Setting Bodies, p.4, October 2007

FINDINGS

URS conducted interviews with 90 stakeholders, including government administrators, on the scope and application of laws that affect the minerals sector across Australia and New Zealand. A select group of large consultancy firms, with experience across *all* jurisdictions, were surveyed to ascertain their expert opinions on the operation of laws that affect mining approvals.

Across the nation it found there are 144 pieces of primary legislation faced by the sector, compared with 94 in 2006. There are today 119 pieces of subordinate legislation or guidelines, up from 66. In the two largest mining states the regulatory landscape is particularly onerous with 23 pieces of primary legislation in Western Australia (up from 15) and 24 in Queensland (up from 12).

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.

Within this churn of legislation, the "problem" requiring legislative redress and the "intent" of the resultant legislation were often not defined; monitoring or enforcement regimes were either impractical or unduly focussed on dictating process rather than outcomes; and the relentless creep of duplication were a continuing burden for industry and good policy making.

The results, which are appended to this submission (Appendix 1), show a deterioration in the legislative and administrative environment across Australian States. Scores have deteriorated in every State except Queensland, where the results were, on average, the same as 2006. The Commonwealth scored an improvement overall but remains equal bottom (with Tasmania) on the average score across all criteria, particularly on clarity, certainty, efficiency of the measure and stakeholder appeals.

As part of the consultations undertaken, additional meetings were sought with Offices of Best-Practice Regulation, or the equivalent section within the Central Government Agency responsible for oversighting the application of the COAG Principles. Based on these meetings, the general conclusion is drawn that such offices tend to become involved too late to have a significant influence on the development of policy initiatives and associated regulatory measures.

Their involvement in facilitating the ongoing cost-effective management of regulatory systems, from the perspective of all affected parties, also appears limited. This would appear to be the result of the focus of the offices on the type of, and justification for, intervention in the development to the regulations rather than how those regulations would need to be implemented, and the associated governance arrangements required, in order to be successfully implemented.

The consultations undertaken with representatives from mining sector companies were used to gain a different perspective of the application of the COAG Principles. The general conclusions that may be drawn from this process are:

- the need for regulation is widely accepted provided it makes sense and is justified;
- there is a perception that the COAG Principles were not in the forefront of the minds of government officials in pursuing regulatory change but were in the "background";
- monitoring and enforcement are critical to "making the case" for new regulatory arrangements and compliance requirements;
    - a common view expressed was "what is purpose of regulatory required if compliance is not monitored and enforced?"; and
- compliance with regulatory requirements is seen as essential to the industry securing a "social licence to operate", especially from the perspective of local communities.

As part of the meeting with company representatives, they were asked: "If you could, what is the one thing that you would change that would have the greatest impact on improving the regulatory environment from the perspective of your company?"

Rather than draw attention to particular regulatory requirements, their responses focused instead on a number of regulatory design and implementation aspects. When combined, these aspects define a set of best-practice principles in a similar way as for the COAG Principles. If applied, regulatory arrangements would:

- have clearly specified outcomes with measures of success determined and enunciated;
- be non-prescriptive;
- be risk-based and applied on a case-by-case basis;
- not be applied retrospectivity;
- remain stable;
- be predictable;
- provide certainty;
- possess clarity of purpose and obligations;
- be consistenct;
- be open and transparent;
- clearly assign responsibilities;
- be cost-effective;
- achieve procedural fairness;
- be simple and practical to implement such as through the use of lead government agencies, a single approval process (from the perspective of the applicant) and the issuing of a single approval authority; and
- be monitored and enforced with the ongoing need reviewed periodically.

Regulatory arrangements that exhibited these characteristics were seen as leading to regulation that were being applied in the spirit of "good faith" that, in turn, would lead to mutual trust and respect between all parties involved in the approval process. Such mutual trust and respect was seen as essential for increasing commercial and community confidence associated with investments in the mining sector.

APPENDIX 1 SCORECARD TABLES

DRAFT SURVEY RESULTS

Table 1 Average Scores for each jurisdiction across all criteria

Jurisdiction	Average Score Design Criteria		Average Score Administration Criteria		Average Score	
	2006	2012	2006	2012	2006	2012
NSW	3.9	3.7	3.4	3.2	3.6	3.4
Vic	4.0	3.8	3.4	3.1	3.6	3.4
Qld	3.9	3.7	3.1	3.1	3.4	3.4
WA	3.9	3.6	3.2	3.1	3.5	3.3
SA	4.0	3.8	3.8	3.6	3.9	3.7
Tas	3.9	2.9	3.6	2.9	3.7	2.9
NT	3.6	3.1	3.3	3.1	3.4	3.0
Commonwealth	2.9	3.1	2.6	2.8	2.7	2.9
New Zealand	NA	4.1	NA	2.9	NA	3.4
Average	3.8	3.5	3.5	3.1	3.5	3.3

Table 2 Average score for criteria across all jurisdictions

Criteria	Range (2012)		Average		Jurisdiction (2012)	
	Lowest	Highest	2006	2012	Lowest	Highest
Assessing the design of policies and regulations						
Institutional Framework	3.0	4.4	4.2	3.7	Tas	NZ
Clarity of Processes	2.9	4.2	4.0	3.6	Tas	NZ
Stakeholder Input and Appeals	2.9	4.2	3.4	3.4	Tas/Cth	NZ
Efficiency of Chosen Measure	2.9	3.6	3.6	3.4	Tas/Cth	Vic
Governance	2.9	3.8	NA	3.4	Tas/NT	NSW/Qld
Assessing Administration and Compliance						
Clarity of process	2.9	3.7	3.7	3.3	Tas/Cth/ NZ	SA
Timeliness	2.6	3.5	3.4	2.9	NZ	SA
Compliance cost	2.4	3.4	3.3	3.0	NZ	SA
Government Agency Capability	2.7	3.5	3.0	3.0	Cth	SA
Predictability and Certainty	2.5	3.6	3.2	3.0	Cth	SA
Effectiveness	2.8	3.5	3.2	3.2	Tas	SA
Governance	2.6	3.8	NA	3.3	NT	NSW

Table 3 Average Score for each criterion across all jurisdictions

Overall Performance Ranking		Issue	Average Score (out of 5)	
2006	2012		2006	2012
1	1	Exploration tenure	4.5	3.9
2	2	Mining tenure	4.1	3.7
3	3	Mine operating conditions	3.8	3.6
4	4	Planning approval	3.8	3.6
7	5	Water Access	3.6	3.6
5	6	Cultural heritage	3.8	3.5
6	7	Noise pollution	3.7	3.5
12	8	Water management	3.4	3.4
9	9	Private land access	3.5	3.3
11	10	Air pollution	3.5	3.3
13	11	Fauna management	3.3	3.3
8	12	Crown land access	3.5	3.2
14	13	Native Title	3.2	3.1
16	14	Native vegetation management	3.1	3.1
15	15	Environmental Impact Assessment	3.2	3.0
9	16	Land access – pastoral leases	3.5	2.9
17	17	Indigenous land access	3.1	2.6
Additional Issues				
NA	Equal 9th	Governance	NA	3.3
NA	Equal 12th	Relinquishment/Mine Closure	NA	3.2
NA	Equal 17th	Native vegetation/biodiversity offsets	NA	2.7

Table 4 Assessment scores by issue across all jurisdictions

Issue	Range (2012)		Average		Jurisdiction (2012)	
	Lowest	Highest	2006	2012	Lowest	Highest
Environmental	2.7	3.6	3.3	3.4	Tas/Cth	SA
Environmental impact assessment	2.7	3.4	3.2	3.0	Cth	SA
Native vegetation management	2.7	3.4	3.1	3.1	Tas	SA
Native vegetation/biodiversity offsets	2.1	3.5	NA	2.7	Tas/Cth	SA
Environmental standards – air pollution	2.7	3.7	3.5	3.3	Tas	NSW
Environmental standards – noise pollution	2.8	4.0	3.7	3.5	Tas	SA
Fauna management	2.8	3.7	3.3	3.3	NT	SA
Mining specific	3.2	3.9	4.2	3.6	NT	SA
Exploration tenure (Not NZ)	3.5	4.1	4.5	3.9	NT	WA
Mining tenure (Not NZ)	3.0	4.0	4.1	3.7	NT	SA
Mine operating conditions (Not NZ)	3.1	4.2	3.8	3.6	NT	SA
Relinquishment/Mine Closure (Includes NZ)	2.6	3.5	NA	3.2	WA	Qld/SA
Land access						
Crown land access (Not NT)	2.5	3.5	3.5	3.2	Tas	SA
Private land access (Not NT)	2.5	3.6	3.5	3.3	Cth	Vic
Land access – pastoral leases (Not Vic, NT and NZ)	2.0	2.5	3.5	2.9	Tas	SA
Indigenous land access (Not NT and NZ)	1	3.5	3.1	2.6	Tas	SA
Native title (Not Vic, Tas and NZ)	2.7	3.7	3.2	3.1	WA	SA
Other	3.0	3.7	3.6	3.5	NT	WA
Planning approval (Not NZ)	3.2	4.0	3.8	3.6	Tas	WA
Water access	3.3	3.8	3.6	3.6	Tas	WA
Water management	2.8	3.7	3.4	3.4	Tas	NZ
Cultural heritage	2.7	4.3	3.8	3.5	Tas/Cth	NZ

Table 5 Amalgamated scores by criteria for each jurisdiction

	Assessing the design of policies and regulations				Assessing administration and compliance							
	Instituitional Framework	Clarity of policy objectives	Stakeholder Input & Appeals	Efficiency of chosen regulatory measure	Clarity of Process	Timeliness	Compliance cost	Government Agency Capacity	Predictability and certainty	Effectiveness	Governance	**Average Score across all criteria**
NSW	3.9	3.7	3.5	3.5	3.2	2.9	3.1	3.2	3.2	3.3	3.8	3.4
Vic	3.9	3.9	4.0	3.6	3.6	2.8	3.0	2.8	3.2	3.3	3.2	3.4
Qld	3.9	3.9	3.5	3.5	3.4	3.1	3.1	2.9	3.1	3.3	3.6	3.4
WA	3.9	3.8	3.5	3.4	3.4	2.9	3.1	2.9	3.1	3.2	3.3	3.3
SA	3.9	4.0	3.6	3.6	3.7	3.5	3.4	3.5	3.6	3.5	3.3	3.6
Tas	3.0	2.9	2.9	2.9	2.9	2.9	3.1	2.8	2.8	2.8	2.9	2.9
NT	3.2	3.1	3.0	3.1	2.9	2.8	3.0	3.1	2.7	3.1	2.6	3.0
Common'th	3.3	3.2	2.9	2.9	2.9	2.8	2.8	2.7	2.5	2.9	3.3	2.9
New Zealand	4.4	4.2	4.2	3.5	3.6	2.6	2.4	2.8	2.8	3.1	3.5	3.4
Average all jurisdications	**3.7**	**3.6**	**3.4**	**3.4**	**3.3**	**2.9**	**3.0**	**3.0**	**3.0**	**3.2**	**3.3**	**3.3**

New South Wales

Table 6 New South Wales: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (NSW)	2012 Audit (NSW)	Major changes (to September 2012)
Mining industry legislation (Administered by the Department of Trade and Investment, Regional Infrastructure and Services, Division of Resources and Energy)		
Primary legislation		
Mining Act 1992	*Mining Act 1992* *Mining Amendment Act 2008*	Amendments enacted changes to: title holdings exploration reporting incorporate the principles of ecological sustainable development environmental management — broader definition of the environment to identify all potential impacts enforcement and penalties (Most commenced 15 November 2010)
	Mining and Petroleum Legislation Amendment (Land Access) Act 2010	Enacted requirement for land access agreements to be in writing (Commenced 8 June 2010)
Coal Mines Regulation Act 1982	*Coal Mines Regulation Act 1982*	No significant changes identified
Subordinate legislation (including codes of practices)		
Mining Regulation 2003	Mining Regulation 2010	Replaced the 2003 regulations on which the new regulations are based made to support amendments to Mining Act 1992 including introduction of administrative and title fees
Environmental protection legislation (Administered by the Office of Environment and Heritage and the Environment Protection Authority, Department of Premier and Cabinet)		
Primary legislation		
Protection of Environment Operations Act 1997 (regulates pollution and waste from mines)	*Protection of Environment Operations Act 1997* *Protection of Environment Operations Amendment (Environmental Monitoring) Act 2010*	Amendments enacted changes to: Pollution incident notification requirements Licensees that cause a pollution incident are now required to report the incident "immediately", instead of "as soon as practicable", to all relevant agencies. introduce a new requirement to prepare and implement pollution incident response management plans All licensees are now required to prepare Pollution Incident Response Management Plans (PIRMPs) for each of their licensed activities. Introduce a new requirement on licensees to publish monitoring results Licensees need to publish monitoring data collected as a result of a new licence condition. Amendments commenced 1 December 2010

Subordinate legislation (including codes of practices)		
Protection of the Environment Operations (General) Regulation 1998	Protection of the Environment Operations (General) Regulation 2008, 2009, 2011 and 2012 Protection of Environment Operations Amendment (Noise Control) Regulation 2010	Various regulatory amendments made largely to enable the implementation of the above legislative changes Amendments commenced 26 February 2010
Planning legislation (Administered by the Department of Planning and Infrastructure)		
Primary legislation		
Environmental Planning and Assessment Act 1979	*Environmental Planning and Assessment Act 1979* (as amended)	Repeal of Part 3A in June 2011 after its introduction in 2005 Part 3A allowed for the approval of major projects (including mining) outside the normal provisions of the EP&A Act. Major projects are now determined under Part 4, Division 4.1 as State Significant Development. This is largely consistent with Part 3A, with the major change for mining being that there is no modification power equivalent to section 75W of Part 3A. Part 5 amended to require the preparation of more detailed environmental impact statements
Subordinate legislation (including codes of practices)		
Environmental Planning and Assessment Regulation 2000	Environmental Planning and Assessment Regulation 2000 (as amended) State Environmental Planning Policy (State and Regional Development) State Environmental Planning Policy (Mining)	Various regulatory amendments to implements above legislative changes Amends the SEPP (Major Development 2005) to remove Part 3A and identifies classes of state significant development Proposed amendments to introduce a "gateway" assessment step at the initial stages of proposed mining developments to assess the potential impact on land classified as "Strategic Agricultural Land" The assessments would be undertaken by an Independent Panel of Experts appointed by the Minister for Planning — the panel will be required to take into account the advice of the Minister for Primaries Industries with respect to aquifers and the Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Ming Development.[lvi]

Land Rights and Native Title legislation (Administered by the Office of Aboriginal Affairs, Department of Education and Communities (*Aboriginal and Land Rights Act 1983*) and the Department of Attorney General and Justice (*Native Title Act 1994*)		
Primary legislation		
Aboriginal Land Rights Act 1983	*Aboriginal Land Rights Act 1983*	No changes since 2006
Native Title Act 1994	*Native Title Act 1994*	No changes since 2006
Subordinate legislation (including codes of practices)		
Aboriginal Land Rights Regulation 2002	Aboriginal Land Rights Regulation 2002	No changes since 2006
Aboriginal Heritage legislation (Administered by the Office of Environment and Heritage, Department of Premier and Cabinet)		
Primary legislation		
National Parks And Wildlife Act 1974 (contains provisions for the protection and preservation of Aboriginal objects)	*National Parks And Wildlife Act 1974* *National Parks And Wildlife Amendment Act 2010*	Amendments introduced: a strict liability offence (a knowing offence) for harm to Aboriginal objects, necessitating due diligence prior to many surface disturbing activities an extended definition of 'harm' and increased penalties Amendments commenced 1 October 2010. A review of all legislation affecting Aboriginal Culture and Heritage is proposed with the aim of introducing stand-alone legislation.
Subordinate legislation (including codes of practices)		
National Parks And Wildlife Regulation 2002	National Parks And Wildlife Regulation 2009 Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales	Replacement regulation containing minor amendments Commenced 1 September 2009 Adopted under the 2009 Regulations to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects. Released September 2010
Native Vegetation legislation (Administered by the Office of Environment and Heritage, Department of Premier and Cabinet)		
Primary legislation		
Native Vegetation Act 2003	Not included as the act does not apply to mining	
	Threatened Species Conservation Act 1995 *Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006*	Amendment allowed for the introduction of a NSW BioBanking Scheme Provides a voluntary market mechanism for valuing biodiversity on impact and offset sites and trading credits. Although voluntary, the Office of Environment and Heritage use the tools of the scheme to assess the impacts of, and offsets required for, mining projects.
Subordinate legislation (including codes of practices)		
Native Vegetation Regulations 2005	Not included as the regulations do not apply to mining.	Development of a Bilateral Agreement for addressing native vegetation requirements under New South Wales legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) through an integrated way in meeting the requirements of various Acts.

Water legislation (Administered by the Office of Water, Department of Primary Industries)		
Primary legislation		
Water Management Act 2000 *Protection of Environment Operations Act 1997*	*Water Act 1912 (Progressively being phased out by the next Act)* *Water Management Act 2000* *Water Management Amendment Acts 2008 and 2010* *Protection of Environment Operations Act 1997* (See Environmental Legislation above for discussion of changes)	The amendments to the *Water Management Act 2000* have been largely to give effect to National Water Initiative (2004). The 2008 amendments were to strengthen compliance and enforcement powers for water theft. The 2010 amendments made minor changes to the requirements of Private Irrigation Districts and Private Water Trusts to enable compliance with Commonwealth Market Rules under the *Water Act 2007* (Cwlth).
Subordinate legislation (including codes of practices)		
Water Management (General) Regulation 2004	Water Management (General) Regulation 2011 (Regulatory Impact Statement prepared)	An Aquifer Interference Regulation, effective from 30 June 2011, amended the Water Management (General) Regulation 2004 to required mining exploration and petroleum (including coal seam gas) exploration activities taking more than three megalitres of water to hold a water access licence. The Water Management (General) Regulation 2011 superseded the Water Management (General) Regulation 2004 (and Water Management (Water Supply Authorities) Regulation 2004) on 1 September 2011 The requirement for mining and petroleum companies to hold an access licence remains and forms part of the 2011 regulations.
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of New South Wales under the initiative and reforms

Victoria

Table 7 Victoria: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (Vic)	2012 Audit (Vic)	Major changes (to February 2013)
Mining industry legislation (Administered by the Department of Primary Industries)		
Primary legislation		
Mineral Resources Development Act 1990	*Mineral Resources Development Act 1990* *Mineral Resources Amendment (Sustainable Development) Act 2010*	Amendments enacted changes to: provide for two new licences, namely prospecting licences and retention licences introduce a new procedure for the endorsement of work plans and variations to approved work plans before they are approved removed the OH&S provisions from the *Mineral Resources Development Act 1990*
Subordinate legislation (including codes of practices)		
Mineral Resources Development Regulations 2002	Mineral Resources Development Regulations 2002 (as amended)	Minor amendments to reflect legislative changes enacted through *Mineral Resources Amendment (Sustainable Development) Act 2010* The Mineral Resources Development

2006 Audit (Vic)	2012 Audit (Vic)	Major changes (to February 2013)
		Regulations 2002 were due to sunset in October 2012 and their renewal will require the preparation of a Regulatory Impact Statement.
Environmental protection legislation (Administered by the Environment Protection Authority within the Portfolio of the Department of Sustainability and Environment (*Environment Protection Act 1970*), Department of Planning and Community Development (*Environment Effects Act 1978*) and Department of Sustainability and Environment (*Flora and Fauna Guarantee Act 1988* and the *National Parks Act 1975*)		
Primary legislation		
Environment Protection Act 1970	*Environment Protection Act 1970* *Environment Protection (Amendment) Act 2006*	Amendments enacted changes to: Environment and Resource Efficiency Plans (EREP) Scheduled premises and licensing system
Environment Effects Act 1978 Included under planning legislation	*Environment Effects Act 1978* If an EIS is required, the approval process is coordinated under this Act and not the *Mineral Resources Development Act 1990*	No material changes since 2006 The *Environment Effects Act 1978* is currently under review and the proposed changes affecting the minerals sector have been discussed with the Minerals Council of Australia, Victorian Division.
Flora and Fauna Guarantee Act 1988	*Flora and Fauna Guarantee Act 1988*	No material changes since 2006 A "performance" audit of the act, entitled the Administration of the Flora and Fauna Guarantee Act, was undertaken by the Victorian Auditor-General in 2009.
National Parks Act 1975	*National Parks Act 1975*	No material changes since 2006 Some minor amendments with respect to particular National Parks or to the addition of new areas as National Parks
Subordinate legislation (including codes of practices)		
State Environment Protection Policies (e.g. ambient air quality, control of noise, water quality, greenhouse).	Environment Protection (Environment and Resource Efficiency Plans) Regulations 2007 Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 Environment Protection (Scheduled Premises and Exemptions) Regulations 2009 Environment Protection (Fees) Regulations 2012	Implemented to effect the legislative changes contained in the *Environment Protection (Amendment) Act 2006* Implemented to effect the legislative changes contained in the *Environment Protection (Amendment) Act 2006* Further adjustment to the regulations with respect to Greenhouse Gas Geological Sequestration Introduction of new fees for some industry sectors
National Parks (Parks) Regulations 2003	National Parks (Parks) Regulations 2003 (as amended)	Various consequential amendments following the minor amendments noted above to the *National Parks Act 1975*

Planning legislation (Administered by the Department of Planning and Community Development)		
Primary legislation		
Planning and Environment Act 1987	*Planning and Environment Act 1987* *Planning and Environment Amendment (General) Act 2013*	Amendments made to improve the operation of the land planning system in Victoria and include: provide for planning authorities, responsible authorities and referral authorities to report to the Minister to improve the transparency of the planning system changes to the processes for amending planning schemes and assessing planning permit applications by reducing delays and speeding up information exchange changes to the decision-making processes at the Victorian Civil and Administrative Tribunal None of the changes were directed at mineral exploration and development approvals process
Environment Effects Act 1978 DSE administers some approvals under this Act	Included under Environmental Legislation above	
Subordinate legislation (including codes of practices)		
Planning and Environment Regulations 2005	Planning and Environment Regulations 2005	Various regulatory amendments may be required to implement the provision of *Planning and Environment Amendment (General) Act 2013*
Municipal Planning Schemes	Municipal Strategic Statements and Planning Schemes As determined by the Victorian Planning Provisions under the *Planning and Environment Act 1987*	No material changes since 2006
State Environmental Planning Policies	State Environmental Protection Policies	Refer above to the Environment Protection Regulations made under the *Environment Protection Act 1970* as amended.
Land Rights and Native Title legislation (Administered by the Native Title Unit, Department of Justice (*Traditional Owner Settlement Act 2010*) and the Department of Sustainability and Environment (*Land Titles Validation Act 1994* and *Aboriginal Lands Act 1991)*		
Primary legislation		
	The *Traditional Owner Settlement Act 2010*	Enacted to provide for a more informal, out-of-court process for resolving native title issues and delivering land justice with respect to Crown Land Legal alternative to *Native Title Act 1993 (Cth)* but both cannot be used Commenced 23 September 2010
Native Title Act 1993 (Cth) No separate Victorian Act	*Native Title Act 1993* (Cth)	No material changes since 2006
Land Titles Validation Act 1994	*Land Titles Validation Act 1994*	No material changes since 2006
Aboriginal Lands Act 1991	*Aboriginal Lands Act 1991*	No material changes since 2006

Subordinate legislation (including codes of practices)		
Statutory land grants made to certain aboriginal trusts made under the *Aboriginal Lands Act 1991*	Statutory land grants made to certain aboriginal trusts made under the *Aboriginal Lands Act 1991*	No material changes since 2006
Aboriginal Heritage legislation (Administered by Aboriginal Affairs Victoria, Department of Planning and Community Development)		
Primary legislation		
Archaeological and Aboriginal Relics Preservation Act 1972 *Aboriginal & Torres Straits Islander Heritage Protection Act (Part IIA) 1984*	*Aboriginal Heritage Act 2006*	The 2006 Act was enacted to: Replace the two previous Acts (commenced 28 May 2007) integrate the protection of Aboriginal cultural heritage more directly with planning and land development processes provide for the development of Cultural Heritage Management Plans and Cultural Heritage Permit processes to manage activities that may harm Aboriginal cultural heritage Consistent with its enabling legislation, the Act was reviewed after five years of operation Only minor amendments were made
Subordinate legislation (including codes of practices)		
Archaeological and Aboriginal Relics Preservation Regulations 2003	Aboriginal Heritage Regulations 2007 A RIS was prepared which also had the effect of undertaking a retrospective Business Impact Assessment on the new act.	Replacement regulations to give effect to the *Aboriginal Heritage Act 2006* Commenced 28 May 2007
Native Vegetation legislation (Administered by the Department of Planning and Community Development)		
Primary legislation		
Planning and Environment Act 1987	*Planning and Environment Act 1987*	See above under Planning Legislation for changes to the *Planning and Environment Act 1987* This act provides for the establishment of Municipal Planning Schemes which provide the legal framework for implementing Victoria's Native Vegetation Management, A Framework for Action (2002), which is administered by the Department of Sustainability and Environment. There are no specific changes relating to native vegetation management
Subordinate legislation (including codes of practices)		
Native Vegetation Management, A Framework for Action, 2002	Native Vegetation Management, A Framework for Action, 2002 This is a policy strategy which is given legal effect through the provisions of the *Planning and Environment Act 1987* and does not constitute subordinate legislation.	Development of a Strategic Assessment Process (bilateral agreement) for addressing native vegetation requirements under the *Planning and Environment Act 1987* and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) through an integrated way in meeting the requirements of both Acts.

Water legislation (Administered by the Office of Water, Department of Sustainability and Environment)		
Primary legislation		
Water Act 1989	*Water Act 1989* *Water (Resource Management) Act 2005*	*Water (Resource Management) Act 2005* amended the *Water Act 1989* to create the legal foundation for water to be set aside to maintain environmental values of rivers and streams Commenced December 2005 No other material changes since 2006
Subordinate legislation (including codes of practices)		
Various water regulations	Various water regulations	No material changes since 2006
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of Victoria under the initiative and reforms

Queensland

Table 8 Queensland: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
Mining industry legislation (Administered by the by the Department of Natural Resources and Mines)		
Primary legislation		
Mineral Resources Act 1989 (amended by the *Natural Resources and Other Legislation Amendment Act 2003*)	*Mineral Resources Act 1989* (as further amended) *Natural Resources and Other Legislation Amendment Act 2003*	New Land Access provisions Land access with respect to exploration permits and mineral exploration licences (Commenced late 2010 and reviewed after twelve months operation) Proposed technical amendments relating to: Entitlements under exploration permit Obligations and entitlements under mineral development licence Mining lease over surface of reserve or land near a dwelling house Restrictions on mining leases where land is freed from exploration The settlement of before grant or renewal of mining lease The use that may be made under a mining lease of incidental coal seam gas
	Mines Legislation (streamlining) Amendment Act 2012	Allowed for a number of amendments to streamline and harmonise approvals processes with respect to resource interests including those associated with exploration permits, authorities to prospect, mineral development licences, and mining leases.
Subordinate legislation (including codes of practices)		
Mineral Resources Regulation 2003 Guidelines for preparing initial and later development plans under the Mineral Resources Act 1989	Mineral Resources Regulation 2003 (as amended)	Minor amendments to reflect legislative changes

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
Environmental protection legislation (Administered by the Department of Environment and Heritage Protection)		
Primary legislation		
Environmental Protection Act 1994	*Environmental Protection Act 1994* (as amended)	Changes to the Act to provide for the annual fee for level 2 environmental authorities to reflect the lower risk of the associated activities to cause environmental harm) — commenced 2 December 2011
	Environment Protection (Greentape Reduction) and other Legislation Amendment Act 2012	The Amendment Act was enacted in order to achieve an integrated approval process for all environmentally relevant activities such as mining. The approval process is risk based and consists of a number of modular stages, all of which may not apply depending on the situation. The stages are Application, Information, Notification, Decision and Post Decision: The Amendment Act represents a key component of the Greentape Reduction Project of the Queensland Government Enacted August 2012 for commencement in March 2013..
Subordinate legislation (including codes of practices)		
Environmental Protection Regulations 1998	Environmental Protection Regulations 2008	Various regulatory amendments to enable implementation of amendments to the *Environmental Protection Act 1994* including to the annual fees for environmental authorities to reflect risk. Repealed the 1998 regulations
Planning legislation (Administered by the Department of State Development, Infrastructure and Planning (*Sustainable Planning Act 2009*) and Department of Natural Resources and Mines *(Strategic Cropping Land Act 2011)*		
Primary legislation		
Integrated Planning Act 1997	*Sustainable Planning Act 2009* Repealed the *Integrated Planning Act 1997*	Mineral exploration and mining projects are exempt
Not included	*State Development and Public Works Organisation Act 1971*	Provides for projects (including mining) to be declared as significant and establishes processes for their subsequent assessment and approval Provides ability for the Coordinator General to determine terms of reference for Environmental Impact Statements and to coordinate the obtainment of approvals under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) Does not apply mineral exploration projects No material changes since 2006
	Strategic Cropping Land Act 2011	The objectives of the Act are to: Protect land that is highly suitable for cropping Manage the impacts of development on that land Preserve the productive capacity of that land for future generations These objectives are to be pursued through a number of measures including the assessment of potential strategic cropping

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
		land, the categorisation of such land into protection and management areas, imposing conditions on development in such areas, preventing permanent damage to strategic cropping land in protected areas unless exceptional circumstances apply, and imposing mitigation measures on "allowed" development in management areas and under exceptional circumstance. The Act commenced on 30 January 2012 Although the act has the potential to impact on mining projects, such impacts could not be assessed given the time that the act has been in force and the situation specific nature of assessments.
Subordinate legislation (including codes of practices)		
Integrated Planning Regulation 1998	Sustainable Planning Regulation 2009 Replaced the Integrated Planning Act Regulation on 18 December 2009	Mineral exploration and mining projects are exempt
	State Development and Public Works Organisation (State Development Areas) Regulation 2009 State Development and Public Works Organisation Regulation 2010	No material changes since 2006
	Strategic Cropping Land Regulation 2011 Supported by State Planning Policy 1/12, Protection of Queensland strategic cropping land established under the *Sustainable Planning Act 2009*	Enacted to facilitate the implementation of the *Strategic Cropping Land Act 2011*.
Land Rights and Native Title legislation (Administered by the Department of Natural Resources and Mines)		
Primary legislation		
(Not included)	Native Title (Queensland) Act 1993 (as amended)	No material changes since 2006
Native Title Act 1993 (Cwlth)	*Native Title Act 1993* (Cwlth)	o material changes since 2006
Aboriginal Land Act 1991	*Aboriginal Land Act 1991*	No material changes since 2006
Torres Strait Islander Land Act 1991	*Torres Strait Islander Land Act 1991*	No material changes since 2006
Aborigines and Torres Strait Islanders (Land Holding) Act 1985	*Aborigines and Torres Strait Islanders (Land Holding) Act 1985*	Repeal proposed through Aboriginal and Torres Strait Islander Land Holding Bill 2012 The Bill follows a review of the 1985 Act undertaken in 2010 and introduces a number measures to resolve interface issues between various pieces of legislation — the 2011 version of this bill lapsed.
Local Government (Aboriginal Lands) Act 1978	*Local Government (Aboriginal Lands) Act 1978*	No material changes since 2006

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
Subordinate legislation (including codes of practices)		
Native Title (Queensland) Regulation 1996	Native Title (Queensland) Regulation 1996	No material changes since 2006
Aboriginal Heritage legislation (Administered by the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs)		
Primary legislation		
Aboriginal Cultural Heritage Act 2003	*Aboriginal Cultural Heritage Act 2003*	No material changes since 2006 This act and the *Torres Strait Islander Cultural Heritage Act 2003* were reviewed in 2009 and resulted in a number of amendments being proposed, which formed part of the Aboriginal and Torres Strait Islander Land Holding Bill 2011 that later lapsed. A separate stand-alone amendment Bill is now proposed
Torres Strait Islander Cultural Heritage Act 2003	*Torres Strait Islander Cultural Heritage Act 2003*	No material changes since 2006 As just outlined with respect to the Aboriginal Cultural Heritage Act 2003, a separate stand-alone amendment Bill is now proposed following the 2009 review.
Subordinate legislation (including codes of practices)		
	Duty of Care Guidelines Established under the *Aboriginal Cultural Heritage Act 2003 (Gazetted 16 April 2004)*	No material changes since 2006
Cultural Heritage Management Plan Guidelines	Cultural Heritage Management Plan Guidelines Established under the *Aboriginal Cultural Heritage Act 2003* (Gazetted 22 April 2005)	No material changes since 2006 Developed to enable parties to meet their duty-of-care obligations under the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003.*
Native Vegetation legislation (Administered by the Department of Environment and Heritage Protection)		
Primary legislation		
Vegetation Management [and other legislation amendment] Act 2004	*Vegetation Management Act 1999* *Vegetation Management and other legislation amendment Act 2004* *Vegetation Management and other Amendment Act 2009*	No material changes since 2006 The act does not apply to mining projects.
Subordinate legislation (including codes of practices)		
Vegetation Management Regulation 2000	Vegetation Management Regulation 2012	The 2012 regulation replace the 2000 regulation and included the removal of redundant provisions and the provisions of the most up-to-date information to ensure the regulatory framework operated efficiently
		Development of a Bilateral Agreement for addressing native vegetation requirements under Queensland legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) through an integrated way in meeting the requirements of various Acts.

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
Water legislation (Administered by the Department of Natural Resources and Mines (*Water Act 2000{in part}*, the Department of Environment and Heritage Protection, (*Water Act 2000 {Chapter 3)* and *Wild Rivers Act 2005*), and the Department of Energy and Water Supply (*Water Act 2000 {parts of Chapters 2,4, and 9}* and the *Water Supply (Safety and Reliability) Act 2008)*		
Primary legislation		
Water Act 2000	*Water Act 2000* *Water and Other Legislation Amendment Act 2010*	The amendment act provided for the simultaneous development of Water Resource Plans (strategic level planning instrument) and Resource Operations Plans (operational level planning instrument) in order to streamline Queensland water resource planning processes No other changes were made to the scope and nature of the water planning instruments With respect to the *Wild Rivers and Other Legislation Amendment Act 2006* (below), the 2010 amendment act: clarified that roads, pipelines and other specified works associated with mining activities are not prohibited in a High Preservation Area or a Special Floodplain Management Area removed the mandatory Level 1 (higher risk) classification of mining activities outside of a High Preservation Area or a Special Floodplain Management Area. Provided that exploration activities within a High Preservation Area can only be undertaken on an exploration permit lease, a mineral development lease, or a mining lease in order for mining tenements to be treated consistently through the stages of exploration, mineral development and mining.
	Wild Rivers Act 2005	Provides for a statutory declaration of an area as a Wild River Area A wild river is a river that is in near natural condition and has all, or almost all, of its natural values intact. A wild river declaration covers the entire catchment and outlines the requirements, on a management area basis, for new developments which will preserve the river's natural values. The management areas include: High Preservation Areas (within a kilometre on either side of a river) Preservation Area (remaining area within a catchment) Floodplain Management Area (may overlap the other two areas) Sub-artesian Management Area (may overlap other areas) Designated Urban Area Special Floodplain Management Area (relating to channel country within the Lake Eyre Basin)
	Wild Rivers and Other Legislation Amendment	Allowed for low-impact exploration in High Preservation Areas subject to assessment

2006 Audit (Qld)	2012 Audit (Qld)	Major changes (to September 2012)
	Act 2006	Remove the automatic category of exploration activities as a Level 1 (higher risk) project so that they can be considered as a Level 2 (lower risk) activity based on expected impact Allowed for mining in High Preservation Areas subject to assessment
	Water Supply *(Safety and Reliability)* Act 2008	The object of the new act is to further strengthen the safety and reliability of Queensland's water supplies and to introduce new requirements relating to recycled water and drinking water These aspects were previously part of the *Water Act 2000* Not likely to have a material impact on the mining sector.
<u>Subordinate legislation</u> (including codes of practices)		
Water Regulations 2002	Water Resource Plans and Resource Operations Plans	Water resource plans establish a framework to share water between human consumptive needs and environmental values. 22 Water Resource Plans have been finalised covering over 90 per cent of Queensland — a plan for the Wet Tropics catchments is currently in development. Finalised water resource plans are put into effect through Resource Operations Plans which are developed in parallel.
	Various Wild River Area Declarations Statutory Instruments	The following Wild River Declarations have been declared: Cooper Creek Basin Wild River Declaration 2011 Georgina and Diamantina Basins Wild River Declaration (2011) Wenlock Basin Wild River Declaration (2010) Archer Wild River Declaration (2009) Stewart Wild River Declaration 2009) Lockhart Wild River Declaration (2009) Fraser Wild River Declaration (2007) Gregory Wild River Declaration (2007) Hinchinbrook Wild River Declaration (2007) Morning Inlet Wild River Declaration (2007) Settlement Wild River Declaration (2007) Staaten Wild River Declaration (2007)
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of Queensland under the initiative and reforms

Western Australia

Table 9 Western Australia: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (WA)	2012 Audit (WA)	Major changes (to December 2012)
Mining industry legislation	**(**Administered by the Department of Mines and Petroleum (*Mining Act 1978*, *Mining Amendment Act 2004, Mining Amendment Act 2012, Approvals and Related Reforms (Mining) Act 2010, Mining on Private Property Act 1898*) and the Department of State Development (various mining related State Agreement Acts)	
Primary legislation		
Mining Act 1978	*Mining Act 1978* (as amended by the *Mining Amendment Act 2004* and subsequent *amendments*)	Various amendments including the 2010 amendments to give effect to a single approval process for environmental approvals under Part IV (Ministerial condition including for mining) and, to a lesser extent, Part V (Licencing and works including for mining), of the *Environmental Protection Act 1986* Current version effective from 30 January 2012
	Mining Amendment Act 2012	The amendment act was implemented to make a number of administrative refinements with respect to both the *Mining Act 1978* the *Mining Amendment Act 2004* including about: The surrender requirements for exploration licences directed at increasing the transfer of leases and preventing "land banking" The definition of mining operations The inclusion of Commonwealth land under the *Mining Act 1978* Increased penalties for breaches of the *Mining Act 1978*
	Approvals and Related Reforms (No. 2) (Mining) Act 2010	The 2010 Act was enacted (in part) to: Require all mines to prepare a mine closure plan (effective from 1 July 2011) Take other measures to minimise damage to land Provide for alternative means for lodging documents
	Mining Rehabilitation Fund Act 2012 Assent: 5 November 2012	Enacted to reduce the unfunded liability of the State of Western Australian with respect to abandoned mines sites by providing for: The establishment of a Mining Rehabilitation Fund the declaration of abandoned mine sites a levy to be paid in respect of mining authorisations; and other related matters
Mining on Private Property Act 1898	*Mining on Private Property Act 1898*	No material changes since 2006
	Various mining project specific State Agreement Acts (made under the *Government Agreements Act 1979*) to foster resource development such as minerals, related downstream processing projects and infrastructure	Such State Agreement Acts are resource/project specific and, in essence, are contracts between the Government proponents of large projects that are ratified by parliament. They specify "the rights, obligations, terms and conditions for development of the project and establish a framework for ongoing relations and

2006 Audit (WA)	2012 Audit (WA)	Major changes (to December 2012)
	investments. Examples include: *Iron Ore (FMG Chichester Pty Ltd) Agreement Act 2006* *Nickel (Agnew) Agreement Act 1974*	cooperation between the State and the project proponent".
<u>Subordinate legislation</u> (including codes of practices)		
Mining Regulations 1981	Mining Regulations 1981	Various consequential amendments following legislative amendments
	Mining Rehabilitation Fund Regulations 2013 Exposure Draft only	Being developed to effect the practical operation of the Mining Rehabilitation Act including with respect to: the calculation of the new levy reporting and assessment requirements; the functions and membership of the new Mining Rehabilitation Advisory Panel
	Guidelines for Preparing Mine Closure Plans Administrative	Developed jointly by the Department of Mines and Petroleum and the Environment Protection Authority in order to streamline mine closure requirements and to reduce regulatory overlap
Environmental protection legislation (Administered by the Environment Protection Authority within the Portfolio of the Department of Environment and Conservation (*Environment Protection Act 1986*), Department of Environment and Conservation (*Environment Protection Act 1986, Approvals and Related Reforms (Environment) Act 2010, Conservation and Land Management Act 1984 and the Wildlife Conservation Act 1950*) and the Commission for Soil and Land Conservation within the Portfolio of the Department of Agriculture and Food (*Soil and Land Conservation Act 1945*))		
<u>Primary legislation</u>		
Environmental Protection Act 1986	*Environmental Protection Act 1986* (as amended)	Various amendments including the 2010 amendments to give effect to a single approval process for environmental approvals under Part IV (Ministerial condition including for mining) and, to a lesser extent, Part V (Licencing and works including for mining), of the *Environmental Protection Act 1986.* Schedule relating to Prescribed Premises was also amended which resulted in the removal of some 700 small –medium sized business from the schedule — no material impact on the mining sector. Current version effective from 21 May 2012
	Approvals and Related Reforms (No. 1) ((Environment) Act 2010	Enacted to amend the processes of the Environment Protection Authority in making decisions regarding minor works and the appeal processes for third parties: The removal of appeal rights for third parties for proposals that are not assessed The provision for third parties to advise on the level of assessment before a decision is made by the Authority. The removal from third parties of the ability to appeal the decisions of the Authority on the level of assessment required.

Conservation and Land Management Act 1984	*Conservation and Land Management Act 1984* (as amended)	Amendment enacted in 2011 to allow joint management of the conservation estate with Indigenous people Could facilitate the establishment of joint management agreements in areas where mining and mineral processing occurs. Another amendment provided for the joint management of land outside the conservation estate by the Department of Environment and Conservation and the land holders May assist securing offset requirements for mining projects
<u>Subordinate legislation</u> (including codes of practices)		
Environmental Protection Regulations 1987	Environmental Protection Regulations 1987 (as amended) Preparation of various "Environment Assessment Guideline" to clarify policy and assist proponents	Various consequential amendments Current version effective from 28 November 2012
	Environmental Impact Assessment (Part IV, Divisions 1 and 2) Administrative Procedures 2012 Part IV provides for the Ministerial Conditions to be placed on mining projects Gazetted 7 December 2012 (replaced 2010 Procedures)	The procedures establish principles and practices in relation to— the referral of a significant proposal or strategic proposal; the setting of the level of assessment of a significant proposal or strategic proposal; environmental review requirements and consultation; and Environmental Impact Assessments for significant proposal or strategic proposal. The procedures were used to reduce several levels of assessment to two, namely: the preparation of an Assessment of Proponent Information and of Public Environmental Report Proponents are still required to submit a Scoping Document to enable the Office of the Environmental Protection Authority to determine the level of assessment required. The Office is currently working on an Environmental Assessment Guideline (see above) for Scoping Documents. In situations where Ministerial conditions are prepared, the latest procedures also provide the opportunity for proponents to appeal draft conditions. Changes to simplify the administration of licences/works approvals for mobile facilities Could have a small beneficial impact for some mining companies
	Conservation and Land Management Regulations 2002	Various consequential amendments Current version effective from 1 October 2011
	Wildlife Conservation Regulations 1970 Wildlife Conservation (Reptile and Amphibians) Regulations 2002	Two amendments to both made in 2010 No material changes since 2006 Current version effective from 11 September 2010

	Soil and Land Conservation Regulations 1992	No changes since 2006 Current version effective from 11 March 2005
Licensing regulations for operations discharging waste to the environment	Such licensing regulations would be expected to be part of the Environmental Protection Regulations 1987	In addition to changes to the subordinate legislation, the Department of Mines and Petroleum and the Environment Protection Authority entered into a Memorandum of Understanding in relation to the referral of Mineral and Petroleum (Onshore and Offshore) and Geothermal Proposals pursuant to Part IV of the *Environment Protection Act 1986* in order to establish an efficient and transparent administrative process between the two government agencies Signed 26 June 2009
Guidelines to help you get Environmental Approval for Mining Projects in Western Australia	Guidelines for Mining Proposals in Western Australia, Department of Mines and Petroleum, February 2006 (as amended September 2012)	Approved under the *Mining Amendment Act 2004* by the Director General, Department of Mines and Petroleum, to assist the mining industry produce proposals to facilitate the assess of the environmental impacts of a proposed mining operations
	Draft Guidelines for Environmentally Responsible Mineral Exploration & Prospecting in Western Australia, March 2012	Being developed to provide guidance for the mining industry on environmental management and rehabilitation practices in seeking mineral exploration and prospecting approvals in a timely manner consistent with the environmental requirements and expectations of the Western Australian Government
Requirements for holding a Pastoral Lease	The requirements with respect to the holding of pastoral leases for proponents seeking mineral exploration and mining project approvals would be expected to be covered by Conservation and Land Management Regulations 2002 and enabling legislation.	No material changes since 2006
Planning legislation	(Administered by the Department of Planning (*Planning and Development Act 2005*, *Approvals and Related Reforms (No. 4) (Planning) Act 2010),*the Department of Regional Development and Lands (*Land Administration Act 1997* and the *Approvals and related Reforms (No. 3) (Crown Land) Act 2010*), and the Department of Local Government (*Local Government Act 1995)*	
<u>Primary legislation</u>		
	Planning and Development Act 2005	Introduced to improve the planning system in Western Australia Assented 12 December 2005 Provides for Planning Schemes to be established by each local government Various subsequent amendments Current version effective from 21 May 2012

	Approvals and Related Reforms (No. 4) (Planning) Act 2010	Introduced (as with other 2010 Approvals and Related Reforms Acts) to effect the Western Australian Government's commitment to streamlining and improving the planning approvals process in Western Australia Provided for the establishment of Development Assessment Panels to make certain development decisions in place of the relevant Decision Making Authority such a Local Government or the Planning Commission The Act also contains a number of consequential amendments for other legislation affecting the mining sector including the *Mining Act 1978, Environmental Protection Act 1986, and the Land Administration Act 1997.*
Western Australian Planning Commission Act 1985	Repealed by the *Planning and Development Act 2005* (6 April 2006). Functions of the now provided for under the *Planning and Development Act 2005* and are supported by Department of Planning	Repealed
Land Administration Act 1997	*Land Administration Act 1997*	Various amendments Current version effective from 21 May 2012
	Approvals and related Reforms (No. 3) (Crown Land) Act 2010	Enacted to amend various other Acts, including the *Mining Act 1978*, the *Environmental Protection Act 1986*, the *Land Administration Act 1997, the Planning and Development Act 2005, and the Aboriginal Heritage Act 1972,* with the aim of providing "efficiencies in the processes for giving notices, applying for approvals and doing various other things under those Acts which relate to the use and development of, or dealings with, Crown land and freehold land held in the name of the State.
Local Government Act 1995	*Local Government Act 1995*	Various amendments Current version effective from 1 July 2011 No material changes since 2006
<u>Subordinate legislation</u> (including codes of practices)		
	Planning and Development Regulations 2009	Various consequential amendments following legislative amendments Current version effective from 1 July 2011
	Planning and Development (Development Assessment Panels) Regulations 2011	Provide guidance on the authority and decision making functions of the Development Assessment Panels Current version effective from 25 March 2011— no amendments
Statements of Planning Policy for Environment and Natural Resources; Water Resources	State Planning Policies covering a range of issues Guidance documents prepared by the Western Australian Planning Commission	The *Approvals and Related Reforms (No. 4) (Planning) Act 2010* seeks to increase the standing State Planning Policies by requiring local government to have "due regard" to the policies in preparing their planning schemes which are given legal effect through the *Planning and*

		Development Act 2005.
	Land Administration Regulations 2006	Various consequential amendments following legislative amendments Current version effective from 7 July 2012
	Land Administration (Land Management) Regulations 2006	No material changes since 2006 Current version effective from 11 August 2007 (one change)
Provision for local planning by-laws	Provision for local planning by-laws As enable by the determined by the *Local Government Act 1995* and the *Planning and Development Act 20*	No material changes since 2006 specific to the mining sector
Land Rights and Native Title legislation (Administered by the Department of the Attorney General*)*		
Primary legislation		
Titles (Validation) and Native Title (Effects of Past Acts) Act 1995	*Titles (Validation) and Native Title (Effects of Past Acts) Act 1995*	No changes since 2006 Current version effective from 11 March 2005
Native Title (State Provisions) Act 1999	*Native Title (State Provisions) Act 1999*	No material changes since 2006 Current version effective from 1 February 2007 — one amendment
Native Title Act 1993 (Cwlth)	*Native Title Act 1993* (Cwlth)	No material changes since 2006
Subordinate legislation (including codes of practices)		
Native Title (State Provisions) Regulations 2000	Native Title (State Provisions) Regulations 2000	No changes since 2006 Current version effective from 1 July 2000
Aboriginal Heritage legislation (Administered by Department of Indigenous Affairs)		
Primary legislation		
Aboriginal Heritage Act 1972	*Aboriginal Heritage Act 1972*	Various amendments No material changes since 2006 Current version effective from 18 September 2010 A review of the Act has recently been completed and amendments foreshadowed by the Western Australian Government An Exposure Draft of the proposed amendments is still to be released
Subordinate legislation (including codes of practices)		
Aboriginal Heritage Regulations 1974	Aboriginal Heritage Regulations 1974	No changes since 2006 Current version effective from 9 January 2004
	Standard Cultural Heritage Management Plan Template Administrative — Developed by the Department of Premier and Cabinet	Designed to help proponent meet increase the quality of their submissions in demonstrating compliance with legislative requirements (namely Section 18 relating to Heritage Clearance)
	Standard Indigenous Land Use Agreement Administrative — Developed by the Department of Premier and Cabinet	Designed to help proponent address land access and Native Title issues

Native Vegetation legislation (Administered primarily by the Office Environment Protection Authority (within the Department of Environment and Conservation)		
Primary legislation		
Amendments to the Environment Protection Act 1986 clearance permits (since 2004)	*Environmental Protection Act 1986* (as amended)	See above for amendments to the *Environment Protection Act 1986*
Subordinate legislation (including codes of practices)		
Environmental Protection (Clearing of Native Vegetation) Regulations 2004 Native vegetation controls – offset/net gain requirements	Environmental Protection (Clearing of Native Vegetation) Regulations 2004	Various amendments Current version effective from 17 April 2009
	Western Australia Environmental Offsets Policy Released September 2011 May also be applied through the *Planning and Development Act 2005* and the *Mining Act 1978*	Clarifies the policy of the Western Australian Government to the use of offsets and to the integration of assessments of the Commonwealth for matters of National Environmental Significance under the *Environment Protection and Biodiversity Conservation Act 1999*
		Development of a Bilateral Agreement for addressing native vegetation requirements under Western Australian legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) through an integrated way in meeting the requirements of various Acts.
Water legislation (Administered by the Department of Water)		
Primary legislation		
	Water Resources Legislation Amendment Act 2007	Enacted to amend water and water resource related Acts and to incorporate machinery of government changes introduced into Parliament in 2003 (including the newly established Department of Water) Considered to be the first phase of a comprehensive reform of water management and regulation in Western Australia Assented 21 December 2007 Current version effective from 4 July 2008 — two amendments
Water and Rivers Commission Act 1995	Repealed by the *Water Resources Legislation Amendment Act 2007* (above)	Repealed
Water Supply Sewerage and Drainage Act 1912	Repealed by the *Water Resources Legislation Amendment Act 2007* (above)	Repealed
Waterways Conservation Act 1976	*Waterways Conservation Act 1976*	Various amendments including by the *Water Resources Legislation Amendment Act 2007* (above) Current version effective from 22 November 2010

		No material changes since 2006 Water reform discussion Paper issued in November 2009 — any consequential legislative changes are still to be made
Rights in Water and Irrigation Act 1914	*Rights in Water and Irrigation Act 1914*	Various amendments including by the *Water Resources Legislation Amendment Act 2007* (above) Minor change with respect to obtaining beds and banks approval which is no longer required Current version effective from 26 October 2011
Subordinate legislation (including codes of practices)		
Licensing regulations for operations discharging waste to the environment	Such licensing regulations would be expected to be part of the Environmental Protection Regulations 1987	No material changes since 2006
Licenses to abstract water for mining operations Issued under the *Rights in Water and Irrigation Act 1914*	Rights in Water and Irrigation Regulations 2000	No material changes since 2006 Current version effective from 21 December 2011 — various amendments Preparation of a water in mining guideline to provide advice on water management issues that need to be considered and the type of information required as part of the licence assess process Draft released June 2012
	Waterways Conservation Regulations 1981	No material changes since 2006 Current version effective from 28 January 2011
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of Western Australia under the initiative and reforms

South Australia

Table 10 South Australia: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
Mining industry legislation	(Administered by the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE and previously the Department of Primary Industries and Resources) — acts a lead government agency for regulatory approvals processes)	
Primary legislation		
Mining Act 1971	*Mining Act 1971* *Mining (Miscellaneous) Amendment Act 2010*	Amendment act enacted to make the legislative provisions less prescriptive and to stream line the regulatory approval process, as well as make various definitional, process and requirement changes including with respect to: Tenement applications Exempt land Notice of entry (access to land) Environment compliance framework Environment Protection and Rehabilitation Framework Compliance Reporting

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
		Amendments effective on 1 July 2011
	Roxby Downs (Indenture Ratification) Act 1982 Governs the operations of the Olympic Dam copper/uranium mine by BHP Billiton Specifies the obligations of BHP Billiton with respect to State Legislation such as the *Aboriginal Heritage Act 1988*, the *Environmental Protection Act 1993*, the *Natural Resources Act 2004*, the *Development Act 1993* and *the Mining Act 1971*	Roxby Downs (Indenture Ratification) Amendment of Indenture) Amendment Bill 2011 Awaiting ratification — essentially on hold given BHP Billiton's decision in October 2012 to defer the expansion of its mining operations at Olympic Dam
Subordinate legislation (including codes of practices)		
Mining Regulations 1998	Mining Regulations 2011	Repealed Mining Regulations 1998 and incorporated consequential amendments arising from amendments to the *Mining Act 1971* Commenced 1 July 2011.
	Woomera Prohibited Area Declared under Part VII of the Defence Force Regulations 1952 for use in "the testing of war material" Covers an area of 127,000 square kilometres approximately 450 km NNW of Adelaide	Establishment in 2011 of a Joint Australian Government and Australian Government Woomera Prohibited Area Coordination Office to administer non-Defence use of the area Included the development of new management framework arrangements that support co-existence between Defence and non-Defence users (such as mining) within the area Sites of significance to indigenous people within the area are protected under the *Aboriginal Heritage Act 1988*
	Roxby Downs (Local Government Arrangements) Regulations 2012	Developed to facilitate the ongoing implementation of the *Roxby Downs (Indenture Ratification) Act 1982* Previous regulations 1997 regulations have ceased
Environmental protection legislation (Administered by the Environment Protection Authority (*Environment Protection Act 1993*), Department of Environment, Water and Natural Resources (*Wilderness Protection Act 1992, National Parks and Wildlife Act 1972 and Natural Resources Management Act 2004)*		
Primary legislation		
Environment Protection Act 1993	*Environment Protection Act 1993*	No material changes since 2006 Limited direct application to environmental impacts of extractive mining activities, which are dealt with largely under the *Mining Act 1971* (by DMITRE which has the technical expertise)
	Radiation Protection and Control Act 1982	No material changes since 2006 Various amendments including with respect to fees and charges and to better align with the provisions of the *Mining Act 1971* When applicable, can have a larger impact on mining activities than the *Environmental*

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
		Protection Act 1993
Wilderness Protection Act 1992	*Wilderness Protection Act 1992*	No material changes since 2006
National Parks and Wildlife Act 1972	*National Parks and Wildlife Act 1972*	No material changes since 2006 National Parks and Wildlife (Park and Reserve Categories and Other Matters) Amendment Bill 2012 to: introduce new reserve categories (Heritage Park and Nature Reserve) establish new reserve system and management processes clarify access for mining purposes Draft bill released for public comment in September 2012 Comments closed 21 December 2012
	Natural Resources Management Act 2004	Enacted to establish and promote the integrated management of South Australia's natural resources See Water legislation below
	Marine Parks Act 2007	Provides for the protection and conservation of marine biological diversity and marine habitats by decaling and providing for the management of a comprehensive, adequate and representative system of marine parks Applies to areas within and adjacent to a marine park Requires the development of marine park management plans Under the *Mining Act 1971*, the Minister for Mining must take into account the objects of the *Marine Parks Act 2007* Actions undertaken in administering the *Environment Protection Act 1993* within and adjacent to a marine park must also seek to further the objects of the *Marine Parks Act 2007* and the provision of marine park management plans
	Arkaroola Protection Act 2012	The Act was enacted to formalise and strengthened the protection afforded to the Arkaroola area in the northern Flinders Ranges which is widely recognised for its natural values including biodiversity, conservation, landscape and geological. Specifically the Act: establishes the Arkaroola Protection Area provides for the proper management and care of the area prohibits mining activities in the area provides the area with the same legal status as for a National Park under the *National Parks and Wildlife Act 1972* The act commenced 26 April 2012
<u>Subordinate legislation</u> (including codes of practices)		
Environment Protection Regulations 1994	Environment Protection Regulations 2009	No material changes since 2006 Updated and consolidated the previous regulations Commenced 1 September 2009
	Radiation Protection and	No material changes since 2006

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
	Control (Ionising Radiation) Regulations 2000 Radiation Protection and Control (Transport of Radioactive Substances) Regulations 2003 Radiation Protection and Control (Non-ionising Radiation) Regulations 2008	
	National Parks and Wildlife Act 1972 Regulations	No material changes since 2006
	Wilderness Protection Regulations 2006	No material changes since 2006
	Marine Parks Regulations 2008	Developed to facilitate the implementation of the *Marine Parks Act 2007*
Planning legislation (Administered by the Department of planning, Transport and Infrastructure)		
Primary legislation		
Development Act 1993	*Development Act 1993*	The act does not apply to mining projects May affect the provision of infrastructure, such as port development, to support the development of mining projects No material changes since 2006
Subordinate legislation (including codes of practices)		
Development Regulations 1993	Development Regulations 2008	Repealed the 1993 Regulations No material changes since 2006
Land Rights and Native Title legislation (Administered by the Attorney's General Department (*Native Title Act 1994)* and the Department of Premier and Cabinet , Aboriginal Affairs and Reconciliation Division (all other Acts listed)		
Primary legislation		
Native Title Act 1994	Native Title Act 1994	No material changes since 2006
Native *Title Act 1993* (Cwlth)	*Native Title Act 1993* (Cwlth)	No material changes since 2006
Land *Acquisition (Native Title) Amendment Act 2001*	Land Acquisition Act 1969 *Land Acquisition (Native Title) Amendment Act 2001* Amendment to the Land Acquisition Act 1969 with respect to native title}	No material changes since 2006
Aboriginal Lands Trust Act 1966	*Aboriginal Lands Trust Act 1966*	No material changes since 2006 A review of this Act was announced in November 2008 Consultation Paper issued November 2010 Drafting instructions issued for bill to amend 1966 Act (regarded as "old" legislation
Aboriginal Lands Parliamentary Standing Committee Act 2003	*Aboriginal Lands Parliamentary Standing Committee Act 2003*	No material changes since 2006
[Anangu, Yankunytjatjara,] Pitjantjatjara Land Rights Act 1981	*Anangu, Yankunytjatjara, Pitjantjatjara Land Rights Act 1981*	No material changes since 2006
Maralinga Tjaruta Land Rights Act 1984	*Maralinga Tjaruta Land Rights Act 1984*	No material changes since 2006

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
Subordinate legislation (including codes of practices)		
Native Title Regulations 2001	Native Title Regulations 2001	No changes since 2006
Aboriginal Heritage legislation (Administered by the Department of Premier and Cabinet , Aboriginal Affairs and Reconciliation Division)		
Primary legislation		
Aboriginal Heritage Act 1988	*Aboriginal Heritage Act 1988*	A review of this Act was announced in November 2008 and Scoping Paper issued December 2008 Better integration with Native Title legislation Drafting instructions have been prepared with exposure draft of amendment bill expected in first half of 2013
National Parks and Wildlife Act 1972	*National Parks and Wildlife Act 1972* Covers traditional hunting practices and prohibits the taking of artefacts.	No material changes since 2006 See above under environmental legislation for details about the proposed amendment bill for Act Exposure draft released September 2012
Subordinate legislation (including codes of practices)		
Aboriginal heritage issues are integrated in the pre-negotiated exploration [Indigenous Land Use Agreements} ILUAs Aboriginal Site Avoidance Guidelines	Aboriginal heritage issues are integrated in the pre-negotiated exploration [Indigenous Land Use Agreements} ILUAs Aboriginal Site Avoidance Guidelines (M29, April 2002 Administrative — endorsed by the Division of State Aboriginal Affairs, Department of Transport, Urban Planning and the Arts	No material changes since 2006
Native Vegetation legislation (Administered by the Native Vegetation Council within the Portfolio of the Department of Environment, Water and Natural Resources)		
Primary legislation		
Native Vegetation Act 1991	*Native Vegetation Act 1991* Mining activities are except	No material changes since 2006 The *Native Vegetation Act 1991*seeks to guard against duplication with the *Environment Protection and biodiversity Conservation Act 1999* Native Vegetation (Miscellaneous) Amendment Bill 2011 developed To provide for a new third party offsets scheme and that offsets have to be provided within the same Natural Resource Management Area
Subordinate legislation (including codes of practices)		
Native Vegetation Regulation 2003	Native Vegetation Regulation 2003	No material changes since 2006
Draft Guidelines for a Native Vegetation Significant Environmental Benefit Policy for the clearance of native vegetation associated with the minerals and petroleum industry	Guidelines for a Native Vegetation Significant Environmental Benefit Policy for the clearance of native vegetation associated with the minerals and petroleum industry (September	No changes since 2006 Development of a Bilateral Agreement for addressing native vegetation requirements under South Australian legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) through an integrated way in meeting the requirements of various Acts.

2006 Audit (SA)	2012 Audit (SA)	Major changes (to October 2012)
	2005). Endorsed for adoption and implementation by the Native Vegetation Council under the *Native Vegetation Act 1991* (Section 25)	
Water legislation (Administered by the Department of Environment, Water and Natural Resources)		
Primary legislation		
Water Resources Act 1997	*Natural Resources Management Act 2004*	Repealed the *Water Resources Act 1997* effective from 1 July 2005 Provided for transitional arrangements for provisions of the repealed act Requires the preparation of Natural Resource Management Plans for each associated management area by the relevant natural resources management board Requires that a water allocation plan be prepared by the relevant natural resources management board in prescribed water management areas.
	Water Industry Act 2012	Replaces *Waterworks Act 1932*, *Water Conservation Act 1936* and *Sewerage Act 1929* Seeks to achieve an integrated approach to the supply and distribution of water potable water and the treatment of Sewerage Commenced 5 April 2012. Limited direct impact on mining activities
Subordinate legislation (including codes of practices)		
Water Resources Regulations 1997	Natural Resource Management (General) Regulations 2005	Replaced the 1997 regulations Separate regulations for each designated water management area.
Environment Protection (Water Quality) Policy	Environment Protection (Water Quality) Policy (Note: this is a policy under the *Environment Protection Act 1993*)	No material changes since 2006
	Water for Good Policy initiative released in June 2009 Administrative	Sets out the overall objectives of the South Australian Government with respect to managing the water resources of South Australia and the policy initiatives of the Government to achieve those objectives.
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of South Australian under the initiative and reforms

Tasmania

Table 11 Tasmania: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
Mining industry legislation (Administered by the Mineral Resources Tasmania, Department of Infrastructure, Energy, and Resources)		
Primary legislation		
Mineral Resources Development Act 1995	*Mineral Resources Development Act 1995* Forms part of Tasmania's Resource Management and Planning System introduced in 1993	No material changes since 2006
	Mining (Strategic Prospectivity Zones) Act 1993 Establishes seven strategic prospecting zones within which the status of Crown land cannot be changed without consideration of minerals Prospectivity Compensation may be payable for exploration expenditure incurred in the zones if stopped prematurely because of a change in status.	No material changes since 2006
Subordinate legislation (including codes of practices)		
Mineral Resources Regulations 1996	Mineral Resources Regulations 1996	No material changes since 2006 except for 2011 amendments
	Minerals Resources Amendment Regulations 2011	Amended Mining Regulations 2006 with respect to royalties, prescribed minerals and rent Minor technical and procedural changes Minimal impact — deemed unnecessary to undertake a RIS Commenced on 17 August 2011
	Mineral Resources Development (Application of Act) Order 2006	Declares that the *Mineral Resources Development Act 1995* is to apply to certain forest reserves.
Mineral Exploration Code of Practice	Mineral Exploration Code of Practice Fifth edition released on 5 April 2012 approved Code under Section 204 of the *Mineral Resources Development Act 1995*. Compliance with the code is a standard licence condition with which explorers must comply	Update of previous codes
Quarry Code of Practice 1999	Quarry Code of Practice 1999 Administrative — guidance document	No changes since 2006

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
Environmental protection legislation	(Administered by the Environment Protection Authority (*Environment Protection Act 1993*), Department of Primary Industries, Parks Water and Environment (*Environment Protection Act 1993*, *Threatened Species Protection Act 1995, Nature Conservation Act 2002* and the *National Parks and Reserves Management Act 2002*), the Department of Premier and Cabinet (*State Policies and Projects Act 1993*), and the Department of Infrastructure, Energy and Resources (*Forestry Act 1920* and *Regional Forest Agreement (Land Classification) Act 1998*).	
Primary legislation		
Environmental Management and Pollution Control Act 1994	*Environmental Management and Pollution Control Act 1994* Forms an integral part of Tasmania's Resource Management and Planning System introduced in 1994 — see *State Policies and Projects Act 1993* below	Amended in 2008 to enable the establishment of the Environment Protection Authority as an independent statutory authority for administering and enforcing the provisions of its enabling legislation. The EPA commenced operations on 1 July 2008 Its functions include undertaking environmental impact assessment of development proposals including mining Acts as lead agency for higher risk Level 2 and Level 3 activities and may call in level 1 activities which are normally managed by Local Councils through the planning system
National Parks and Wildlife Act 1970 Repealed and replaced by the two acts (adjacent) enacted in 2002	*Nature Conservation Act 2002*	No material changes since 2006
	National Parks and Reserves Management Act 2002	No material changes since 2006
	Threatened species Protection Act 1995 Enacted to enhance the protection of native flora and fauna Referral required for projects of State Significance	No material changes since 2006
	State Policies and Projects Act 1993 The Act is one seven pieces of legislation that combine to form Tasmania's Resource Management and Planning System established in 1994 to achieve sustainable outcomes from the use and development of Tasmania's natural and physical resources As such, the Act also forms part of the legislation for other categories such as planning and water	Provides for Projects of State Significance to be subject to a "one-stop-shop" integrated approvals process including under the *Environment Protection and Biosdiversity Conservation Act 1999* (Cwlth) through the bilateral agreement between the Commonwealth and Tasmania The redevelopment of the copper mines at Mount Lyell was the first Projects of State Significance No material changes since 2006
Forestry Act 1920	*Forestry Act 1920*	No material changes since 2006 No direct influence on mining activities
Regional Forest Agreement (Land Classification) Act 1998	*Regional Forest Agreement (Land Classification) Act 1998*	No material changes since 2006 No direct influence on mining activities

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
Subordinate legislation (including codes of practices)		
Environmental Management and Pollution Control Regulations (various)	Environmental Management and Pollution Control Regulations (various)	As updated and developed by the Environment Protection Authority Not mining specific
	Draft Guidelines for the preparation of a Development Proposal and Environment Management Plan for Venture Minerals Limited for the Riley's Creek Hematite DSO Mine	Prepared by the Environment Protection Authority to facilitate compliance under the *Environmental Management and Pollution Control Act 1994 and the Environment Protection and biodiversity Conservation Act 1999 (Cwlth)* Released September 2012
	Environment Protection Policy (Air Quality) 2004	Made under the *Environmental Management and Pollution Control Act 1994* Subject to review in 2015
	Environment Protection Policy (Noise) 2009	Made under the *Environmental Management and Pollution Control Act 1994* Extensive consultation prior to release
	State Policy on Water Quality Management 1997	Made under the *State Policies and Projects Act 1993* No material changes since 2006 Currently being reviewed for development as an environmental policy under the *Environmental Management and Pollution Control Act 1994*
Mineral Exploration Code of Practice	Mineral Exploration Code of Practice	See above under Mining Industry Legislation
Quarry Code of Practice	Quarry Code of Practice	See above under Mining Industry Legislation
Planning legislation (Administered by the Tasmanian Planning Commission within the Portfolio of Department of Justice (*Land Use Planning and Approvals Act 1993)* and the Department of Premier and Cabinet (*State Policies and Projects Act 1993*)		
Primary legislation		
Land Use Planning and Approvals Act 1993	*Land Use Planning and Approvals Act 1993* Forms an integral part of Tasmania's Resource Management and Planning System introduced in 1994 Exploration is exempt from Planning Scheme controls — see Mineral Exploration Code of Practice above	The Act was amended in 2009 to allow the introduction of Projects of Regional Significance Provides a one-stop-approval process that integrates environmental (including under the EPBC Act) and planning assessments by independent panel appointed by the Planning Commission with no third party appeal rights Designed to facilitate the making of approval decisions based on project merit and to limit the politicisation of the process by local communities and councils The Act was also amended to provide for the development of State and Regional strategies. could assist with identifying areas of mineral resources and influencing zoning in local planning schemes in order to minimise potential land-use conflicts
	State Policies and Projects Act 1993	See above under Environmental Legislation
Subordinate legislation (including codes of practices)		
Land Use Planning and Approvals Regulations	Land Use Planning and Approvals Regulations	No material changes since 2006

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
2004	2004	
	Planning Directive PD1	Prescribes a common template for all new planning schemes setting out standard use classifications and exemptions and zones Should help achieve the consistent treatment of the extractive industry across the Tasmania
	Draft Code (Attenuation Distances)	Being developed to provide standard separation distances for scheduled premises including quarries Design to avoid current situation of different obligatory requirements within planning schemes
	State Policy on the Protection of Agricultural Land 2009 Made under the *State Policies and Projects Act 1993*	Replaces the policy released in 2000 Now provide the ability for extractive activities to occur on prime agricultural land having regard to criteria such as: minimising the amount of land alienated; minimising negative impacts on the surrounding environment; and ensuring the particular location is reasonably required for operational efficiency
Land Rights and Native Title legislation (Administered by the Department of Premier and Cabinet and the Department of Primary Industries, Parks Water and Environment (*Nature Conservation Act 2002)*		
Primary legislation		
Native Title (Tasmania) Act 1994	*Native Title (Tasmania) Act 1994*	No material changes since 2006
Native Title Act 1993 (Cwlth)	*Native Title Act 1993* (Cwlth)	No material changes since 2006
Aboriginal Lands Act 1995	*Aboriginal Lands Act 1995*	No material changes since 2006
Nature Conservation Act 2002	*Nature Conservation Act 2002*	No material changes since 2006 See above under environmental legislation
Subordinate legislation (including codes of practices)		
None identified	None identified	None identified
Aboriginal Heritage legislation (Administered by the Department of Primary Industries, Parks Water and Environment (Aboriginal Heritage Tasmania (*Aboriginal Relics Act 1975* and Heritage Tasmania, *Historic Cultural Heritage Act 1995)*		
Primary legislation		
Aboriginal Relics Act 1975	*Aboriginal Relics Act 1975*	The Act has been reviewed and an exposure draft bill for its replacement, entitled Aboriginal Heritage Protection Bill 2012, was released for public comment in November 2012 and which closed on 14 December 2012. The aims of the Bill include: To provide more effective protection and management of Aboriginal Heritage Increase the involvement of the Aboriginal community in decision-making process Integrate the protection and management of Aboriginal heritage with planning and land development process Not mining specific
	Historic Cultural Heritage Act 1995	The act has been subject to a review that resulted in two bills being introduced to, and passed by, the House of Assembly in

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
		September 2012. The bills were Historic Cultural Heritage Amendment Bill 2012 Land Use Planning and Approvals (Historic Cultural Heritage) Bill 2012 The bills have been developed to integrate the consideration of heritage issues with the planning permit process Forms an integral part of Tasmania's Resource Management and Planning System introduced in 1994 and the assessment of Projects of State Significance Not mining specific
Subordinate legislation (including codes of practices)		
None identified	None identified	None identified
Native Vegetation legislation (Administered by the Department of Primary Industries, Parks Water and Environment)		
Primary legislation		
N/A	*Threatened Species Protection Act 1995* See above under environmental protection legislation	Provides for the protection of native habitats No material changes since 2006
Subordinate legislation (including codes of practices)		
N/A	Threatened Species Protection Regulations 1996	No material changes since 2006 Development of a Bilateral Agreement for addressing native vegetation requirements under Tasmania legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) through an integrated way in meeting the requirements of various Acts.
Water legislation (Administered by the Department of Primary Industries, Parks Water and Environment)		
Primary legislation		
Water Management Act 1999	*Water Management Act 1999*	A major review of the Act was undertaken in 2005 Found that the objectives of the Enabling Act were still valid and that the provisions of the Act remained relevant for achieving those objectives Two amending Acts (presented immediately below) were implemented
	Water Legislation Amendment Act (2008)	Implemented to secure the more efficient operation of the *Water Management Act 1999* and to support the implementation of the National Water Initiative and other COAG water reforms
	Dam Works Legislation (Miscellaneous Amendments) Act 2007	As for the *Water Legislation Amendment Act (2008)* but included the additional requirement that the *Water Management Act 1999* be reviewed five years after this amendment Act commenced (16 July 2007) The review was competed in October 2012 and two amendment Bills are proposed Water Legislation Amendment Bill No. 1 — to provide clear and concise framework for the administration and management of

2006 Audit (Tas)	2012 Audit (Tas)	Major changes (to October 2012)
		water districts and the provision of contemporary entitlement system to management water in irrigation districts Water Legislation Amendment Bill No. 2 — to address a range of water management issues and to support the implementation by Tasmania of the National Framework on Water Compliance and Enforcement
Subordinate legislation (including codes of practices)		
Water Management Regulations 1999	Water Management Amendment Regulations 2009	Set limits on the taking of water for specific uses and set fees for water licences Repealed the 1999 regulations Commenced 11 February 2009.
	State Policy on Water Quality Management 1997 Made under the *State Policies and Projects Act 1993*	No material changes since 2006 See also Environmental Protection Legislation above
	National Water Initiative and other water reforms of COAG	Ongoing implementation in accordance with obligations of Tasmania under the initiative and reforms

Northern Territory

Table 12 Northern Territory: Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (NT)	2012 Audit (NT)	Major changes (to February 2013)
Mining industry legislation (Administered by the Department of Mines and Energy)		
Primary legislation		
• *Mining Act 1980*	• *Mineral Titles Act 2010*	• *The Mineral Titles Act 2010* repealed the *Mining Act 1980* — Enacted following a review of the Mining Act 1980 by the Department of Primary Industry, Fisheries and Mines in March 2008 — Current version effective from 27 January 2012 (assented 9 September 2010) • The new act seeks to establish a framework — for granting and regulating mineral titles that authorise exploration for, and extraction and processing of, minerals and extractive minerals — for facilitating the commercialisation of activities conducted under mineral titles by authorising the creation and transfer of interests in the titles
• *Mining Management Act 2001*	• *Mining Management Act 2001* • *Mining Management Amendment Act 2011*	• *The Mining Management Amendment Act 2011* was enacted to make a range of amendments to improve the enforcement and accountability of the environmental regulation of mining including: — the compulsory reporting of all environmental incidents; and

2006 Audit (NT)	2012 Audit (NT)	Major changes (to February 2013)
		— the requirement for operators on a mining lease to report their environmental performance annually. • Effective from 1 July 2012
Subordinate legislation (including codes of practices)		
• Mining Regulations 1981	• Mineral Titles Regulations 2011	• The Mineral Titles Regulations 2011 repealed and replaced the Mining Regulations 1981 and were made to facilitate the implementation of the *Mineral Titles Act 2010* — Effective from 7 November 2011
• Mining Management Regulations 2001	• Mining Management Regulations 2012	• The Mining Management Regulations 2012 repealed and replaced the Mining Management Regulations 2001 and were made to facilitate the implementation of the *Mining Management Amendment Act 2011* — Effective from 1 July 2012
Environmental protection legislation (Administered by the Department of Lands, Planning and the Environment (*Environmental Assessment Act 1994)* and the Parks and Wildlife Commission of the Northern Territory *(Territory Parks and Wildlife Conservation Act 1980)*		
Primary legislation		
• *Environmental Assessment Act 1994*	• *Environmental Assessment Act 1994*	• No amendments — Current version effective from 30 December 1994
• *Waste Management and Pollution Control Act 1998*	• *Waste Management and Pollution Control Act 1998*	• Amendments in 2007 and 2010 — Not mining specific — Expected impact minor — Current version effective from 21 November 2011 • No material changes since 2006 identified
• *Territory Parks and Wildlife Conservation Act 2001*	• *Territory Parks and Wildlife Conservation Act 1980* (as amended including in 2001)	• Various amendments in 2006, 2007, 2009 and 2010 — Not mining specific — Expected impact minor — Current version effective from 6 December 2010 • No material changes since 2006 identified
	• *Atomic Energy Act 1953 (Cth)* — Administered by the Department of Resources, Energy and Tourism (Cth) — Enacted in part to manage the mining of uranium at the Ranger Mine near Kakadu National Park — Directly cross references the Aboriginal Land Rights (Northern Territory) Act 1976 (Cth) — see Land Rights and Native Title legislation below	• No material changes since 2006 — One minor amendment in 2008 • Used as “model” legislation by, for example, Western Australian to manage the potential commercial development of uranium deposits

2006 Audit (NT)	2012 Audit (NT)	Major changes (to February 2013)
Subordinate legislation (including codes of practices)		
• Environmental Assessment Administrative Procedures 2003	• Environmental Assessment Administrative Procedures 2003	• No changes identified — Current version effective from 19 March 2003
• Waste Management and Pollution Control (Administration) Regulations 1998	• Waste Management and Pollution Control (Administration) Regulations 1998	• Two sets of amendments identified: — In 2009 with respect to Fees and Charges — In 2011 with respect to National Uniform Legislation for Health and Safety • Not mining specific — No material changes since 2006 identified • Current version effective from 1 January 2012
• Territory Wildlife Regulations 2001	• Territory Parks and Wildlife Conservation Regulations (as amended)	• Two sets of amendments identified: — In 2007 with respect to Infringement Notices — In 2009 With respect to fees and charges • Not mining specific — No material changes since 2006 identified • Current version effective from 6 December 2010
Planning legislation (Administered by the Department of Lands, Planning and the Environment)		
Primary legislation		
• *Planning Act 1999*	• *Planning Act 1999*	• Various amendments in 2007, 2008, 2009 and 2011 — Not mining specific — Expected impact minor • May also be used for the management of native vegetation • Current version effective from 1 October 2012
Subordinate legislation (including codes of practices)		
• Planning Regulations 2000	• Planning Regulations 2000	• Various amendments made — in 2007 (Third Party Access), 2008 (Development Applications), 2009 (Unit titles), and 2011 (Exempt subdivisions) — Not mining specific — Expected impact minor • Current version effective from 20 December 2011
Land Rights and Native Title legislation (Administered by the Department of the Chief Minister, *Validation (Native Title) Act 1994)* and the Department of Lands, Planning and the Environment (*Aboriginal Land Act 1978)*		
Primary legislation		
• *Validation (Native Title) Act 1994*	• *Validation (Native Title) Act 1994*	• No changes — Current version effective from 18 June 1999
• *Aboriginal Land Act 1978*	• *Aboriginal Land Act 1978*	• One amendment made in 2010 — Current version effective from 13 October 2010

2006 Audit (NT)	2012 Audit (NT)	Major changes (to February 2013)
		— Expected impact minor
• *Native Title Act 1993* (Cth)	• *Native Title Act 1993* (Cth)	• No material changes since 2006
	• *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) — Administered by the Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs • *Aboriginal Land Rights (Northern Territory) Amendment Act 2006 Cth* — RIS prepared	• Following several reviews, the 2006 Amendment Act through Part IV sought to make changes to expedite and make more certain the processes relating to exploration and mining activities on Aboriginal Land — Assented 6 September 2006 • The Amendment Act also required the responsible Commonwealth Minister to undertake a review made of the changes to Part IV on the fifth anniversary of commence of the amendment — The review commenced in September 2012 — Submissions closed on 15 February 2013 and the Final Report is to be provided to the Minister by 29 March 2013
<u>Subordinate legislation</u> (including codes of practices)		
	• Aboriginal Land Rights (Northern Territory) Regulations 2007 (as amended)	• Repealed the Aboriginal Land Rights (Northern Territory) Regulations — Current version effective from August 2011 • No material changes since 2006 — Expected impact minor
Aboriginal Heritage legislation (Administered by Department of Regional Development and Indigenous Affairs and the Aboriginal Areas Protection Authority (*Northern Territory Aboriginal Sacred Sites Act 1989*), and the Department of Lands, Planning and the Environment (*Heritage Act 2011*)		
<u>Primary legislation</u>		
• *Northern Territory Aboriginal Sacred Sites Act 1989*	• *Northern Territory Aboriginal Sacred Sites Act 1989*	• Two consequential amendments arising from the *Minerals Titles Act 2010* and *Public Sector Employment and Management Act 2011* — Expected impact minor — Current version effective from 1 January 2012
		• The Aboriginal Areas Protection Authority (AAPA) is an independent statutory organisation established under the *Northern Territory Aboriginal Sacred Sites Act*, and is responsible for overseeing the protection of Aboriginal sacred sites on land and sea across the whole of Australia's Northern Territory.
• *Heritage Conservation Act 1991*	• *Heritage Act 2011*	• The *Heritage Act 2011* repealed the *Heritage Conservation Act 1991* and *Heritage Conservation Amendment Act 1998* — Expected impact minor — Current version effective from 2 October 2012

Subordinate legislation (including codes of practices)		
• Northern Territory Aboriginal Sacred Sites Regulations 2004	• Northern Territory Aboriginal Sacred Sites Regulations (as amended) — Fees and Charges Amendment Regulations 2009 — Northern Territory Aboriginal Sacred Sites Amendment Regulations 2011	• No material changes since 2006 — Mainly concerned with fees and charges — Expected impact minor — Current version effective from 3 August 2011
• Heritage Conservation Regulations 1999	• Heritage Regulations	• Enacted to facilitate the implementation of the *Heritage Act 2011* — Expected impact minor — Current version effective from 1 October 2012
Native Vegetation legislation (Administered by the Department of Land Resource Management)		
Primary legislation		
• *Pastoral Land Act 1992*	• *Pastoral Land Act 1992* (as amended)	• Amendments made in 2007 and 2010 — Expected impact minor — Current version effective from 7 November 2011 • Native Vegetation Management Bill developed in 2010 to enact new laws with respect to the management of native vegetation — Designed to avoid the potential duplication of the management of native vegetation under the developed after the Pastoral Land Act 1992 and the Planning Act 1999.
• *Soil Conservation and Land Utilisation Act 1995*	• *Soil Conservation and Land Utilisation Act 1995* (as amended)	• Amendments made in 2008 and 2009 — Expected impact minor — Current version effective from 16 September 2009
Subordinate legislation (including codes of practices)		
• Pastoral Land Regulations 1992	• Pastoral Land Regulations 1992 • Pastoral Land Amendment Regulations 2011	• The amendments were not mining or native vegetation specific — Expected impact minor — Current version effective from 31 August 2011
	• Land Clearing Guidelines — Northern Territory Planning Scheme	• Initially prepared in 2002 to facilitate minimising the impact of land clearing on the natural resources of the northern Territory — Revised 2006 and 2010
Water legislation (Administered by the Department of Land Resource Management)		
Primary legislation		
• *Water Act 1992*	• *Water Act 1992* — exemptions for mining and petroleum activities • *Water Amendment Act 2007*.	• Various amendments in 2007, 2008, 2009 and 2010 • The 2007 amendment act was concerned mainly with extraction licences — Expected impact minor — Current version effective from 7 November 2011
Subordinate legislation (including codes of practices)		

• Water Regulations 1992	• Water Regulations • Water Amendment Regulations 2008	• The 2008 amendment regulations amend the Water Regulations and were made under the *Water Amendment Act 2007* — Expected impact minor
	• National Water Initiative and other water reforms of COAG	• Ongoing implementation in accordance with obligations of the Northern Territory under the initiative and reforms

Commonwealth

Table 13 Australia (Commonwealth): Changes to relevant acts and key regulations and codes of practices since January 2006

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
Mining industry legislation		
Primary legislation — General Corporations Laws administered by the Australian Securities and Investment Commission (specific mining legislation)		
	• *Corporations Act 2001 (as amended)*	• Various amendments — Not mining specific
	• *Australian Securities and Investments Commission Act 2001*	• Various amendments — Not mining specific
Subordinate legislation (including codes of practices)		
	• Corporate Regulations 2001 (as amended)	• Various amendments — Not mining specific
• Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2004 edition)	• Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 edition) — Sets out minimum standards, recommend-ations and guidelines for public reporting of explor-ation results, mineral resources and ore reserves — Referenced in the Listing Rules of the Australian Stock Exchange (ASX)	• Supersedes the 2004 edition and all previous editions — The provisions in the 2012 edition of the code will be made mandatory by the ASX in December 2013 • Activities of the AXA (and other publicly listed companies), hence application of the Code and other requirements under the *Corporations Act 2001*, are subject to oversight by the Australian Securities and Investment Commission.
Environmental protection legislation (Administered by the Department of Sustainability, Environment, Water, Population and Communities (*Environment Protection and Biodiversity Conservation Act 1999*)		
International Conventions :	The obligations of Australia under International Environmental Conventions it has ratified provides the Constitutional basis for environmental legislation enacted by the Commonwealth. Major conventions that were significant to the enactment of the *Environment Protection and Biodiversity Conservation Act 1999* are listed only (see Appendix D for full list of International Conventions).	
	• World Heritage Convention	• Ratified by Australian in 1974
	• Ramsar Convention	• Ratified in 1975
	• United Nations Convention on Biological Diversity	• Ratified in 1993 — Significant influence on the need to develop the EPBC Act

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
	• United Nations Convention on Climate Change	• Ratified in 1993 — Led to the subsequent development in 1997 of the Kyoto Protocol
Inter-government Agreements: Developed to facilitate the meeting of Australia's international obligations through laws which are enacted in accordance with the powers of the States and Territories under the Australian Constitution		
	• 1992 Intergovernmental Agreement on the Environment — Commenced 1 May 1992 — Incorporated Principles of Ecological Sustainable Develop	• Foundation document governing the meeting of Australia's international obligations under international conventions and treaties • Recognises that ultimate responsibility for meeting these obligations rests with the Commonwealth and that the Commonwealth can rely on the laws, policies, procedures and standards of the States and Territories in the meeting of those obligations provided the Commonwealth is satisfied that they are adequate to do so — These aspects are recognised in the EPBC Act and reflected in subsequent changes in environmental laws of the States and Territories
	• 1997 COAG Heads of Agreement on Commonwealth/State Roles and Responsibilities for the Environment.	• Complements the provisions of the 1992 Intergovernmental Agreement on the Environment
National Strategies: Developed to facilitate the meeting of Australia's international obligations through the providing guidance to the development of policies and required legislative changes by the States and Territories in order to secure desired environmental outcomes		
	• *National Strategy for Ecological Sustainable Development*	• Endorsed by COAG on 7 December 1992 — Principles subsequently incorporated in amendments to environmental law of the State and Territories — Principles also underpin Enduring Value, The Australian Minerals Industry Framework for Sustainable Development
	• *Australia's Biodiversity Conservation Strategy 2010 – 2030* — Endorsed and released on 27 October 2010 by the Natural Resource Management Council (now incorporated into the COAG Standing Council on Environment and Water) — Released to coincide with the United Nations International Year of Biodiversity	• Developed as a Guiding Framework for conserving Australia's national biodiversity over the coming decades — Developed as an "umbrella" for the development of more specific frameworks such as *Australia's Native Vegetation Framework* (December 2012) discussed below under Native Vegetation Legislation — Replaces *National Strategy for the Conservation of Australia's Biological Diversity* released in 1996 and which also influenced the development of the EPBC Act. (In turn this strategy stemmed from the *World Conservation Strategy* (1980) and the *National Conservation Strategy for Australia* (1983))
Primary legislation		
• *Environment Protection and Biodiversity Act 1999*	• *Environment Protection and Biodiversity Conservation Act 1999*	• Various amendments covering a range of matters. The amendments most likely to affect mining are detailed below

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
	(as amended) — Australia's principal piece of national environmental legislation. Translates Australia's international obligations, such as protecting World Heritage properties, wetlands of international importance, and listed threatened species and ecological communities into Australian Law. Also provides for the protection for Australia's national heritage places — Provides for bilateral agreements between the Commonwealth and the States — Full RIS undertaken	— Legislation is not mining specific • Refer Appendix D for more details about objects of the Act • Note Independent review (Hawke) of the *Environment Protection and Biodiversity Conservation Act 1999* and the National environmental law reform initiative of the Commonwealth in response — Components of this response are outlined below
	• *Environment and Heritage Legislation Amendment Act (NO. 1) 2006* — Impact analysis of the costs and benefits of the proposed amendments undertaken — A full RIS for the amendments was not done given previous RIS undertaken for the Act	• Enacted mainly to amend the *Environment Protection and Biodiversity Conservation Act 1999* after six years of operation and to make technical and consequential amendments and corrections to 6 other Acts — Amendments designed to make the Act "more efficient and effective, allow for the use of more strategic approaches and to provide greater certainty in decision-making" — Assented 12 December 2006
	• *Environment Protection and Biodiversity Conservation Amendment (Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development) Act 2012* — No regulatory impacts were required	• The amendment was made to enable the Minister to establish an Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development — requires the Minister to seek the advice of the committee before making a decision under the Act with respect to Coal Seam Gas and Large Coal Mining Development. — Assented 24 October 2012 — The inaugural committee was established on 27 November 2012.
•	• *Environment Protection and Biodiversity Conservation Amendment Bill 2013* — Exemption granted by the Prime Minister from the need to prepare a RIS	• Introduced to amend the *Environment Protection and Biodiversity Conservation Act 1999* to new matter of national environmental significance with respect to significant impacts or likely significant impacts of coal seam gas development and large coal mining development on a water resource — Introduced to the House of Representatives on 13 March 2013
•	• Proposed amendment bill for the implementation of cost-recovery arrangements for environmental assessments under the *Environment Protection*	• Part of the National environmental law reform initiative of the Commonwealth noted above • Consultation paper on cost recovery released for public comment by the Department of Sustainability, Environment, Water, Population and Communities in

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
	and Biodiversity Conservation Act 1999	September 2011 • Draft Cost Recovery Impact Statement released for public comment on 10 May 2012 — Comments closed on 21 June 2012
Subordinate legislation (including codes of practices)		
	• *Environment Protection and Biodiversity Conservation Regulations 1999* (as amended)	• Amended as required to implement legislative changes to the *Environment Protection and Biodiversity Conservation Act 1999*
	• Matters of National Environmental Significance : Significant impact guidelines 1.1 — Released October 2009 — Replacement for Guidelines issued in May 2006	• Developed to assist any person to determine whether they should refer an action for decision by the Australian Government Environment Minister on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999* — an action will require approval if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance as defined by the Act
National Environment Law Reform (announced on 24 August 2011 in response to independent review of the *Environment Protection and Biodiversity Conservation Act 1999* (the Hawke Review)		
	• *Environment Protection and Biodiversity Conservation Act 1999 — Environment Offsets Policy* (3 October 2012) — Integral part of the Australian Government's National Environment Law Reform Agenda	• Developed to facilitate the application of best practice offset principles and the achievement of better environmental outcomes by providing upfront guidance on the role of offsets in environmental impact assessments and how DSEWPaC would consider the suitability of a proposed offset — Released 3 October 2012 — replaces draft policy on the *Use of environmental offsets under the EPBC Act*, October 2007 — The policy replaces the draft policy, entitled Use of Environmental Offsets under the EPBC Act, 2007
	• Prescriptions — Specify the requirements to be met consistent with the protection of Matters of National Environmental Significance	• Various Prescriptions developed and approved for Listed Ecological Communities and National Listed Species under the EPBC Act — These Listed Communities and Species are presented in the document referenced below, entitled Statement of Environmental and Assurance Outcomes (May 2012)
• Bilateral agreements signed with Queensland, Western Australia, Tasmania, and the Northern Territory • Draft agreements with New South Wales, Victoria, South Australia and the ACT. — In the absence of signed agreement, the could accredited a state based EIS/EES procedure on a case-by-	• Bilateral Agreements relating to environmental impact assessments signed by the Commonwealth under the provisions of the EPBC Act with all jurisdictions: — New South Wales (Signed 18 January 2007) — Victoria (20 June 2009) — Queensland (14 June 2012 — replacement for	• Continued development of bilateral agreements to reduce duplication of environmental assessment and regulation between the Commonwealth and states/territories. The agreements allow the Commonwealth to '"accredit" particular state/territory assessment processes and, in some cases, state/territory approval decisions for the purposes of meeting the Commonwealth's responsibilities for conducting environmental assessments under the EPBC Act. • The agreements also provide the ability, in some circumstances, to delegate the

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
case basis	Agreements signed 13 August 2004) — Western Australia (21 March 2012) — South Australia (2 July 2008) — Tasmania (3 May 2011) — Northern Territory (31 May 2002) — ACT (4 June 2009)	responsibility for granting environmental approvals under the Act. Other matters may also be dealt with under the agreements such as management plans for World Heritage properties and cooperation on monitoring and enforcement
COAG Environmental Regulation Reform Agenda"		
	• Accreditation of State Assessment and Approval Processes under the *Environment Protection and Biodiversity Act 1999* • Work program announced by COAG 13 April 2012	• The COAG Environmental Regulation Reform Agenda is directed at further reducing duplication and double-handling of assessment and approval processes without compromising the achievement of better environmental outcomes — Represents a further tranche (announced 19 August 2011) of regulation and competition reforms under the National Partnership Agreement of COAG to deliver a Seamless National Economy with respect to "environmental assessment and approvals bilaterals" (26 March 2008)
	— Milestone 1 — Statement of Environmental and Assurance Outcomes (May 2012)	• Prepared as a foundation document for meeting the commitments of COAG with respect to Environmental Regulation Reform, especially regarding how the responsibilities of the Commonwealth under the EPBC Act and, through these, how Australia will meet its international environmental obligations — The objects of the EPBC Act and Australia's International Environmental Obligations are presented in Appendix D
	— Draft *Framework of Standards for the Accreditation of Environmental approvals* (Released publicly on 2 November 2012 and to jurisdictions in July 2012)	• Prepared as the second foundation document for meeting the commitments of COAG with respect to Environmental Regulation Reform with respect to the Accreditation by the States and Territories to make Environmental Approval decisions on behalf of the Commonwealth under the provisions of the EPBC Act. • Seeks to provide details of the requirements that must be satisfied for the Commonwealth to accredit State and Territory systems through bilateral agreements and about haw each State and Territory could address those requirements. — Overall the framework is designed to support risk- and outcomes -based regulation — Bilateral agreements proposed to be finalised by March 2013 •
Planning legislation (Administered by the State and Territories — No overarching Commonwealth legislation		
Primary legislation		
• NA	• NA	• NA

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
Subordinate legislation (including codes of practices)		
• NA	• NA	• NA
Land Rights and Native Title legislation (Administered by the Attorney-General's Department)		
Primary legislation		
• *Native Title Act 1993* (Cth)	• *Native Title Act 1993* (Cth) (as amended in 1998, 2007, 2009, and 2010)	• Various amendments directed at making the clarifying representation, the making of technical amendments and to improve the efficiency within which the Act is administered — No material changes since 2006 — Not mining specific
	• Native Title Amendment Act 2007 (Cth)	• Introduced a new regime for representative Aboriginal and Torres Strait Islander Bodies, increased the powers and functions of the National Native Title Tribunal (as recommended by an Independent Review) and improved measures design to improve communications between this Tribunal and the Federal Court — Assented 15 April 2007
	• *Native Title Amendment (Technical) Act 2007* (Cth)	• Introduced a series of technical amendments associated the processes for native title litigation and negation, representative Aboriginal and Torres Strait Islander Bodies and the operation of prescribed bodies corporate — Assented 20 July 2007
	• *Native Title Amendment Act 2009* (Cth)	• Enacted to enable the Federal Court to determine whether the court, National Native Title Tribunal or another body should mediate native title claims, specify the manner in which mediations are conducted and other aspects regarding how native title proceedings should be undertaken — Assented 17 September 2009
•	• *Native Title Amendment Act 2010* (Cth)	• Enacted to provide that representative Aboriginal and Torres Strait Islander Bodies and certain native title claimants may comment on request to be consulted about proposed housing and other services for indigenous communities — Assented 15 December 2010
•	• Native Title Amendment Bill 2012	• Series of proposed amendments regarding historical extinguishment of native title in certain areas set aside, the conduct expected of parties in future act negotiations, the time period before a party may seek determination from an arbitral body, the processes and scope of voluntary indigenous land-use agreements, and technical amendments — Second Reading Speech, 28 November 20012
	• *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) — Administered by the	• See the table above for the Northern Territory for details of changes to this Act since 2006

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
	Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs • *Aboriginal Land Rights (Northern Territory) Amendment Act 2006 Cth* — RIS prepared	
Subordinate legislation (including codes of practices)		
	• Native Title (Prescribed Bodies Corporate) Regulations 1999	• As amended consistent with the above legislative changes
Aboriginal Heritage legislation (Administered by Department of Department of Sustainability, Environment, Water, Population and Communities		
Primary legislation		
• *Environment Protection and Biodiversity Conservation Act 1999* — Replaced the Australian Heritage Commission Act 1975 — Provides for the protection of heritage issues as a Matter of National Environmental Significance	• *Environment Protection and Biodiversity Conservation Act 1999* (As amended)	• See comments under Environmental Protection Legislation above • Not mining specific
• *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*	• *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (as amended in 1987)	• No material changes identified
Subordinate legislation (including codes of practices)		
	NA	NA
Native Vegetation legislation (Administered by the by the Department of Sustainability, Environment, Water, Population and Communities)		
Primary legislation		
• *Environment Protection and Biodiversity Conservation Act 1999*	• *Environment Protection and Biodiversity Conservation Act 1999* (as amended)	• See Environmental Legislation above — Not native vegetation or mining specific
Subordinate legislation (including codes of practices)		
•	• *Environment Protection and Biodiversity Conservation Regulations 1999* (as amended)	• See Environmental Legislation above — Not native vegetation or mining specific
•	• *Australia's Native Vegetation Framework* (December 2012) — Endorsed for public release by the COAG Standing Council on Environment and Water on 19 December 2012 — In-principal support only from Victoria pending	• Developed to guide the actions of governments with respect to the management of native vegetation across Australia as well as to encourage and support the active involvement of the community and private sector — Updates the National Framework for the Management and Monitoring of Australia's Native Vegetation, released in 2001by the Natural Resource Management

2006 Audit (Cth)	2012 Audit (Cth)	Major changes (to March 2013)
	the completion of a current review of its native vegetation regulations	Ministerial Council
Water legislation (Administered by the Department of by the Department of Sustainability, Environment, Water, Population and Communities)		
Primary legislation		
	• *Water Act 2007*	• Enacted to establish — the Murray Darling Basin Authority and to require the Authority to prepare a Basin Plan — the Commonwealth Environmental Holder — to require the Australian Competition and Consumer Commission to monitor and enforce water charges and market rules in the Basin — increase the functions of the Bureau of Meteorology with respect to information on water resources • Assented 3 September 2007
	• *Water Amendment Act 2008*	• Enacted to give effect to the Intergovernmental Agreement on the Murray-Darling Basin Reform between New South Wales, Victoria, Queensland, South Australia, and the Australian Capital Territory and to transfer the powers and functions of the Murray-Darling Basin Commission to the Murray-Darling Basin
	• *Water Amendment (Long-term Average Sustainable Diversion Limit Adjustment) Act 2012*	• Enacted to enable the Murray-Darling Basin Authority to make adjustments to the long-term average sustainable diversion limit set by the Basin Plan and associated matters — Assented 21 November 2007
	• *Water Amendment (Water for the Environment Special Account) Act 2012* — RIS not required	• The Act amends the Water Act 2007 to: establish the Water for the Environment Special Account for a 10-year period from the 2014-15 financial year to acquire additional environmental water entitlement and to remove constraints on the efficient use of environmental water for the Murray-Darling Basin Plan; and provide for two independent reviews to be conducted in 2019 and 2021 — Assented 15 February 2013 — Complements the Water Amendment (Long-term Average Sustainable Diversion Limit Adjustment) Act 2012
Subordinate legislation (including codes of practices)		
	• National Water Initiative and other water reforms of COAG	• Ongoing implementation in cooperation with the States and Territories under the COAG Standing Council on Environment and Water

ENDNOTES:

[i] Policy Transition Group Report to the Federal Government, *Minerals and Petroleum Exploration*, December 2010, http://www.futuretax.gov.au/content/Publications/downloads/Minerals_and_Petroleum_Exploration_Report.pdf

[ii] UNCOVER, *Searching the deep earth: A vision for exploration geoscience in Australia*, prepared by the UNCOVER group under the aegis of the Australian Academy of Science, 2012 http://www.science.org.au/policy/uncover.html/

[iii] The Hon. Martin Ferguson, Minister for Energy and Resources, *Resources and Energy at the Heart of Structural Change in Australia's Economy*, Kevin McCann Lecture on Energy and Resources Law, 27 September 2011 http://minister.ret.gov.au/MediaCentre/Speeches/Pages/ResourcesEnergyAustraliaEconomy.aspx

[iv] Standing Council on Energy and Resources (SCER), *National Mineral Exploration Strategy*, December 2012 http://www.scer.gov.au/workstreams/geoscience/national-exploration-strategy/

[v] Fraser Institute, *Annual Survey of Mining Companies 2012/13* http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/mining-survey-2012-2013.pdf

[vi] SNL Metals Economics Group, *World Exploration Trends 2013*, March 2013 http://www.metalseconomics.com/sites/default/files/uploads/PDFs/meg_wetbrochure2013.pdf

[vii] HighGrade, *METS before metals*, according to latest survey, March 2013 http://www.highgrade.net/

[viii] Ministerial Inquiry into Greenfields Exploration in Western Australia, *Appendix 3 The economic impact of mineral exploration in Western Australia: a general equilibrium analysis*, November 2002 http://www.dmp.wa.gov.au/documents/Bowler_Report_Appendix.pdf

[ix] Vanessa Rayner and James Bishop , Industry Dimensions of the Resource Boom: An Input-Output Analysis, RBA Research Discussion Paper, February 2013 http://www.rba.gov.au/publications/rdp/2013/2013-02.html

[x] Port Jackson Partners, *Opportunity at risk: Regaining our competitive edge in minerals resources*, September 2012 http://www.minerals.org.au/file_upload/files/presentations/mca_opportunity_at_risk_FINAL.pdf

[xi] Dr Martin Parkinson, Secretary to The Treasury, Challenges and Opportunities for the Australian Economy, Speech to the John Curtin Institute of Public Policy, 5 October 2012 http://www.treasury.gov.au/PublicationsAndMedia/Speeches/2012/Challenges-and-opportunities-for-the-Aust-economy

[xii] Henry Ergas and Joe Owen, *Rebooting the boom: Unfinished business on the supply side*, December 2012 http://www.minerals.org.au/file_upload/files/publications/mca_rebooting_the_boom_FINAL.pdf

[xiii] BAEconomics, *Modelling the economic impact of a lost opportunity*, Appendix to Port Jackson Partners, *Opportunity at risk: Regaining our competitive edge in minerals resources*, September 2012 http://www.minerals.org.au/file_upload/files/presentations/mca_opportunity_at_risk_FINAL.pdf

[xiv] SNL Metals Economics Group op. cit.

[xv] Professor Roderick G. Eggert, *Mineral Exploration Development: Risk and Reward*, May 2010 http://www.un.org.kh/undp/images/stories/special-pages/mining-conference-2010/docs/Mineral%20Exploration%20and%20Development%20by%20Roderick%20Eggert_Eng.pdf

[xvi] Ibid.

[xvii] Thomas Williams, Domestic Markets Department of the Reserve Bank of Australia, *Exploration and the Listed Resource Sec*tor, RBA Bulletin September Quarter 2012 http://www.rba.gov.au/publications/bulletin/2012/sep/5.html

[xviii] Richard Shodde, *Recent trends in gold discovery*, November 2011 http://www.minexconsulting.com/publications/PAPER%20-%20Recent%20trends%20in%20gold%20discovery%20NewGenGold%20Conf%20Nov%202011%20FINAL.pdf

[xix] Mineral Exploration in Australia Recommendations prepares by the Strategic Leaders Group for the Mineral Exploration Action Agenda, 2003

[xx] *Levers to improve Australia's global position for attracting resource exploration investment* prepared for the Exploration and Investment Working Group of the Standing Council on Energy and Resources, June 2012 http://www.scer.gov.au/workstreams/geoscience/national-exploration-strategy-2/

[xxi] Geoscience Australia, *Australia's Identified Mineral Resources 2009* http://www.ga.gov.au/image_cache/GA16805.pdf

[xxii] Policy Transition Group op. cit.

[xxiii] *Levers to improve Australia's global position for attracting resource exploration investment* op cit.

[xxiv] Richard Shodde, Managing Director MinEx Consulting, How does Australia's Discovery record shape up to the rest of the world? Address to the AMEC Convention, 2 June 2010 http://www.minexconsulting.com/publications/Australias%20Discovery%20Record%20AMEC%20June%202010.pdf

[xxv] National Exploration Strategy op.cit

[xxvi] BHP Billiton, *Minerals Exploration* http://www.bhpbilliton.com/home/businesses/MineralsExploration/Documents/BHP%20Billiton%20Minerals%20Exploration%20Corporate%20Publication.pdf

[xxvii] Richard Shodde and Pietro Guj, *Where are Australia's Mines of Tomorrow?*, September 2012 https://www.amec.org.au/wp-content/uploads/REVISED-CET-Paper-Australian-Mineral-Exploration-3-Sept-2012.pdf
[xxviii] Professor Suzanne Cory AC PresAA FRS President, Australian Academy of Science, UNCOVER
[xxix] SNL Metals Economics Group, *World Exploration Trends 2013*, March 2013
http://www.metalseconomics.com/sites/default/files/uploads/PDFs/meg_wetbrochure2013.pdf
[xxx] Shodde and Guj op cit.
[xxxi] *Levers to improve Australia's global position for attracting resource exploration investment* op cit.
[xxxii] World Economic Forum, *The Global Competitiveness Report 2012 – 2013*, September 2012
http://reports.weforum.org/global-competitiveness-report-2012-2013/#=
[xxxiii] Australia's rankings are as follows: WA 15th, SA 20th, NT 22nd, Vic. 24th, Qld 32nd, NSW 44th and Tas. 49th.
[xxxiv] Behre Dolbear, *2012 Ranking of Countries for Mining Investment* http://www.dolbear.com/news-resources/documents
[xxxv] Newport Consulting, *Mining Business Outlook Report: Canvassing the views of Australia's mining leaders 2012-13*, July 2012
http://www.newportconsulting.com.au/images/pdf/2012-newport%20mining%20business%20outlook%20report%202012.pdf
[xxxvi] Grant Thornton Media Release 3 March 2013 http://www.grantthornton.com.au/Publications/Newsletters/media_130304.asp
[xxxvii] Baker & McKenzie, *Mining investment: local challenges - global implications*, September 2012
http://www.jdsupra.com/legalnews/baker-mckenzie-mining-investment-loc-56800/
[xxxviii] David Bradbury, Assistant Treasurer, Minerals and Energy Resource Exploration Public Inquiry – Terms of Reference, September 2012
http://www.pc.gov.au/projects/inquiry/resource-exploration/terms-of-reference
[xxxix] Eggert, op cit.
[xl] Grant Thornton, *JUMEX Survey: A survey of junior mining and exploration companies,* October 2012
http://www.grantthornton.com.au/files/jumex_report_2012.pdf
[xli] Michael Fotios, Executive Chairman of Investmet Limited quoted in "Project pipeline dries up as funds freeze for juniors", *The Australian,* 3 December 2012
http://www.theaustralian.com.au/business/project-pipeline-dries-up-as-funds-freeze-for-juniors/story-e6frg8zx-1226528464344
[xlii] Elmer Funke Kupper, ASX Managing Director and CEO, Address to the QRC Queensland Exploration Breakfast, 2 November 2012
http://www.asxgroup.com.au/media/PDFs/QRC_NOV_2012.pdf
[xliii] Australian Bureau of Agriculture and Resource Economics, *Tax incentive options for junior explorers*, May 2003, p 31.
[xliv] Mining Lease figure Calculated by IntierraRMG, current at December 2012.
[xlv] Prof. M D'Occhio, *Food Security in an Australian Context* – Report to the Minerals Council of Australia. University of Queensland and Global Change Institute, July 2011
[xlvi] Prime Minister's Science, Engineering and Innovation Council (PMSEIC) Expert Working Group report on *Australia and Food Security in a Changing World*, Office of Australia's Chief Scientist, October 2010
http://www.chiefscientist.gov.au/wp-content/uploads/FoodSecurity_web.pdf
[xlvii] Prof. M D'Occhio, op. cit.
[xlviii] Australian Government Response to the Report of the Independent Review of the *Environmental Protection and Biodiversity Conservation Act 1999*
http://www.environment.gov.au/epbc/publications/epbc-review-govt-response.html
[xlix] National Native Title Tribunal, *Steps from mineral exploration to a mine: Developed in consultation with the WA Department of Mines and Petroleum, peak industry bodies and Western Australia native title representative bodies*, 2009
http://www.nntt.gov.au/Future-Acts/Documents/Mineral_exploration_March_2009.pdf
See also: National Native Title Tribunal, *Mining, exploration and native title: the Commonwealth scheme*, 2009
http://www.nntt.gov.au/Future-Acts/Documents/Mining%20exploration%20and%20native%20title.pdf
[l] Australian Government Department of Industry, Tourism and Resources, *Minerals exploration: the road to discovery : the minerals exploration action agenda*, 2004
[li] UNCOVER op. cit.
[lii] Department of Education, Employment and Workplace Relations, *2011-12 Labour Market Research Report on the Resources Sector by the Department of Education, Employment and Workplace Relations*
[liii] http://www.adelaide.edu.au/mtec/
[liv] Minerals Tertiary Education Council, *Key Performance Measures Report 2012*
http://www.minerals.org.au/file_upload/files/publications/MTEC_2011_Key_Performance_Measures_Report.pdf
[lv] Constituted in 2008, Straterra, Natural Resources of New Zealand, provides a collective voice for the New Zealand minerals and mining sector.
[lvi] Established by amendment (October 2012) to the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth). The amendment requires the Minister to establish such a committee and to seek the advice of the committee before making a decision under the Act with respect to Coal Seam Gas and Large Coal Mining Development. The inaugural committee was established on 27 November 2012.