



**ECONOMIC DEVELOPMENT AND INFRASTRUCTURE
COMMITTEE**

**Inquiry into greenfields mineral exploration and
project development in Victoria**

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Inquiry into greenfields mineral exploration and project development in Victoria

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COMMITTEE MEMBERS AND STAFF

This inquiry was conducted during the term of the 57th Parliament.

The members of the Economic Development and Infrastructure Committee are:

Mr Neale Burgess, MP (Chair)
Mr Martin Foley, MP (Deputy Chair)
Mr Wade Noonan, MP
Mrs Inga Peulich, MLC
Mr Geoff Shaw, MP

For this inquiry, the Committee was supported by a secretariat comprising:

Executive Officers:	Ms Yuki Simmonds (until 6 January 2012) Mr Sean Coley (from 9 January 2012)
Research Officer:	Mr Scott Martin
Administrative Officer:	Mr Matt Newington

THE ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

The Economic Development and Infrastructure Committee is a joint investigatory committee of the Parliament of Victoria. The Committee was established under the *Parliamentary Committees Act 2003* and its members have been drawn from both the Legislative Assembly and the Legislative Council.

The Committee's functions under the Act are to inquire into, consider and report to the Parliament on any proposal, matter or thing concerned with economic development, industrial affairs or infrastructure.

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TERMS OF REFERENCE

The terms of reference were received from the Legislative Assembly on 10 February 2011:

That under s 33 the *Parliamentary Committees Act 2003*, the Economic Development and Infrastructure Committee is required to inquire into, consider and report no later than 8 February 2012 on the benefits and drivers of greenfields mineral exploration and project development in Victoria and the Committee is asked to consider possible barriers to greenfields exploration and development, as well as project attraction in Victoria in the context of a globally competitive industry, and to identify appropriate responses that government and industry may take — and the Committee is asked to do this through an examination of:

- (a) Victoria's mineral endowment (often referred to as 'prospectivity') across a portfolio of commodities (including energy earth resources and extractives products);
- (b) the regulatory environment;
- (c) fees, charges and royalties;
- (d) national and international perceptions of Victoria's prospectivity and regulatory environment;
- (e) the success and failure of projects in Victoria's mining development pipeline;
- (f) different approaches and programs applied in other Australian and international jurisdictions to foster increased investment in greenfields exploration for, and development of, minerals and energy earth resources;
- (g) the different roles of government (this may include, but is not limited to, targeted industry engagement, facilitation and generation of geological survey information);
- (h) opportunities to increase the net benefits from Victoria's minerals and energy earth resources, and to potentially provide for self sufficiency in low cost energy and extractive materials, consistent with the principle of economic efficiency; and
- (i) consideration of the costs and benefits of greenfields minerals exploration (economic, social and environmental), and whether there are opportunities to improve the management of potential conflicts between exploration and other land uses.

The reporting date was extended to 30 April 2012 on 8 December 2011 and again to 22 May 2012 on 1 May 2012 by motions of the Legislative Assembly.

CHAIR'S FOREWORD

I am pleased to present the Report of the Economic Development and Infrastructure Committee's Inquiry into greenfields mineral exploration and development in Victoria.

As the title of the inquiry suggests, the Committee's main focus was on greenfields exploration. However as significant evidence relating to issues beyond this stage of the process was received the Committee has commented on these matters where appropriate.

Without exploration, Victoria is unable to reap the investment, employment and other benefits that mining can bring to a community. The Committee received evidence that while Victoria possesses very strong mineral prospectivity, it lags well behind other Australian and international jurisdictions in capitalising on its natural attributes.

The evidence identified that the conversion rate from exploration to a mining development is at best 1 in 300 and lead times from initial exploration to establishment of a mine is in excess of 10 years. As there are many resource rich jurisdictions in Australia and around the world, competition for exploration and mining investment is strong.

With the high risk nature of exploration and long lead times for project development, regulatory environments that are 'user friendly', predictable and transparent are best placed to secure that investment.

The main thrust of this inquiry was to examine why Victoria has fallen behind other Australian and international jurisdictions in developing its natural endowments for the benefit of its people.

One of the key recommendations of this Report is for the Victorian Government to adopt a 'one-stop-shop' for the exploration, mining and extractive industries in Victoria. This will require a whole-of-government commitment to the resources sector and for this position to be communicated widely to the sector and, crucially, the Victorian community.

The Inquiry also found that new and improved research partnerships between government, universities and industry would assist to develop capacity in the Victorian resources sector.

This is a comprehensive report examining all aspects of greenfields minerals and extractives exploration in Victoria. The Committee met with and took evidence from 80 witnesses representing 44 organisations, travelled to South Australia to take evidence and also conducted site visits at two mineral exploration and mining operations in regional Victoria.

The Committee's report makes 25 recommendations addressing issues of importance to the resources sector in Victoria. These affect the industry's legislative and regulatory framework, capital raising and taxation, pre-competitive geoscience data acquisition, geoscience research and education, land titles, native title, cultural heritage and environmental protection. It is the Committee's view that these recommendations are both tangible and achievable and will be of benefit to the industry and the community.

The Committee would like to thank the many people involved in this inquiry: including those who provided verbal and written submissions or attended as witnesses at public hearings and site visits.

I would like to thank the Committee members: Mr Martin Foley MP (Deputy Chair), Mr Wade Noonan MP, Mrs Inga Peulich MLC and Mr Geoff Shaw MP, for their time and effort on this inquiry and for making this report one of substance.

The Committee is also appreciative of the work of the executive staff: Yuki Simmonds, Executive Officer, Sean Coley, Acting Executive Officer, Scott Martin, Research Officer, and Matt Newington, Administrative Officer and research assistant, for their dedication and hard work in completing this report.

I commend this report to the Parliament.

A handwritten signature in blue ink that reads "Neale Burgess". The signature is written in a cursive, flowing style.

Neale Burgess MP
Chair

LIST OF RECOMMENDATIONS

Recommendation 1: That the Victorian Government establishes an appropriate process to enable open consultation with stakeholders, including local communities, for issues regarding future coal seam gas exploration and development. 43

Recommendation 2: That the Victorian Government in conjunction with industry establishes a framework for monitoring the health and activity of the mining sector. 48

Recommendation 3: That the Victorian Government adopts an integrated, whole-of-government approach to the state's resources sector, supported by clear and consistent policies, and that this policy be widely communicated to the resources sector and the broader Victorian community to demonstrate strong support for the sector and its future. 52

Recommendation 4: That the Victorian Government works with industry to develop and support a comprehensive community education program that promotes the value of the resources sector to the state. 55

Recommendation 5: That the Victorian Government works together with the Joint Ore Reserves Committee (JORC) and other stakeholders to better define nuggetty gold resources within the JORC framework to encourage greater investment in gold exploration in Victoria. 70

Recommendation 6: That the Victorian Government develops a state-wide integrated, strategic land use policy framework to better manage competing land uses in Victoria. This framework should be subject to periodic review giving consideration to economic, social and environmental factors. 78

Recommendation 7: As part of the development of an integrated state-wide strategic land use framework, that the Victorian Government ensures studies are undertaken to determine areas of high prospectivity for extractives and future extractives needs in metropolitan Melbourne and regional Victoria. 81

Recommendation 8: That the findings of the extractives prospectivity and future needs studies be incorporated into the state-wide strategic land use framework, be protected in local planning schemes, and have appropriate post-extractive uses identified that are consistent with and sensitive to abutting areas. 82

Recommendation 9: That the Victorian Government reviews the system in which landholders are notified by mineral or extractive licence applications covering their land, to ensure, where appropriate, directly affected landholders receive timely, written notification. 107

Recommendation 10: That all new applications for exploration licences be advertised on the Department of Primary Industries' website with an interactive, searchable, user-friendly interface. 108

Recommendation 11: That the Victorian Government, through the Department of Primary Industries, notifies local governments of applications for exploration licences that are located within their jurisdictions. 110

Recommendation 12: That the Victorian Government, at an appropriate time, reviews the outcomes of the reforms to mineral licences implemented by the stage one review of the *Mineral Resources (Sustainable Development) Act 1990*. 133

Recommendation 13: That the Victorian Government considers ways of improving access to Crown land for mineral exploration as part of the wider review of land use priorities in Victoria. 135

Recommendation 14: That the Victorian Government conducts a review of compensation agreements under the *Mineral Resources (Sustainable Development) Act 1990* to encourage fair outcomes for those with a specified beneficial interest directly and adversely affected by mineral exploration. 138

Recommendation 15: That the Victorian Government reviews the current rehabilitation bond system in comparison with alternative existing mechanisms, taking into account the end-of-mine-life environmental legacies, whilst honouring obligations for rehabilitation of specific sites. 145

Recommendation 16: That the Victorian Government examines the feasibility of reducing or removing royalty charges on overburden material for extractive developments. 163

Recommendation 17: That the Victorian Government develop a clear policy position on the future role of the Mining Warden. 165

Recommendation 18: That the Victorian Government establishes statutory timeframes under the *Mineral Resources (Sustainable Development) Act 1990*. These timeframes must be binding upon the Department of Primary Industries and its referral agencies, incorporated into annual reporting requirements and be equivalent to Australian best practice. 180

Recommendation 19: That the Victorian Government considers redirecting the regulatory focus of exploration, mining and extractive work plans towards outcomes and away from prescriptive conditions, in order to better manage risk and achieve socially, economically and environmentally sound outcomes. 194

Recommendation 20: That the Victorian Government considers the recommendations of the Victorian Competition and Efficiency Commission's report *A sustainable future for Victoria: getting environmental regulation right* (2009) to improve the transparency and efficiency of the Environmental Effects Statement process in Victoria. 206

Recommendation 21: That the Victorian Government develops a 'one-stop-shop' framework to provide a single point of entry into Victoria's regulatory system for the full range of resource sector activities from exploration to production under the *Mineral Resources (Sustainable Development) Act 1990*. 225

Recommendation 22: That the Victorian Government considers the recommendation of the Policy Transition Group's *Report to the Australian Government* (2010) that the Productivity Commission be directed to conduct a review of regulatory barriers faced by exploration companies in Australia. 245

Recommendation 23: That the Victorian Government considers facilitating the establishment of a framework for an integrated mineral resources initiative such as South Australia's *Plan for Accelerating Exploration*, to drive new minerals exploration to encourage investment and economic development in Victoria. 265

Recommendation 24: That the Victorian Government strengthens Victoria's role in research and innovation, through facilitation of partnerships between the Government, universities and the resources sector. 279

Recommendation 25: That the Victorian Government establishes a process that determines local infrastructure requirements for mining development projects, facilitates plans to meet those needs, identifies appropriate funding models, and minimises adverse effects while maximising benefits for local communities. 299

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LIST OF ABBREVIATIONS

AAG	Association of Applied Geochemists
AAV	Aboriginal Affairs Victoria
ACRE	Australian Centre for Renewable Energy
AHA	<i>Aboriginal Heritage Act 2006</i>
AIG	Australian Institute of Geoscientists
AMEC	Association of Mining and Exploration Companies
ARTC	Australian Rail Track Corporation
ASX	Australian Stock Exchange
AUA	Australian Uranium Association
AusIMM	Australasian Institute of Mining and Metallurgy
BAF	Business Advisory Forum
BCIA	Brown Coal Innovation Australia
BDG	Behre Dolbear Group
BFD	Bringing Forward Discovery
BRCWG	Business Regulation and Competition Working Group
CCAA	Cement Concrete & Aggregates Australia
CCS	Carbon capture and storage
CCSFP	Carbon Capture and Storage Flagships Program
CE	Community engagement
CHMP	Cultural Heritage Management Plan
CMA	Catchment Management Authority
CFMEU	Construction, Forestry, Mining and Energy Union
CMPA	Construction Material Processors Association
CMXUC	South Australian Centre for Mineral Exploration Under Cover
CO ₂	Carbon dioxide
CO2CRC	Cooperative Research Centre for Greenhouse Gas Technologies
COAG	Council of Australian Governments
COGENT	Common Geoscientific Environment
CRC	Cooperative research centre
CSG	Coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cwlth	Commonwealth
DBI	Department of Business and Innovation
DETCRC	Deep Exploration Technologies Cooperative Research Centre
DMS	Donald Mineral Sands

DoJ	Department of Justice
DoT	Department of Transport
DPCD	Department of Planning and Community Development
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EARF	Extractive Areas Rehabilitation Fund
EDIC	Economic Development and Infrastructure Committee
EDO	Environment Defenders Office
EE Act	<i>Environment Effects Act 1978</i>
EES	Environment Effects Statement
EGSC	East Gippsland Shire Council
EIA	Environmental impact assessment
EIDA	<i>Extractives Industry Development Act 1995</i>
EIIAs	Extractive industry interest areas
EIS	Exploration Incentive Scheme
EIWA	Extractive industry work authority
EL	Exploration licence
EMP	Environmental management plan/program
ENRC	Environment and Natural Resources Committee
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity and Conservation Act 1990</i>
EROL	Exploration & Environment Reports Online Lodgement
ETIS	Energy Technology Innovation Strategy
EV	Environment Victoria
FCC&PCC	Flynn Creek Coal & Power Consultative Committee
FotE	Friends of the Earth
GA	Geoscience Australia
GAP	Geoscientist assistance program
GDP	Gross Domestic Product
GEL	Groundwater extraction licence
GeoDP	Geothermal Drilling Program
GIS	Geographical Information Systems
GRP	Gross Regional Product
GSP	Gross State Product
GSQ	Geological Survey of Queensland
GSV	GeoScience Victoria

IGCC	Integrated gasification combined cycle
IGO	Independence Group
ILUA	Indigenous Land Use Agreement
JORC	Joint Ore Reserves Committee
KCC	Kingston City Council
KRA	Key resource area
LCC	Latrobe City Council
LJG	Land Justice Group
MAV	Municipal Association of Victoria
MCA	Minerals Council of Australia
MCO	Morning Star Gold
MEG	Moorabool Environment Group
MITRE	Department for Manufacturing, Innovation, Trade, Resources and Energy (South Australia)
ML	Mining licence
MMNLG	Mirboo/Mardan North Landcare Group
MoU	Memorandum of Understanding
Mt	Million tonnes
MPF	Major Projects Facilitation
MPV	Major Projects Victoria
MRDR	<i>Mineral Resources Development Regulations 2002</i>
MRRT	Mineral Resources Rent Tax
MRSDA	<i>Mineral Resources (Sustainable Development) Act 1990</i>
MRSDEIR	<i>Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010</i>
MSC	Mitchell Shire Council
MSP	Mineral separation plant
NGSC	Northern Grampians Shire Council
NSW	New South Wales
NT	Northern Territory
NTA	<i>Native Title Act 1993</i>
NTGS	Northern Territory Geological Survey
NTSV	Native Title Services Victoria
NWQMEP	North-West Queensland Minerals and Energy Province
OH&S	Operational health and safety
P&E Act	<i>Planning and Environment Act 1987</i>

PACE	Plan for Accelerating Exploration
PCV	Permissible consumptive volume
PIRSA	Department of Primary Industries and Resources (South Australia)
PL	Prospecting licence
PMAV	Prospectors & Miners Association of Victoria
PPI	Policy Potential Index
PRRT	Petroleum Resource Rent Tax
PTG	Policy Transition Group
PwC	PricewaterhouseCoopers
QLD	Queensland
R&D	Research and development
RAP	Registered Aboriginal Party
RDV	Rediscover Victoria
RDVD	Rediscover Victoria Drilling
RESIC	Resources and Energy Sector Infrastructure Council
RL	Retention licence
RSPT	Resources Super Profits Tax
RTN	Right to Negotiate
RTO	Registered training organisation
SA	South Australia
SACOME	South Australian Chamber of Mines and Energy
SAFF	South Australian Farmers Federation
SAMPEG	South Australian Minerals and Petroleum Expert Group
SARIG	South Australian Resources Information Geoserver
SMFP	Smart Mining — Future Prosperity
SPP	State planning policy
SPPF	State Planning Policy Framework
Tas	Tasmania
TIGER	Tasmanian Information on Geoscience and Exploration Resources
TOSA	<i>Traditional Owner Settlement Act 2010</i>
TRG	Technical reference group
UGB	Urban Growth Boundary
VAHC	Victorian Aboriginal Heritage Council
VCAT	Victorian Civil and Administrative Tribunal
VCEC	Victorian Competition and Efficiency Commission
Vic	Victoria

VicGCS	Victorian Geological Carbon Storage
VIMP	Victorian Initiative for Minerals and Petroleum
VLPA	Victorian Limestone Producers Association
VPP	Victorian Planning Provisions
WA	Western Australia
WES	Westech Environmental Solutions

CHAPTER ONE: INTRODUCTION

On 10 February 2011, the Economic Development and Infrastructure Committee (EDIC) received terms of reference from the Victorian Parliament to inquire into and report on the benefits, drivers of, and barriers to, greenfields mineral exploration and development in Victoria. The Committee formally commenced the Inquiry in June 2011 as a consequence of EDIC membership not being appointed in the 57th Parliament until May 2011.

In the resources sector, exploration is the first of many stages when working towards the development of mineral resources. There are two key types of exploration activity: greenfields and brownfields. Greenfields exploration refers to activity undertaken in unexplored or incompletely explored areas. Its key purpose is to discover new mineral deposits in new areas and typically away from the immediate vicinity of existing mines.¹

In contrast, brownfields exploration conducts activity in areas where the mineral endowment of the area is already established. It aims to extend an existing mine's operating life and to take advantage of existing infrastructure. Brownfields exploration does not deliver more than incremental growth as existing mineral deposits are depleted.²

Greenfields exploration, also referred to as grassroots exploration, provides the foundation of the resources sector and is how all major mines begin. It is imperative to ensuring the discovery of new resources and maintaining a pipeline of new resource projects. Without ongoing greenfields exploration activity, there is no opportunity to replace depleting resources.³

Across the globe, total expenditure on mineral exploration is on average approximately 2.5 times the rate of expenditure on greenfields exploration alone.⁴ A shift away from greenfields exploration activity is evident at national and international levels, although it is more apparent locally as investment increasingly becomes geared towards other, less developed global regions.⁵ While current expenditure on greenfields exploration is less than expenditure on

¹ J.M.A Hronsky, et al., 'The case for a greenfields renaissance'.

² J.M.A Hronsky, et al., 'The case for a greenfields renaissance'.

³ House of Representatives Standing Committee on Industry and Resources, *Exploring: Australia's future — impediments to increasing investment in minerals and petroleum in Australia*, Parliament of Australia, Canberra, 2003.

⁴ Department of Primary Industries, Presentation to Committee: 'DPI presentation to EDIC Inquiry into greenfields mineral exploration and project development in Victoria', 14 December 2011, p. 5.

⁵ Victorian Government, *submission*, no. 58, 22 October 2011.

brownfields exploration across all Australian states and territories, it is considerably less in Victoria.⁶

As a consequence of this shift away from exploring for new resource deposits, there has been growing interest within the Victorian Government to understand the drivers and barriers to attracting greater investment in greenfields exploration in the state. As Australia experiences an unprecedented resources boom, there is also a desire to identify potential opportunities that will generate greater economic activity in Victoria and contribute to the long-term growth of the sector overall.

Enhancing investment in greenfields exploration is a topic that has been considered at a national level on various occasions. In July 2010, the Australian Government established the Policy Transition Group (PTG) to consider, among other things, the best way to promote future exploration and ensure a stream of new resource projects for future generations. The PTG proposed four recommendations to the Government to promote exploration activity in Australia: enhancing the availability of geospatial data to the industry, improved pre-competitive geoscience; reviewing the Government's current efforts to improve the regulatory environment experienced by explorers; and consideration of a refundable exploration tax offset in preference to an exploration tax credit.⁷

The issue was previously reviewed in 2003 by the House of Representatives Standing Committee on Industry and Resources. A key finding emerging from the report *Exploring Australia's future — impediments to increasing investment in minerals and petroleum exploration in Australia* was:

... if there are some world-class resources discoveries, or even just one, in a short space of time in Australia, the resultant exploration momentum generated would be such that the problem of insufficient investment flowing into the resource exploration industry would probably evaporate.⁸

The report indicated the ground rules for exploration had changed significantly over the previous decade, with issues arising from globalisation, native title, lack of investment funds, and competition for speculative investment funds. It also reinforced the importance of enhancing the exploration industry through improved geoscience. Overall, the Committee made 28 recommendations that addressed issues around corporate structure, capital raising and taxation; pre-competitive geoscience data acquisition; geoscience research and education; titles; exploration and native title; and environmental and other approval regimes.⁹

⁶ Australian Bureau of Statistics, *Mineral and petroleum exploration, Australia*, cat. no. 412.0, ABS, Canberra, 2011.

⁷ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010.

⁸ House of Representatives Standing Committee on Industry and Resources, *Exploring: Australia's future — impediments to increasing investment in minerals and petroleum in Australia*, Parliament of Australia, Canberra, 2003, p. ix.

⁹ House of Representatives Standing Committee on Industry and Resources, *Exploring: Australia's future — impediments to increasing investment in minerals and petroleum in Australia*, Parliament of Australia, Canberra, 2003.

Similar to the Australian Government reports, this Inquiry has a strong focus on how governments can enhance investment in the resources sector, with recommendations on streamlining the regulatory environment, enhancing levels of government support, and improving perceptions of the sector both within and outside Victoria. Throughout its investigations, however, the Committee has been mindful of Victoria's broader environment, and the fact that it is a densely populated state where agricultural, commercial and residential activities operate in close proximity to one another. Consequently, the Committee's recommendations aim to create a balance between promoting the state's resources sector and recognising the important contribution of other sectors to the state's prosperity. The recommendations also reflect the need for the resources sector to operate in a manner that is compatible with the social and environmental priorities of the community to ensure long-term growth and sustainability in Victoria.

1.1 Scope of the Inquiry

1.1.1 Terms of reference

The terms of reference require the Committee to inquire into and report on the benefits and drivers of, and barriers to, greenfields mineral exploration and project development in Victoria, as well as to identify project attraction in Victoria in the global context and appropriate government and industry responses to enhance project attraction. In particular, the Committee was asked to examine:

- (a) Victoria's mineral endowment (often referred to as 'prospectivity' across a portfolio of commodities (including energy earth resources and extractives products))
- (b) the regulatory environment
- (c) fees, charges and royalties
- (d) national and international perceptions of Victoria's prospectivity and regulatory environment
- (e) the success and failure of projects in Victoria's mining development pipelines
- (f) different approaches and programs applied in other Australian and international jurisdictions to foster increased investment in greenfields exploration for, and development of, minerals and energy earth resources
- (g) the different roles of government (this may include, but is not limited to, targeted industry engagement, facilitation and generation of geological survey information)
- (h) opportunities to increase the net benefits from Victoria's minerals and energy earth resources, and to potentially provide for self sufficiency in low cost energy and extractive materials, consistent with the principle of economic efficiency

- (i) consideration of the costs and benefits of greenfields minerals exploration (economic, social and environmental), and whether there are opportunities to improve the management of potential conflicts between exploration and other land uses.

1.1.2 What types of minerals are the focus of the Inquiry?

Throughout the Inquiry process, the Committee was required to consider the scope of the Inquiry with regard to the types of minerals it would focus on. While the Inquiry's terms of reference indicated an overall focus on minerals, individual terms of reference referred to the terms 'energy earth resources' and 'extractives materials/products'.

In confirming the Inquiry's scope, the Committee began with the definition of 'minerals' in the Victorian *Mineral Resources (Sustainable Development) Act 1990* (MRSDA), which is the key legislative framework regulating the state's resources sector. It defines a mineral as:

... any substance which occurs naturally as part of the earth's crust—

- (a) including—
 - (i) oil shale and coal; and
 - (ii) hydrocarbons and mineral oils contained in oil shale or coal or extracted from oil shale or coal by chemical or industrial processes; and
 - (iii) any substance specified in Schedule 4;
- (b) excluding water, stone, peat or petroleum.¹⁰

Schedule 4 lists the following substances as minerals:

1. Bentonite.
2. Fine clay.
3. Kaolin.
4. Lignite.
5. Minerals in alluvial form including those of titanium, zirconium, rare earth elements and platinoid group elements.
- ...
7. Quartz crystals.
8. Zeolite.¹¹

According to this definition, examples of minerals include those that are metallic, such as gold, copper, mineral sands, lead and iron ore; and those that are

¹⁰ *Mineral Resources (Sustainable Development) Act 1990 (Vic)*, section 12.

¹¹ *Mineral Resources (Sustainable Development) Act 1990 (Vic)*, schedule 4.

non-metallic, such as coal, kaolin and gypsum. It does not include geothermal energy resources or extractive materials, such as stone, hard rock, sand gravel and clay. Despite this, the Committee agreed to include these resources in the Inquiry's scope based on the potential contribution of geothermal energy to Victoria's future energy mix and the important role of the extractives industry to the state's development. Other resources, such as petroleum and conventional gas were not included, as it was believed that the exploration and development of these resources are already well established in Victoria.

1.2 Inquiry process

The Committee advertised the terms of reference and called for public submissions to the Inquiry in Victorian and national newspapers in June 2011. The Chair of the Committee also wrote to over 300 key stakeholders. Overall, the Committee received 60 submissions (see Appendix one).

Ten public hearings were convened from August 2011 to January 2012 (see Appendix two). The Committee took evidence from 80 witnesses representing 44 organisations including local governments; exploration, mining and extractive companies and peak bodies; universities; unions; local community and environmental groups; and professional associations. The Committee also received evidence from the Department of Primary Industries, the Department of Planning and Community Development, and the Department of Sustainability and Environment.

As part of its evidence gathering for the Inquiry, the Committee travelled to South Australia and also conducted site visits at two mineral exploration and mining operations in Victoria: Iluka Resources' mineral sands mine site in Douglas and processing plant in Hamilton, and the Castlemaine Goldfields Limited gold mine site in Ballarat. These site visits provided the Committee with the opportunity to enhance its technical understanding of exploration and mining operations, as well as demonstrate the role, benefits and impacts of such operations in regional areas.

1.3 Report overview

This report is divided into ten chapters:

- Chapter one provides an overview of the Inquiry, including its terms of reference, scope and process.
- Chapter two explores mineral exploration and mining at national and global levels, focusing on key characteristics of these two industries.
- Chapter three reviews the Victorian resources sector in both a historical context and based on its current status, as well as outlining the state's current resource endowment and prospectivity, and other emerging resources.
- Chapter four builds the case for enhanced investment in exploration and mining in Victoria, exploring the contribution of these industries to the Australian and Victorian economies.

- Chapter five explores the real and perceived challenges to building a successful resources sector in Victoria, looking at the state's human and natural layout, land use conflicts, the financial and regulatory environment, and perceptions of Victoria as a place to explore and mine.
- Chapter six outlines Victoria's regulatory environment for the resources sector, including an overview of the MRSDA and the role of the Victorian Government in supporting the sector.
- Chapter seven continues to investigate the state's regulatory regime, with a focus on the broader legislative and policy frameworks impacting the resources sector, and exploring ways to streamline what is perceived to be a complex regulatory environment.
- Chapter eight provides a summary of existing and past Victorian Government initiatives targeting the resources sector, as well as an overview of initiatives in other Australian and international jurisdictions.
- Chapter nine focuses on how the Victorian Government can enhance innovation and investment in the resources sector, explores the value of pre-competitive geoscience data and drilling programs and identifies potential opportunities for research and development collaborative partnerships.
- Chapter ten examines the impact of the resources sector on local communities and amenities, and considers how these communities can benefit from exploration and mining projects operating in their area.

CHAPTER TWO:

THE MINING AND EXTRACTIVES SECTORS IN AUSTRALIA

Since the mid-2000s, Australia has experienced the social and economic effects of a mining boom, spurred on by demand for its mineral resources from developed and developing countries in Asia.

Australia ranks as one of the world's great mining nations with substantial identified deposits of major minerals resources. According to Geoscience Australia, Australia is the leading producer of minerals for the world, producing some 22 kinds of minerals from over 300 operating mines across the country.

The minerals industry makes a significant contribution to the Australian economy, accounting for seven per cent of gross domestic product. With exports equalling \$114 billion in 2009 (excluding petroleum), minerals are Australia's largest export, accounting for 46 per cent of total exports and 58 per cent of merchandise exports. The industry employs around 167 000 people directly, and it is estimated to employ a further 153 000 indirectly.¹² The major markets for Australian minerals are Japan, China, South Korea and India.¹³

Unlike the mining industry, the Australian extractive industry is largely focused on producing resources for domestic consumption. The extractives industry generated \$7.21 billion in revenue in 2009 through producing 130 million tonnes of basic raw materials, such as stone, limestone, gravel and sand, worth \$1.63 billion. These materials are used to produce building and construction materials, such as cement, concrete, bricks, tiles and road paving. An additional \$5.58 billion was value-added to these basic raw materials by the production of 8.9 million tonnes of cement and 23.9 million cubic metres of pre-mixed concrete. The industry directly employs approximately 18 000 people and a further 80 000 indirectly.¹⁴

In 2009 Australia had the world's largest demonstrated economic resources of brown coal, mineral sands (rutile and zircon), nickel, uranium, silver, lead and zinc. Australia was the largest producer of bauxite, mineral sands (ilmenite, rutile and zircon) and tantalum in 2007. It was also one of the largest producers of uranium, iron ore, lead, zinc and nickel.

Table 1 below provides an outline of Australia's world rankings in minerals production and resources in 2009.

¹² Geoscience Australia, 'Minerals basics', viewed 20 February 2012, <<http://www.ga.gov.au/>>.

¹³ Geoscience Australia, 'Minerals basics', viewed 20 February 2012, <<http://www.ga.gov.au/>>.

¹⁴ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 1.

Table 1: World ranking of Australia’s mineral production and resources for 2009¹⁵

Commodity	Production Rank	Resource Rank
Bauxite	1	2
Black Coal	4	5
Brown Coal	5	1
Copper	6	2
Diamond	5	3 (industrial diamond)
Gold	2	2
Iron Ore	2	2
Lead	2	1
Lithium	2	3
Manganese Ore	2	4
Nickel	4	1
Niobium	No production in 2009	2
Rutile	1	1
Silver	5	1
Tantalum	Not known	2
Uranium	3	1
Zinc	2	1
Zircon	1	1

2.1 Overview of mineral exploration and mining project development

Greenfields mineral exploration activity and mining project development are the start and end points of the same process: that is, finding new mineral deposits and successfully developing them to a level where commercial production can commence. Effectively, greenfields mineral exploration is the first step in the mining process, as all the mines that have ever existed were once greenfield discoveries.

Beyond the role of greenfields mineral exploration and project development to discover and develop mineral resources in a given jurisdiction, exploration and project development has an important role to play as a creator of economic activity, particularly in rural and regional areas. Written submissions and oral evidence given to the Inquiry argue that increased levels of mineral exploration and mining will bring new investment to and diversify economic activity in regional Victoria beyond its predominantly agricultural and services base.¹⁶

The following sections provide some introductory information to readers on:

¹⁵ Geoscience Australia, 'Minerals basics', viewed 20 February 2012, <<http://www.ga.gov.au/>>.

¹⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

- a definition of greenfields mineral exploration
- an overview of its importance the mining industry
- the structure of the mineral exploration sector
- factors behind the decreasing levels of greenfields mineral exploration both within Australia and globally.

2.1.1 'Greenfields' versus 'brownfields' exploration

In the context of the resources sector, there are two types of exploration activity: greenfields and brownfields.

Greenfields exploration refers to activity undertaken in unexplored or incompletely explored areas. Greenfields exploration can also take place at historic sites, where there were once large deposits, but mining is no longer active. The key purpose of greenfields exploration activity is to discover new mineral deposits.

In contrast, **brownfields exploration** occurs in areas with an established mineral endowment, such as existing mines. The objective of brownfields exploration activity is to extend an existing mine's operating life (by better defining the size or quality of a known mineral deposit) and to take advantage of existing mining infrastructure.¹⁷

Greenfield and brownfield styles of exploration have different risk and reward profiles for companies undertaking mineral exploration. Greenfields exploration is a high-risk, high-reward strategy which, if successful, increases the size of known mineral reserves and creates long-term value for the discoverers of new mineral deposits. The higher risk/reward trade-off of greenfields exploration often appeals more to small (or junior) miners than the major mining companies.

Brownfields exploration is low-risk (as exploration takes place adjacent to or near existing, proven deposits), but is also low-reward, being unlikely to deliver more than incremental growth to known mineral reserves. This style of exploration is often more attractive to major mining companies as a method to increase production levels at low cost and generate short-term profits.

2.1.2 Why is greenfields mineral exploration important?

Greenfields mineral exploration is vital to the long-term future of the global mining industry. Continued growth in worldwide minerals demand (particularly from the industrialising economies of India and China) over the last decade has coincided with decreasing rates of discovery of large, world-class mineral deposits in greenfield locations.

Greenfields exploration, will result in discoveries that can sustain mineral production over the long term. Discoveries made in the course of greenfields

¹⁷ House of Representatives Standing Committee on Industry and Resources, *Exploring: Australia's future — impediments to increasing investment in minerals and petroleum in Australia*, Parliament of Australia, Canberra, 2003.

mineral exploration are particularly important for developing new resource reserves. It is claimed that a high proportion of current world minerals production 'can be attributed to discoveries made more than 20 years ago'.¹⁸

The Minerals Council of Australia (MCA) in its submission to the Inquiry stated that 'Exploration ... is the lifeblood of the industry. You do not have a mining industry without exploration'.¹⁹ The Australasian Institute of Mining and Metallurgy's (AusIMM) submission places mineral exploration as part of 'a sound supply pipeline underpinned by exploration, production and processing'.²⁰

Submissions to the Inquiry from the Victorian Government, Geoscience Australia (GA) and the AusIMM all reinforced the importance of greenfields exploration, particularly in maintaining the pipeline of new resource projects, without which depleted resources cannot be replaced.²¹ On this basis, the AusIMM indicated that encouraging adequate levels of investment in the search for new deposits is essential if new discoveries of national significance are to be made.²² Similarly, GA stated that as there are large parts of Australia that are relatively under-explored, it should be a priority of governments to encourage exploration in greenfields areas in order to achieve future domestic energy security and to service export markets for minerals.²³

From submissions and evidence presented to the Inquiry, it is accepted that only a small number of greenfield discoveries of mineral resources will make the transition to operating mines. The Victorian Government's Department of Primary Industries (DPI) estimated a ratio of around 300:1 between exploration projects and successful mines.²⁴ The MCA estimated that only one mining project is developed from every 1000 exploration projects.²⁵

2.1.3 The relationship between junior explorers and large mining companies

Structural changes in the global mining industry during the 1990s saw many large mining companies downsize their internal exploration units. Many geologists made redundant from these exploration units capitalised on their specialised

¹⁸ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 7.

¹⁹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 4.

²⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 5.

²¹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

²² Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

²³ Geoscience Australia, *submission*, no. 19, 18 August 2011.

²⁴ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 3.

²⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 4.

knowledge and skills by setting up their own junior exploration companies.²⁶ Internal exploration teams at major mining companies had previously been responsible for significant greenfield discoveries, such as the 'supergiant' copper, gold, silver and uranium deposit at Olympic Dam, discovered in 1975 by Western Mining Corporation's exploration unit.²⁷

In recent decades, small companies with low levels of market capitalisation (less than \$50 million) have shouldered a larger share of the mineral exploration task in Australia. Between 2001 and 2011, the share of mineral exploration expenditure by junior explorers in Australia rose from 36 per cent to 53 per cent, while the exploration share of major and intermediate sized companies has dropped from 63 per cent to 47 per cent.²⁸

In many respects, big mining companies have effectively outsourced mineral exploration to the juniors over the previous decade. This change in the conduct of explorations has both positive and negative aspects.

The AusIMM summarised the two key advantages of junior explorers over large-scale mining companies in mineral exploration as:

- their greater efficiency in conducting exploration activities
- providing a cost-effective exploration element to large-scale miners in the resource industry's 'pipeline' that leads from greenfields mineral exploration to a successful mining project.²⁹

Evidence presented to the Inquiry by Mr Richard Schodde, Managing Director of MinEx Consulting, claims the efficiency and economy of junior miners are the result of the limited funds at their disposal:

... the junior sector has got a much shorter time frame to work on than the majors. At any one time a junior company, on average, has got two years with cash in the bank, so they have got to deliver results in the next two years otherwise they will not get funding for the future. They are always on a very short fuse.³⁰

This view was echoed by Mr Tim Goldsmith, Global Leader, Mining from PricewaterhouseCoopers (PwC):

... small companies that do not have a huge amount of funds and do not necessarily have huge amounts of technology to utilise but do have an awful lot more hunger and

²⁶ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 6.

²⁷ Geoffrey Blainey, *The rush that never ended — a history of Australian mining*, Melbourne University Press, Melbourne, 1993, pp. 369–370.

²⁸ MinEx Consulting, 'Recent trends in Australian exploration', Paper presented at the *AMEC 2011 National Mining Congress*, Perth, 2011, p. 11.

²⁹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 5.

³⁰ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 12.

want to make sure that every dollar is used to its full potential are the more successful of the explorers in this greenfields area.³¹

The experience of a junior exploration company as an exploration 'feeder' into the pipeline of resource development was provided in the evidence of Mr Antonio Belperio, Exploration Director of Minotaur Exploration. Minotaur discovered the large copper, gold and silver deposit at Prominent Hill in South Australia during 2001:

... every junior company dreams of making a discovery and developing it themselves. The reality is when they make the discovery they do not have the bank balance large enough to exploit it. So you have to bring in a partner. Our experience with Prominent Hill was like that. We discovered Prominent Hill in 2001. We were, I think, only capitalised at a few million dollars then and in the end we had to sell it to Oxiana. We tried to stay in, but Oxiana, I guess, used their development muscle to take over the project, but we are not complaining because our shareholders in the end benefited by many hundreds of millions of dollars ... And Oxiana AU, now OZ Minerals — which only has the Prominent Hill mine — is a four billion dollar company.³²

The downside of the mining industry's reliance on junior explorers to carry the exploration burden is, that for many reasons, levels of greenfields exploration have declined as a proportion of total exploration spending.

2.1.4 Declining levels of greenfields mineral exploration

While evidence presented to the Inquiry acknowledged the importance of greenfields exploration to the future of mineral exploration and mining, evidence also pointed to declining rates of greenfields exploration in Australia over recent years. The current global economic downturn has affected rates of greenfields exploration, with miners relying on lower-risk strategies of further developing the extraction of known reserves on brownfields sites to satisfy demand.

It is clear that both in Australia and overseas, the share of greenfields exploration in as a proportion of overall exploration spending by the mining industry has been declining since the early 2000s. A 2011 analysis by MinEx Consulting reports the share of greenfields exploration expenditure in Australia has declined from 50 per cent in 2003 to an estimated 34 per cent in 2010.³³

The shift in global exploration budgets away from greenfields exploration is more apparent in Victoria. According to the Victorian Government's submission, most of the state's minerals production is sourced from deposits discovered 20 or more years ago. There has been limited expenditure on advanced mineral projects with only a few projects reported in its planning and development pipeline.³⁴

³¹ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 2.

³² Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, p. 2.

³³ MinEx Consulting, 'Recent trends in Australian exploration', Paper presented at the AMEC 2011 National Mining Congress, Perth, 2011, p. 13.

³⁴ Victorian Government, *submission*, no. 58, 22 October 2011.

The Victorian Government's submission to the Inquiry provided data on the number of mineral exploration licences granted in Victoria over the last 16 years, indicating that while high levels of exploration licences were granted during the 1990s, the figure has fallen by over 50 per cent since 1999.³⁵ The AusIMM indicated that this trend reflects the fact that a higher level of exploration is now being conducted within five kilometres of existing mines.³⁶ This trend is supported by 2010 rates of exploration expenditure across Australia, as provided by GA:

... private mineral (excluding petroleum) exploration expenditure in Australia was \$2.47 billion, of which \$1.53 billion was associated with exploration to delineated or to prove up an existing deposit (brownfields) and only \$0.94 billion was associated with new deposits exploration on previously unknown mineralisation (greenfields). Brownfields exploration dominates mineral exploration expenditure as explorers attempted to capture benefits of high metal prices.³⁷

In recognition of the low levels of greenfields exploration in Victoria, both the Victorian Government and the AusIMM reflected how this is an issue at state, national and international levels. According to the Victorian Government, the issue is compounded in Australia because exploration activity has moved offshore towards other global mining regions, notably Latin America, Africa and other less explored and developed regions.³⁸ The MCA's submission stated that the decline in Australian exploration activity was due to changes to the risk/reward profile of greenfields exploration and the view of Australia by the global mining industry as a 'mature' exploration province.³⁹

Differing viewpoints on the role of brownfields mineral exploration were offered in evidence presented to the Inquiry. The pragmatic approach to brownfields exploration is explained by Ms Emma Vogel, Technical Services Manager at Donald Mineral Sands (DMS) who stated:

As a general trend across the industry, it has been noted that greenfields exploration has been declining over the last 10 years; the focus has been more on brownfields, which are seen as extensions of existing mines. That is possibly due to the scarcity of money and you put your money where the least risk is, and that is obviously going to be extending your known deposits; you have infrastructure there, it just makes sense.⁴⁰

The AusIMM claimed that for many mining companies, a focus on brownfields exploration over greenfields exploration was a rational choice in terms of reduced risk, claiming that:

... global economic pressures and changing circumstances have led to an increased focus on reassessing current and depleted mining areas previously considered to be

³⁵ Victorian Government, *submission*, no. 58, 22 October 2011.

³⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

³⁷ Geoscience Australia, *submission*, no. 19, 18 August 2011, p. 3.

³⁸ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

³⁹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

⁴⁰ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 2.

uneconomic with a view to extracting additional reserves rather than the more high risk activity of greenfields exploration.⁴¹

Mr Schodde of MinEx Consulting spoke of the structural constraints imposed by access to capital markets on junior miners to work in brownfields rather than greenfields areas.

From the risk management point of view the easiest way for them to make a discovery is to drill a hole next to someone else's discovery. What it means is that if they take a risk-averse approach, they will get some results, raise additional funds, they may find a good ore body in the process, but they are not going to find the next Olympic Dam doing that. That is part of the challenge, that the problem is that the junior sector is perversely set up to focus away from the big discoveries. I think that is part of the malaise.⁴²

For some junior exploration companies, exploration failure leads to financial failure. Mr Martin Bouwmeester, Managing Director of Orion Gold, gave evidence of his company's formation out of another junior explorer (Goldstar Resources) in 2009, utilising Goldstar's exploration licences. Mr Bouwmeester said:

Between — and these are broad numbers — around 2003 and 2009 it [Goldstar] had spent \$32 million on exploration, leading to a feasibility study for the development of a gold resource it had drilled up. They then, in 2008, which we know was a pretty difficult year worldwide from a finance perspective, got themselves into some financial difficulties. They went into administration in January 2009. Then as part of a recapitalisation process the new board came on board, and Orion started its life, I suppose, in mid-2009. We started drilling on the main tenement within that package in November 2009. The leases that were in existence when we took over were already in place.⁴³

Other evidence presented to the Inquiry argues that reliance on brownfields exploration to increase mine production is a short-term, unsustainable solution to ensure a long-term supply of minerals. Cairns *et al.* refer to declining mineral discoveries from greenfields exploration in recent years as a 'market failure'. The short-term focus of capital markets provides a disincentive to financing well-considered greenfields exploration programs aiming to discover mineral deposits of long-term value. This in turn breeds a short-term focus in mining companies, incompatible with the long-term scale of greenfields exploration.⁴⁴

The long-term unsustainability of brownfields exploration was also discussed by Mr Jonathan Law, Director, Minerals Down Under Flagship at the CSIRO, in his evidence. He said brownfields exploration is a very short-term approach, driven

⁴¹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 7.

⁴² Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 12.

⁴³ Martin Bouwmeester, Managing Director, Orion Gold, *transcript of evidence*, 19 September 2011, p. 10.

⁴⁴ Chris Cairns, et al., *Market failure in the Australian mineral exploration industry: the case for fiscal incentives*, Australian Institute of Geoscientists, 2010.

by short-term opportunities for profit taking from increased demand for minerals in the current mining boom.⁴⁵

2.1.5 Project lead times

Evidence provided to the Inquiry addressed the long lead times between the start of exploration and a successful discovery, as well as the lengthy period of developing a discovery into a mining project and the start of mining operations.

On a greenfield site, Mr Schodde from MinEx Consulting stated that the average timeframe for transition from a successful greenfields exploration project into an operating mine was estimated at between 15 and 20 years. This consisted of a 1–5 year exploration phase leading to a successful discovery and a further 10–15 year period for development into a productive mine.⁴⁶ Similarly, DPI claimed an average 15 year time span from initial discovery to an operating mine.⁴⁷

Project lead times for a brownfields exploration project were shorter, as many of the early stages of the project (mineral discovery and resource definition) have already been undertaken. For example, Independence Group's submission claimed that its Stockman project, located on a brownfield site in eastern Victoria, would take approximately seven-and-a-half years from project evaluation to commencing production.⁴⁸

Due to the long time scale between the start of greenfields mineral exploration and the successful commencement of mining operations, a number of organisations, including the Victorian Government, GA and the AusIMM, argue that greenfields exploration is needed to maintain a pipeline of future resource projects.⁴⁹ Without this pipeline of future projects, existing mineral resources, once depleted, will not be replaced.

On this basis, the AusIMM indicated that encouraging adequate levels of investment in greenfields exploration are essential if new discoveries of national significance are to be made.⁵⁰ Similarly, GA's submission argued that as large parts of Australia are relatively under-explored, governments should prioritise and encourage exploration in greenfield areas to achieve future domestic energy security and to service export markets.⁵¹

⁴⁵ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011.

⁴⁶ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 9.

⁴⁷ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 3.

⁴⁸ Independence Group, *submission*, no. 39, 24 August 2011, p. 24.

⁴⁹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

⁵⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

⁵¹ Geoscience Australia, *submission*, no. 19, 18 August 2011.

2.1.6 Global perspective

The mining industry has become a truly global industry, with mineral exploration and mining activities able to take place virtually anywhere in the world. With increasing international economic liberalisation, particularly in the last 20 years, large parts of the world have opened up to investment in mineral exploration and mining. A globalised international economy has freed capital to flow beyond national borders, while the shift of the world's centre of economic gravity from the Atlantic to the Pacific has created an unprecedented demand for minerals.

This combination of factors has affected investment on mineral exploration in a number of ways. The globalisation of the mining industry has seen investment capital for mineral exploration flowing out from 'mature' mining areas (such as Australia) to 'frontier' mining areas (such as Latin America and Central Africa). The MCA's submission stated changes in equations of risk and reward for mineral exploration was behind the migration of exploration capital from Australia to other jurisdictions:

A key driver behind Australia's decline is due to global changes in the risk/reward for exploration. In detail, over the period, large parts of the world (especially in developing countries) opened up to foreign investment. This was coupled with a perception that the traditional countries — in particular Australia — were mature in terms of exploration. A third factor was changes in relative business risk and attractiveness. In the case of Canada, the Government encouraged domestic exploration through the generous availability of tax credits from Flow Through Financing.⁵²

Mr Schodde from MinEx Consulting gave evidence claiming Australia's share of global mineral exploration spending has almost halved, declining from 21 per cent in 1996 to 12 per cent in 2010. He explained that investment was flowing to the current global mineral exploration 'hotspots' in Latin America, West Africa, China, Alaska/Yukon and Northern Ontario, Canada.⁵³ There was also an offshore flow of exploration capital, with Australian-based mining companies increasing their share of overseas exploration spending from 23 per cent to 37 per cent between 1995 and 2010.⁵⁴

Australia's declining share of greenfields mineral exploration was also noted by Mr Law from the CSIRO. He stated that the decline in both greenfields exploration and new discoveries was a matter of concern internationally. He told the Inquiry that:

In the year 2000, approximately 50 per cent of global exploration was focused on greenfields activities. Today it is more like 33 per cent of global exploration, and that is in spite of growth in the real dollar amounts of exploration globally.⁵⁵

⁵² Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 11.

⁵³ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 3.

⁵⁴ MinEx Consulting, 'Recent trends in Australian exploration', Paper presented at the *AMEC 2011 National Mining Congress*, Perth, 2011, p. 30.

⁵⁵ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 3.

2.2 Mineral exploration and mining in Australia

2.2.1 The current resources boom

Australia's economy has been fortunately insulated from many of the economic problems facing other developed nations since the onset of the Global Financial Crisis in 2008, due to strong demand for its mineral resources, particularly from the industrialised economies of China and India. The current resources 'boom' has maintained strong economic growth and low unemployment, particularly in the Northern Territory and the resource-rich states of Queensland and Western Australia. Relatively weaker economic conditions in the other Australian states and territories has led to the development of a 'two-speed' economy.⁵⁶

The current resources boom is the latest in a series of booms that have had a powerful effect in shaping the Australian economy. Writing in the early 1990s, historian Geoffrey Blainey identified the three great mining booms in Australia since European settlement. The two 19th century booms were the gold rushes of the 1850s and 1860s and the gold and base metal boom of the 1880s and 1890s most notably the discoveries of gold in Kalgoorlie-Boulder and the world-class silver, lead and zinc deposit at Broken Hill. In the mid-20th century, the post-war boom of the 1960s/1970s was built around the exports of bauxite, coal and iron ore to new markets in a rapidly reindustrialising Japan.⁵⁷

In 2010, Ric Battelino, Deputy Chairman of the Reserve Bank of Australia identified a further boom in the late 1970s/early 1980s based on energy resources (particularly steaming coal, oil and gas).⁵⁸ Battelino traces the current boom as beginning in 2005, fuelled by demand for iron ore, coal and natural gas from both Australia's traditional late 20th century minerals markets (Japan and South Korea) along with new demand from the newly industrialising economies of China and India.

Evidence presented to the Inquiry by Mr Goldsmith of PwC spoke of the current boom being driven by: 'long-term demand from Asia which will keep on coming'.⁵⁹ Australia's has a globally significant position as a developed country with more mineral resources than needed for domestic consumption. This will continue to position it as a key supply source for the Asian economies, while the proximity of northern Australian export ports to Asian markets provide Australian resources with a geographical advantage over its international competitors.

How long the current resources boom will continue is unknown. Battelino claims that history points to previous booms having an historical maximum of approximately 15 years before resource depletion, and international or domestic developments slowed economic activity and brought the boom to an end. He also suggests continued growth and sound financial management of Chinese and

⁵⁶ Phil Garton, 'The resources boom and the two-speed economy', *Economic Round-up*, no. 3, 2008.

⁵⁷ Geoffrey Blainey, *The rush that never ended — a history of Australian mining*, Melbourne University Press, Melbourne, 1993.

⁵⁸ Ric Battelino, 'Mining booms and the Australian economy — address to The Sydney Institute, 23 February 2010', viewed 27 January 2012, <<http://www.rba.gov.au/>>.

⁵⁹ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 7.

Indian economies could extend the current boom beyond the historic maximum.⁶⁰

2.2.2 Comparison with other Australian states

Data from the Australian Bureau of Statistics regarding mineral exploration expenditure in Australia shows the clear development of a ‘two-tiered’ market for mineral exploration in Australia, with Queensland and Western Australia in the top tier, and the other states including Victoria in the bottom tier.⁶¹ Table 2 below shows the difference in the levels of exploration spending and proportion of Australia’s mineral exploration budget between the top and bottom tiers of states and territories in 2010–11.

Table 2: Australian mineral exploration expenditure and share of total exploration spending by state and territory 2010–11⁶²

State / Territory	Expenditure (\$ Million)	Share of exploration budget
‘Top Tier’ jurisdictions		
Western Australia	\$1610.7	54.0%
Queensland	\$667.0	22.4%
‘Bottom Tier’ jurisdictions		
South Australia	\$253.9	8.5%
Northern Territory	\$195.9	6.6%
New South Wales	\$157.8	5.3%
Victoria	\$58.8	1.9%
Tasmania	\$37.3	1.3%
Australian Total		
	\$2981.4	100.00%

As the national exploration spend on mineral exploration has increased, Victoria’s proportion of investment has remained relatively stable. As a result, Victoria’s market share of exploration spending has declined in both percentage and real terms between 2005 and 2011.

Evidence provided by Mr Schodde from MinEx Consulting explored the circumstances of Victoria’s decline in market share for mineral exploration, which has fallen from a high of 6.8 per cent in 2003–4 to 1.9 per cent in 2010–11.⁶³ A key reason given for this was the lack of a major Victorian mineral discovery in

⁶⁰ Ric Battelino, ‘Mining booms and the Australian economy — address to The Sydney Institute, 23 February 2010’, viewed 27 January 2012, <<http://www.rba.gov.au/>>.

⁶¹ Australian Bureau of Statistics, *Mineral and petroleum exploration, Australia*, cat. no. 8412.0, ABS, Canberra, 2011.

⁶² Australian Bureau of Statistics, *Mineral and petroleum exploration, Australia*, cat. no. 8412.0, ABS, Canberra, 2011.

⁶³ Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: ‘Inquiry into greenfields mineral exploration and project development in Victoria’, 22 August 2011, p. 16.

recent years.⁶⁴ Another was the increased focus of Australian exploration expenditure on bulk minerals, capitalising on the increased demand for coal and iron ore. Exploration spending on bulk minerals more than quadrupled over the last decade, rising from 9 per cent of Australia's total spending in 2000 to 40 per cent in 2011.⁶⁵ The majority of this spend is taking place in Queensland and Western Australia and, to a lesser extent, New South Wales.

2.2.2.1 *South Australia — a model for increased investment in greenfields mineral exploration*

During the course of the Inquiry, the Committee received a number of submissions and evidence that presented South Australia (SA) as an Australian jurisdiction that had dramatically increased its share of greenfields exploration from a low base.⁶⁶ As a result, the Committee travelled to SA in November 2011 to take evidence there on how its system of promoting and managing greenfields mineral exploration worked and what factors have led to that state's success in attracting increased levels of mineral exploration.

In contrast to Victoria, SA has increased its share of national mineral exploration spending from 5.3 per cent in 2003–4 to 8.5 per cent in 2010–11 (reaching as high as 15.2 per cent in 2006–7).⁶⁷ During this same period, Victoria's share has steadily declined from 6.8 per cent in 2003–4 to 1.9 per cent in 2010–11.⁶⁸ The comparative figure for SA, Victoria and other Australian jurisdictions is shown in Figure 1 below.

⁶⁴ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 3.

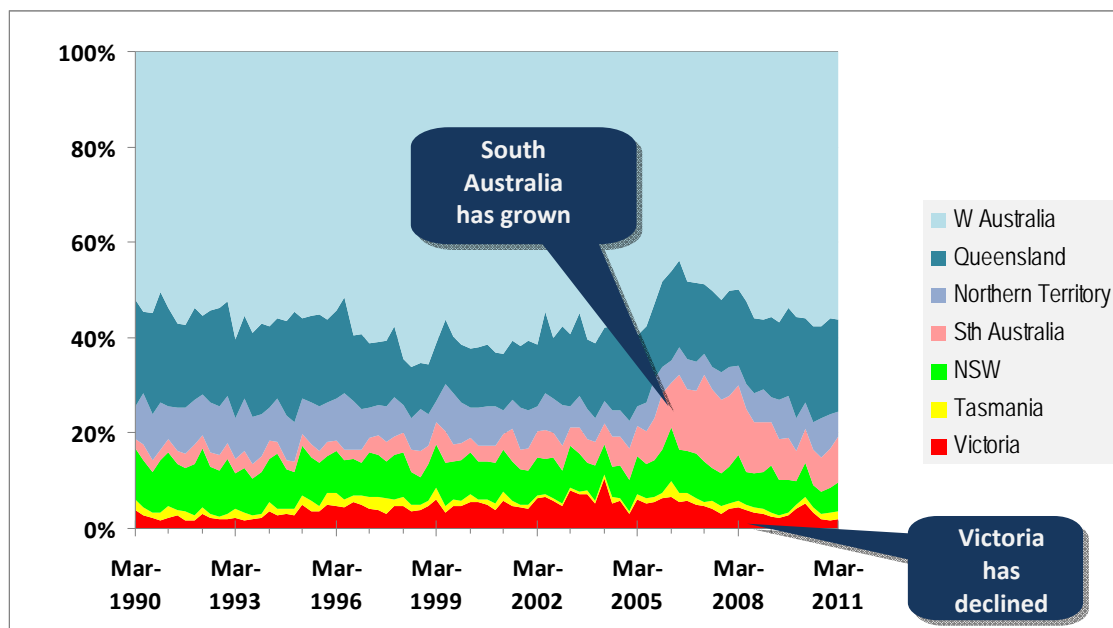
⁶⁵ MinEx Consulting, 'Recent trends in Australian exploration', Paper presented at the *AMEC 2011 National Mining Congress*, Perth, 2011, p. 9.

⁶⁶ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

⁶⁷ Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: 'Inquiry into greenfields mineral exploration and project development in Victoria', 22 August 2011, p. 18.

⁶⁸ Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: 'Inquiry into greenfields mineral exploration and project development in Victoria', 22 August 2011, p. 18.

**Figure 1: Share of total exploration in Australia by state:
March 1990 to March 2011⁶⁹**



The main drivers of South Australian growth include the SA Government’s strong support for minerals exploration and mining since 2004 through its PACE (*Plan for Accelerating Exploration*) initiative and the targeted marketing of PACE and SA more generally at a national and global level. The PACE program is covered in greater depth in chapter eight of this report.

Dr Michael Hollitt, Executive Director Mineral and Energy Resources, Policy and Strategy Group of DPI, gave evidence that the marketing of SA’s prospectivity to the global mining industry was an important element in growing the state’s share of national mineral exploration expenditure:

One of the clearly measurable objectives of the South Australian programs was an increase in exploration, and South Australia has clearly met that objective, admittedly starting from a lower base. The reasons for this have to do with a determination to engage with a global industry that commenced with that PACE program, including the very important SAMPEG — South Australian Minerals and Petroleum Executive Group — outreach component so they actually got executives from the mining industry, well-known names, to go out there and promote the State’s opportunities.⁷⁰

Another important driver of the growth in mineral exploration spend in SA was the priority given to mineral exploration and minerals processing industries in the state’s main strategic planning document, the SA Strategic Plan.⁷¹ The SA

⁶⁹ Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: 'Inquiry into greenfields mineral exploration and project development in Victoria', 22 August 2011, p. 10.

⁷⁰ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 8.

⁷¹ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, pp. 2–3.

Strategic Plan maps the high-level framework for the operation of PACE. It does this through setting specific targets for mineral exploration spending in the state to be maintained above \$200 million a year until 2015 (Target 41) and to increase the value of minerals production and processing to \$10 billion a year by 2020 (Target 42).⁷²

Another important factor behind SA's growth in mineral exploration was the fortuitous discovery of the Carapateena copper and gold deposit in 2006 in the early years of PACE. The successful exploration effort, partially funded through PACE drilling grants, was claimed to be partially responsible for changing local and international perceptions of SA's prospectivity, alongside the SA Government's strong financial and policy commitment to the exploration and mining industries.⁷³ Dr Hollitt considered successful discoveries and mine development to be necessary for industry growth, calling them 'the best driver of future success'.⁷⁴ Mr Schodde of MinEx Consulting concurred, considering the making of a significant discovery to be made in Victoria to reverse the decline in the resources sector:

Really the challenge here for Victoria is that there is a pretty poor or a negative perception about the current endowment for the State, and you have to turn that around. That requires coming up with fresh data, fresh ideas and a willingness to drill out targets to make the giant discoveries ... What you need to do is make those significant discoveries — the next Olympic Dam, for example, or the next Bendigo ... the challenge is that those big discoveries only happen very rarely. There may only be two or three discoveries of those sizes and types made in any year in the entire world, and the entire world spends US \$10 billion on exploration. Victoria currently only spends \$60 million ... so the odds of making that big discovery are quite slim. It is a high-risk, high-reward story, but to make the odds work better for you you need to have good data.⁷⁵

⁷² South Australian Government, *South Australia's strategic plan*, Adelaide, 2010, p. 39.

⁷³ Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011, p. 6; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 5.

⁷⁴ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

⁷⁵ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 5.

CHAPTER THREE: THE VICTORIAN RESOURCE SECTOR

3.1 Mineral exploration and mining in Victoria

3.1.1 Background

The Victorian resource sector comprises precious and base metals, mineral sands, extractives (such as stone, sand and clay) and energy resources (coal, oil and gas).

Victoria's mining history began with the discovery of gold at Clunes, Warrandyte and Kilmore in mid-1851. The discoveries of gold at Bunninyong and Ballarat in August 1851 are credited as marking the start of the great Victorian gold rush.

Most of Victoria's goldfields lie in an arc between 80 and 240 kilometres to the north and west of Melbourne, and the majority of these goldfields were found in the 1850s. Major fields were at Beechworth (1852), the Ovens Valley and East Gippsland (1851), Mt Alexander field at Forest Creek (Castlemaine), Walhalla (1865) and the refractory ores at Cassilis, which were operational from 1895. The last Victorian gold rush occurred in 1904 at Mafeking under Mt William in Victoria's western district.⁷⁶

Just over a century later, in 2009–10 the Victorian earth resource sector contributed \$5.9 billion towards Gross State Product.⁷⁷

This chapter will outline Victoria's level of prospectivity — both real and perceived — and will draw heavily on the submissions and evidence gathered at public hearings to highlight the state's mineral endowment and the potential for emerging resources.

3.1.2 Prospectivity and mineral endowment

In 1989–90, the sector's gross value added was \$9.8 billion; by 2009–10, the value of production had fallen by \$3.9 billion (or 40 per cent) to a total of \$5.9 billion, largely due to a fall in petroleum production.⁷⁸ The Committee received evidence that the global trend is that greenfields exploration is undertaken by small and medium sized specialist explorers, with large, established miners focusing on proven brownfields sites.

For Victoria, this has resulted in there being only a small number of exploration projects in place or currently being planned.⁷⁹ For instance, while high levels of

⁷⁶ Australian Mining History Association, 'Victoria's Mining History', viewed 19 February 2012, <www.mininghistory.asn.au/>.

⁷⁷ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

⁷⁸ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

⁷⁹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 10.

exploration licences were granted in the 1990s, the figure has fallen by over 50 per cent since 1999.⁸⁰

The Australasian Institute of Mining and Metallurgy (AusIMM) indicated that this trend reflects the fact that a higher level of exploration is conducted within five kilometres of existing mines.⁸¹ This view is supported by 2010 rates of exploration expenditure across Australia, as noted by Geoscience Australia (GA):

... private mineral (excluding petroleum) exploration expenditure in Australia was \$2.47 billion, of which \$1.53 billion was associated with exploration to delineated or to prove up an existing deposit (brownfields) and only \$0.94 was associated with new deposits exploration on previously unknown mineralisation (greenfields). Brownfields exploration dominates mineral exploration expenditure as explorers attempted to capture benefits of high metal prices.⁸²

With the overall level of greenfields exploration across Victoria falling, the Victorian Government believes this shift may impair Victoria's long-term ability to generate a pipeline of new resources.⁸³ Its submission to the Inquiry stated:

Some of Victoria's earth resources, although known to be large in scale, cannot be extracted competitively at current market prices with existing technologies. Others, such as mineral sands, where Victoria has a known world class endowment, may present a highly valuable opportunity for the state.⁸⁴

The reason for this can be identified in the recent findings of the Fraser Institute's *Mining Survey 2011*. It indicates Victoria is perceived as a jurisdiction with low mineral potential and limited prospects for exploration, with limited room to improve through altering its regulatory framework:

The survey has highlighted over the past five years that there is a strong, positive perception of the quality of Victoria's geological data provision; however, when considered alongside recent trends in greenfields mineral exploration there is no apparent evidence that greater data availability has led to an increase in greenfields exploration activity in the state.⁸⁵

Despite this, submissions and witnesses at public hearings indicated that Victoria had a good level of mineral endowment (or prospectivity) based on a combination of 'historical production and prospective geology'.⁸⁶ Overall, however, it was indicated that Victoria and Australia are viewed as 'mature' mineral provinces with many areas already thoroughly explored for minerals.⁸⁷ Internationally, the majority of large, easily worked mineral deposits close to the surface have already been found.⁸⁸

⁸⁰ Victorian Government, *submission*, no. 58, 22 October 2011.

⁸¹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

⁸² Geoscience Australia, *submission*, no. 19, 18 August 2011, p. 3.

⁸³ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

⁸⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

⁸⁵ Victorian Government, *submission*, no. 58, 22 October 2011, p. 4.

⁸⁶ Morning Star Gold, *submission*, no. 14, 16 August 2011.

⁸⁷ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011.

⁸⁸ Western Mining Services (Australia), *submission*, no. 17, 18 August 2011.

According to GA, Victoria's mineral endowment is commonly defined by the three main commodities currently explored and mined in the state: gold, lignite (brown coal) and mineral sands.⁸⁹ GA also stated there is promising prospectivity in silver and base metals (e.g. copper, lead, zinc, molybdenum), based on similarities between geological conditions in parts of Victoria (particularly in the south-west and north-west) and other states containing major deposits of these minerals.⁹⁰ However, these resources are not currently mined in Victoria.

The AusIMM stated in its submission that geological environments favourable to exploration for industrial minerals are widespread in Victoria. It also argued there are less common and less well understood materials that could increase the state's mineral wealth, including bentonite, diatomite, gypsum, feldspar, peat, gemstones and dolomite.⁹¹

The submission from Lakes Oil, indicated Victoria is believed to be prospective in 'unconventional gases', with its exploration program identifying coal seam gas and 'tight gas' (natural gas trapped in rock pores) at onshore locations in Victoria, particularly in Gippsland.⁹²

A small number of submissions referred to Victoria's potential sources of thorium (a radioactive element that can generate electricity in a nuclear fuel cycle). The Australian Uranium Association (AUA) claimed there are significant quantities of thorium found in the mineral sands provinces of western Victoria.⁹³

In his presentation to the Committee, Mr Tim Goldsmith, Global Leader, Mining from PricewaterhouseCoopers (PwC), commented on the state of the industry and on perceptions of Victoria:

I do not see that Victoria is on the agenda of mining companies for greenfields exploration. There will always be some who buck that trend, but it is not something that you see at the top of people's lists. I think Australia has clearly fallen down from where it was a few years ago, but no serious mining company cannot have Australia on its agenda at some stage or other.

...

this is not a short-term industry. Decisions to go exploring today do not really turn into revenue for 20 years in many cases. That is a long time; it is obviously a generation. You see in South Australia that they have been plugging away for a long time, but the new mines are still really few and far between. They are coming, but they are still coming. It has been many years. It is a long-term industry, and you have to have a long-term commitment to this and put something in place that will work all the way through the cycle.⁹⁴

⁸⁹ Geoscience Australia, *submission*, no. 19, 18 August 2011.

⁹⁰ Geoscience Australia, *submission*, no. 19, 18 August 2011.

⁹¹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

⁹² Lakes Oil, *submission*, no. 11, 15 August 2011.

⁹³ Resource Futures, *submission*, no. 25, 19 August 2011; Anne Scott, *submission*, no. 9, 11 August 2011.

⁹⁴ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 6.

PwC produces an annual mining sector report, the latest titled *Mine 2011: the game has changed*. It made the following observations about the global exploration and mining industry:

- The big story of 2010 was the strengthening demand for primary resources, predominantly from the developing economies of China, India, Indonesia and Brazil.
- At the same time, the supply of minerals is constrained with the ongoing challenges of declining grades and more geographically remote locations.
- Industry is concerned about the lack of new greenfield projects, however, major companies are cautious about investing in early stage exploration. In 2010, the top 40 companies only invested eight per cent of net investing cash flows into exploration activities, instead relying upon the junior sector to undertake this activity.⁹⁵

In its submission to the Inquiry, the Association of Mining and Exploration Companies (AMEC) noted the perception amongst mineral exploration and mining companies operating in Australia that 'Victoria is closed for business', arguing:

With enormous geographic choice available in Australia, Asia, Africa and South and Central America, Victoria has been put into the 'too hard basket' alongside California and Western Europe. This needs not be the case as the geological potential exists in Victoria to support a vibrant and profitable exploration and mining sector.⁹⁶

The AMEC believes Victoria needs to do more to attract exploration investment, by addressing an 'unattractive regulatory regime' and providing security of tenure for explorers. In particular, it argued for increased public funding for geoscience data/services and co-funded drilling; more attractive exploration licence tenure and renewal, changes to the regulatory system to provide greater certainty and long-term tenure and adopting the best practice South Australian mining project development process.⁹⁷

Based on its five years of exploration and development activities encountered during the exploration and development of the Stockman Project, exploration and mining company Independence Group (IGO) identified barriers to greenfields exploration and project development in Victoria. These barriers include:

- a complex regulatory environment that can be opaque, time-consuming and difficult to navigate

⁹⁵ PricewaterhouseCoopers, *Mine 2011: the game has changed: review of global trends in the mining industry*, 2011.

⁹⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 2.

⁹⁷ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

- a generally very poor regulator understanding of exploration and mining activities and the inter-relationship of requisite permits required to operate
- exploration work plan requirements that are unnecessarily large and complex for relatively low impact activities
- the lack of a lead agency which has the competency and authority to approve exploration work plans in their entirety
- an Environmental Effects Statement (EES) process which actively promotes uncertainty for the proponent
- lack of progress made by the Department of Primary Industries (DPI) to improve the prospectivity of Victoria through generation and marketing of pre-competitive geoscience data.⁹⁸

IGO commented on the implications of these barriers on investment in greenfields mineral exploration:

The continuing existence of these barriers to companies that are part of a global industry will result in ongoing and very significant hindrance to investment within Victoria. Simply put, the scarce exploration and project development resources will be applied elsewhere. IGO believes that many of these barriers can be removed or greatly reduced by concerted effort by Government, in consultation with industry, resulting in increased mining exploration and production activity within the State, without compromising Victoria's commitment to good environmental and cultural heritage protection, or good social justice outcomes.⁹⁹

The Australian Institute of Geoscientists (AIG) stated in its submission that Victoria's mineral endowment and prospectivity is strong, with the terrain influencing the type of deposits, such as gold deposits in central Victoria and coal in Gippsland, and that its accessibility is limited by the overlying cover of sedimentary rocks that obscure mineral deposits.¹⁰⁰ It argued Victoria's prospectivity will be enhanced through the increasing development of exploration techniques that aid continued identification of potential mineral sites, particularly beneath sedimentary cover. On this basis, the AIG advised it is imperative to maintain the supply of geoscientific information in Victoria in order to take advantage of new technologies or global changes in demand for minerals.¹⁰¹

During its presentation to the Committee, Mr Rodney Fraser, Victorian Branch Chairman and Federal Council Member of the AIG, believed the key role for government is promoting the value of the industry to the community, particularly in the context of state income derived from royalties, taxes and direct employment. The AIG states that a well-informed community can appreciate the

⁹⁸ Independence Group, *submission*, no. 39, 24 August 2011, pp. 2–3.

⁹⁹ Independence Group, *submission*, no. 39, 24 August 2011, p. 3.

¹⁰⁰ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 3.

¹⁰¹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011.

rights and responsibilities of the industry, and prevent misleading or biased information influencing public opinion:

... it is just the active promotion, promoting value to the State and to the communities of the extraction of minerals and the responsibility of government and industry in carrying that out. The onus at the moment is on the companies to carry out the community education and relations programs, but we have seen very little support from the Government, very little underlying information being disseminated by the Government of the value of that to the State, and we believe that is important and there should be more emphasis put on that.¹⁰²

Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group at the DPI told the Committee that:

As many others have commented, it is necessary to maintain a focus on all aspects of that chain, from discovery through to evaluation, and then into construction and operation, for the minerals industry to thrive. Resources are finite and they will deplete so they must be supplemented by new discoveries that eventually feed the pipeline some time later — 10 years or so. Lack of discovery 15 years ago is affecting the industry today. Further, the minerals industry now has many aspects in which it is competing strongly with other jurisdictions, both nationally and internationally — which wasn't the case 20 years ago quite so much as it is now — following the development of national markets for energy and the globalisation of investment that occurred of the late 1990s.

I just need to make a point about greenfields that's an important point. There's often an unfortunate confusion between total exploration data and greenfields exploration data that we need to be conscious of to get a true picture of the Victorian situation. The confusion arises because of definitions of exploration for economic reporting purposes that don't accord with the normal and reasonable expectation that exploration is about discovery of new resources. Definitions of exploration often include a lot of post discovery activities involving sampling and modelling of the resource, including for mine planning purpose, which is much later in the chain, long after resources can be found.

Since 2003, and only since 2003, it has been possible in Australia to distinguish true discovery based exploration data from post discovery activities. That's important because the post discovery sampling and modelling occurs on shorter lead times relative to the development, and it is most often conducted by parties that didn't originally discover the resource, so it's usually a changed entity by that time. These parties operate within parameters that provide a much higher chance of success than greenfields exploration. Greenfields exploration is about discovery — it's different in having low chance of success, long lead times to development and often different actors having different motivation and higher tolerance for ambiguity. There's actually no reason to believe that stimulation of brownfields activity will have any influence on resources discovery, it has to be greenfields.¹⁰³

Dr Hollitt also told the Inquiry:

... earth resources is small but valuable in Victoria and there's high use of products within Victoria itself. The sector has overall declined with depleted resources not being replaced. Greenfields exploration, unfortunately, remains subdued. Our area is

¹⁰² Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 6.

¹⁰³ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, pp. 3–4.

at a premium. However, in the last six months there have been some improvements, some upturn in exploration, and we would like to think that might have been as a result of some of the changes that were made in the regulatory environment, but it's a bit early to tell. If it continued on that trajectory for the next few years it would be a very good outcome. Prospectivity is, unfortunately, perceived as low. We have the opportunity to leverage best in class data and there's active regulatory reform in Victoria. Promotion requires active engagement; we actually need to go out there and promote these things, not just by putting out a leaflet to be sent to people but by active engagement.¹⁰⁴

In terms of land use, Dr Hollitt said:

Victoria has a mature and balanced approach to mining land use. The other thing that's probably worth recording — in case nobody has made this point to the Committee — is just how little of Victoria is actually covered by mining from the point of view of its area. It's well less than .5 per cent and the last number I saw was .27 per cent, this is by mining and extractors, it's really, really low.

...

Certainly we have large parts of Victoria allocated for exploration, but because so little of that turns into mines it doesn't end up in a significant contest for area when it comes down to it. It's the perception that exploration will necessarily lead to mining that creates a lot of the land use concern.¹⁰⁵

Providing a broader context, Mr Jonathan Law, Director, Minerals Down Under Flagship at the CSIRO, informed the Committee on the current state of exploration in the industry:

The issue of exploration success is not a Victorian-centric one. It is obviously a global issue which is of concern around the world at the moment, and it is reflected in declining discovery rates around the world and, more importantly, a decline in greenfields share of exploration. In the year 2000, approximately 50 per cent of global exploration was focused on greenfields activities. Today it is more like 33 per cent of global exploration, and that is in spite of growth in the real dollar amounts of exploration globally.¹⁰⁶

Following a question from Deputy Chair, Mr Martin Foley MP, Mr Law confirmed that increased investment is going to brownfields resources and he advised the Committee that:

Most exploration in Victoria and elsewhere (that is not brownfields) has been very shallow in nature, so we have literally only scratched the surface of the potential opportunity at depth.

...

¹⁰⁴ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, pp. 13–14.

¹⁰⁵ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 15.

¹⁰⁶ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 3.

if you can develop technology as a way of exploring under cover. In terms of depth, even in brownfields areas, there are tremendous opportunities to explore more effectively at depth and find new deposits. If we can turn around the declining greenfields exploration, there really are opportunities for brand new ore districts, which is really the Holy Grail for exploration.¹⁰⁷

Mr Law suggested options to ensure the mining sector is better accepted and develops further in Victoria:

On the roles of government, I think the absolutely most important thing that any government can do is to send a very clear message that they are open for business in minerals. Once the skills and the mining infrastructure are lost in any jurisdiction — and we have seen this in North America — it is actually quite difficult to get it back. Community expectations change; it is quite a difficult thing to turn around. We have a very strong geological survey with a good track record. Pre-competitive data in Victoria and Australia in general is amongst the best in the world. I think we should maintain that because that is really the engine room to attract investment and it goes to the heart of the perception issue of where is a good place to be and where is not.¹⁰⁸

He believes the 'two-speed economy' is also driving a negative perception of the mining industry, but this can be resolved by mining benefits being better distributed to the broader community.¹⁰⁹

Following questions from Committee member Mrs Inga Peulich MLC, he expanded on this point:

Mrs PEULICH — On top of the drilling, you mentioned earlier that you looked at research, processing and footprint as being the three areas where we need to do things better. On top of that, what else is required if Victoria is going to be better positioned to achieve the sorts of successes that obviously we will need to change that prospectivity, and where would government money be best invested? Is it in the research, is it in processing or is it in the footprint in terms of positioning?

Mr LAW — Can I make a comment on a personal basis, because it would probably not be a formal Flagship perception? I think the no. 1 challenge for Victoria is the perception around how welcome the industry is in Victoria. I think that holds back a lot of investment. Beyond that I think it is all about the geology of Victoria and whether the State sees itself as a mining state, a services state or a manufacturing state relative to the mining industry and how it wants to integrate its minerals business with the rest of the earth resources business, which as I said is geothermal, energy and carbon sequestration and all of those activities. I think it would be far better to take a global perspective of earth sciences and think about how important minerals are within that perspective and how important production is within that perspective or whether or not the state wants to take an alternative approach to the opportunity.

Mrs PEULICH — Given your answer, what top three things can we do to change that perception?

¹⁰⁷ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 4.

¹⁰⁸ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 6.

¹⁰⁹ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 6.

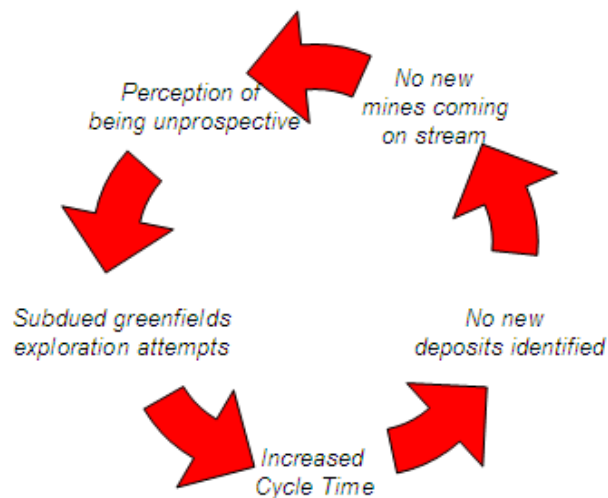
Mr LAW — Probably a clearly articulated resource strategy for the State that clearly has support and is well articulated and well presented to the media. There is a community issue in Victoria where I do not think people understand, as I said earlier, the broader value in the exploration business that comes out of the mining industry. They see it as a threat to their lifestyle, particularly in Victoria, so there is an enormous public education angle to the whole thing. The third one would really be the question: 'What do we have in terms of resources, what could we find in terms of resources and what should we do to unlock those?'. That comes back to the triangle I showed before, which is pre-competitive information, a strong research base that can interpret that information and make it available in terms of knowledge rather than data, and a mining industry that is prepared to invest. I think those would probably be your three things.¹¹⁰

Notwithstanding, in its submission to the Inquiry, the CSIRO, drawing on research by the Theo Murphy Think Tank at the Australian Academy of Sciences, noted the following three key priorities to foster successful exploration initiatives:

- map the depth and character of the cover across Australia
- map the deep crustal architecture
- identify the distal footprints of Giant Ore Deposits.¹¹¹

DPI has outlined the challenges confronting Victoria in the following diagrams:

Figure 2: Vicious Cycle¹¹²



¹¹⁰ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, pp. 9–10.

¹¹¹ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011, p. 3.

¹¹² Department of Primary Industries, 'MRSDA review phase 2 (presentation)', viewed 3 May 2012, <<http://www.dpi.vic.gov.au/>>.

Figure 3: Virtuous Cycle¹¹³



3.2 Victoria's current mineral prospectivity

3.2.1 Mineral sands

Mineral sands are categorised as containing suites of economically important minerals of high specific gravity, known as 'heavy minerals'. These include minerals rich in titanium and zirconium that are found in very low concentrations in a variety of igneous and metamorphic rocks. The principal heavy minerals of commercial interest are rutile, zircon, ilmenite and leucoxene.¹¹⁴

A number of stakeholders identified in their submissions the contribution of mineral sands to Victoria's mineral wealth.¹¹⁵ The Minerals Council of Australia (MCA) referred to data held by DPI, which estimates that Victoria's mineral sands endowment includes eight million tonnes of rutile and six million tonnes of zircon. In 2009–10, mineral sands production was approximately 236 000 tonnes.¹¹⁶

Analysis by DPI indicates that Victoria's identified resources alone are sufficient to supply 25 years of current world production of chloride titanium feedstock and 20 years for zircon. Since 2000, there has been an increase in the number of exploration licences (ELs) granted for mineral sands, with an average of 11 licences granted each year over the past 10 years.

¹¹³ Department of Primary Industries, 'MRSDA review phase 2 (presentation)', viewed 3 May 2012, <<http://www.dpi.vic.gov.au/>>.

¹¹⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 17.

¹¹⁵ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

¹¹⁶ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

The Victorian Government highlighted in its submission the potentially strong future growth of Victoria's mineral sands industry:

Global commodity prices of rutile and zircon have both increased in recent years, making mineral sands production a more attractive industry. Increases in demand for both these products are anticipated. The conditions appear to be in place to encourage mining companies to enter the market. There is potential for significant growth in mineral sands production given the untapped deposits existing in Victoria.¹¹⁷

Expanding on this point, in evidence to the Committee, DPI's Dr Hollitt said:

The largest earth resources export industry in Victoria is mineral sands, and you can see that while we're very happy with the development of that industry it's actually not the most significant part of the resources industry in Victoria. The fact that Victoria's earth resources industry does largely supply Victoria means that a decline in that industry is a reflection of a decline in the contribution of relatively low cost minerals and energy for Victoria as much as it is an inability to share in the wealth creation opportunities. As in all other Australian jurisdictions, the discovery and development of Victoria's earth resources depends on attracting private capital. The State doesn't take equity in resource projects or resource operations.¹¹⁸

Iluka Resources, which currently has two operating mine sites in Victoria, reported in its submission that it holds significant mineral resources and ore reserves throughout the Murray Basin, including in Victoria. It stated that the heavy mineral resources in the Murray Basin are typically characterised by high grade, long discrete deposits, and those that have been discovered to date are considered either marginal or uneconomic to exploit.¹¹⁹

Iluka's Principal Exploration Geologist, Ms Alison Currie, told the Committee in relation to prospectivity for minerals resource exploration:

Prospectivity with regard to heavy minerals, we're still here so we still believe that Victoria is still prospective to looking and we are still actively exploring Victoria. We've just applied for some new tenements in Victoria, which means that we are obviously still quite keen on exploring. We have a mineral separation plant in Hamilton that ideally for us we would be feeding it locally rather than feeding it from interstate, keeping our costs down, so we're still actively exploring.¹²⁰

According to the CSIRO, improving the commercial viability of these Murray Basin mineral sands will depend on holistic solutions to complex technical challenges, such as the processing of ilmenite, characterisation of the variability within and between deposits, mineral separation technologies, and removal of chrome spinel.¹²¹

¹¹⁷ Victorian Government, *submission*, no. 58, 22 October 2011, p. 18.

¹¹⁸ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 2.

¹¹⁹ Iluka Resources, *submission*, no. 26, 19 August 2011.

¹²⁰ Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 7.

¹²¹ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011.

The CSIRO believes there are two immediate prospects for unlocking the potential value of major Victorian mineral resources currently lying dormant. For mineral sands this is:

- Fine-grained Murray Basin mineral sand deposits with the potential to unlock up to 100 million tonnes of in-situ resources valued at approximately A\$50 billion. The commercial viability of the fine-grained Murray Basin mineral sands will largely depend on holistic solutions to complex technical challenges that are common to many of the deposits and include:
 - o processing of ilmenite
 - o characterisation of the variability within and between deposits
 - o mineral separation technologies
 - o chrome spinel removal.¹²²

3.2.2 Gold

The price of gold has been increasing rapidly, from US\$364 per ounce in 2003 to US\$1421 per ounce by the end of 2010.¹²³ In addition, PwC identified that, in 2010 coal, copper and gold accounted for 63 per cent of the revenue of the global Top 40 mining companies, up from 60 per cent on the previous year.¹²⁴

In his presentation to the Inquiry, Mr Jonathan Law noted that globally 50 per cent of exploration is focused on gold,¹²⁵ although:

One of the challenges that Victoria has, particularly for gold, is that many of our gold deposits are quite nuggetty in nature. It is quite difficult to predict exactly how much gold is contained and exactly where that gold is, which makes it difficult to make those capital investments.¹²⁶

Data held by GA indicates there is 73 million ounces of gold still to be discovered under the cover of younger sediments in northern Victoria. According to the Victorian Government, gold has declined as a proportion of all ELs granted over the past ten years, which may relate to Victoria's gold being located well below the surface and having an unreliable distribution in the ground, making it difficult to access.

While clearly no longer in the 'gold rush' years, Victoria's gold mining operations still exist, with annual production varying between a maximum of 90 tonnes in

¹²² Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011, p. 4.

¹²³ PricewaterhouseCoopers, *Mine 2011: the game has changed: review of global trends in the mining industry*, 2011, p. 22.

¹²⁴ PricewaterhouseCoopers, *Mine 2011: the game has changed: review of global trends in the mining industry*, 2011, p. 23.

¹²⁵ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 3.

¹²⁶ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 5.

1856 and 10 tonnes in 1915, to less than 100 kilograms per year in the late 1970s, with an increase to more than three tonnes per year by 1990.¹²⁷

The Victorian Government submission noted there are currently two medium-scale producing gold mines at Stawell and Fosterville in Victoria, with some gold production at Costerfield. Other mines being redeveloped are the Ballarat East mine, Morning Star mine at Woods Point and the A1 gold mine north of Woods Point.¹²⁸

According to GA, Victoria is a world-renowned gold province, with gold production from Victoria's 13 goldfields accounting for two per cent of all the gold mined throughout the world. In its submission, it referred to DPI data, which also indicates there might be 73 million ounces of gold still to be discovered under the cover of sediments in northern Victoria'.¹²⁹

Resource Futures, a resource development consulting and advisory service, reflected in its submission that the 19th century gold discoveries continue to attract new investment in gold exploration, although:

One can only remark that, most likely, the most easily won, lower cost, gold has been successfully extracted and there may remain much more to be found. It most likely lies under deep or more 'opaque' cover and may require new techniques or technologies to extract economically.¹³⁰

One issue that arose in a number of submissions addressing Victoria's gold prospectivity was its 'nuggetty' nature. Four submissions, in particular, discussed the difficulties that nuggetty gold creates for miners, particularly the challenges in estimating its size in a way that complies with the Joint Ore Reserves Committee's (JORC) code of practice.¹³¹ Having a resource defined as 'JORC compliant' assists mining companies list and raise capital on the Australian Stock Exchange (ASX).

In his presentation to the Inquiry, Professor Neil Phillips, Consulting Economic Geologist for the AusIMM, stated:

Victoria has produced 80 million ounces of gold and there is possibly 150 million ounces of gold left to be found. What does 150 million ounces of gold mean? Australia produces about 9 million ounces a year. I am not suggesting that we would find that 150 million ounces overnight, but clearly once a start has been made then people look more, know how to look, are prepared to take bigger risks, and one thing leads to another. As far as prospectivity goes, I have said and my colleagues have said in articles around the world that the prospectivity we believe is very good and we

¹²⁷ Victorian Government, *submission*, no. 58, 22 October 2011, p. 21.

¹²⁸ Victorian Government, *submission*, no. 58, 22 October 2011, p. 21.

¹²⁹ Geoscience Australia, *submission*, no. 19, 18 August 2011.

¹³⁰ Resource Futures, *submission*, no. 25, 19 August 2011.

¹³¹ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

can justify it with an argument. I think that is one of the contributing factors to why investment has come to the State over the last 10 or 20 years.¹³²

Building on its submission, the AusIMM made 14 recommendations to the Committee, including:

- Streamlining exploration licence reporting requirements to minimise double reporting.
- Provide drilling assistance for true greenfields exploration based on interstate best practice examples.
- Play a major role in disseminating factual information to the community about exploration best practices and what to expect from exploration in collaboration with Industry.¹³³

From a miner's perspective, Castlemaine Gold highlighted the difficulties associated with exploring and mining nuggetty gold, such as increased expenditure and time required to determine its value and the impact this may have on companies' compliance with exploration licensing conditions to relinquish areas after a certain period before the resource is fully defined.¹³⁴

The CSIRO noted in its submission, that the nature of nuggetty gold resources made many companies reluctant to commit significant capital to gold mining in Victoria.¹³⁵ In relation to gold, the CSIRO also recommended immediate prospects for potentially unlocking the value of Victoria's currently untapped gold resources:

- Victorian deep lead-gold resources with the potential to unlock up to 5 million ounces of in-situ resources valued at more than A\$7 billion. Two alternative approaches could be considered for the deep leads and both require new technology development:
 - o in-situ leaching of the gold using a new, environmentally benign leach solution — a pilot program is already underway and is discussed in more detail below
 - o non-invasive mining technologies to remove the gold bearing gravels without the need for human access to the ore bodies.¹³⁶

¹³² Professor Neil Phillips, Consulting Geologist, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011, p. 3.

¹³³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 3.

¹³⁴ Castlemaine Goldfields, *submission*, no. 53, 30 August 2011.

¹³⁵ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011.

¹³⁶ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011, p. 4.

For future development, the AMEC recommended that DPI develop improved methods of establishing nuggetty gold resources that better reflects its 'in ground economic value' and which would therefore comply with the JORC code.¹³⁷

3.2.3 Brown coal

It is estimated that Victoria has an economic brown coal resource of up to 60 billion tonnes in the Latrobe Valley, equivalent to around 500 years of supply at current production levels. Brown coal production was recorded at 69 million tonnes in 2009.¹³⁸

A number of submissions drew attention to Victoria's extensive brown coal deposits and its significance to the state's energy supply since the 1920s.¹³⁹ The Construction, Forestry, Mining and Energy Union (CFMEU) stated that Victoria has estimated brown coal reserves of 430 000 million tonnes (Mt), with the Latrobe Valley alone holding 'economic' (easily mined) brown coal reserves of 33 000 Mt.¹⁴⁰

Due to brown coal's high moisture content and carbon dioxide (CO₂) emissions, the Victorian Government stated the introduction of a price on CO₂ by the Australian Government from mid-2012 will mean brown coal will become less competitive as a source of Victoria's electricity.¹⁴¹ Faced with this challenge, various submissions called on the Victorian Government to play an active role in stimulating investment in research, development and commercialisation of 'clean coal' technologies to improve the future prospectivity of Victorian brown coal.¹⁴²

The MCA summarised the main directions that could be pursued in retaining the economic value of Victoria's brown coal reserves, recognising that the Latrobe Valley could become a prominent global site for the application of 'clean coal' technologies. It indicated that future large-scale industries based on 'cleaner' Latrobe Valley coal may include carbon, capture and storage (CCS), electricity co-generation and transforming coal into diesel, methanol, ammonia, urea, coal char and export dried coal.¹⁴³

The CFMEU referred to similar potential applications of Victoria's brown coal resources but claimed the public and private sectors have generally been 'timid

¹³⁷ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

¹³⁸ Victorian Government, *submission*, no. 58, 22 October 2011, p. 19.

¹³⁹ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁴⁰ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011, p. 2.

¹⁴¹ Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁴² Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011; Exergen, *submission*, no. 22, 19 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

¹⁴³ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

or half-hearted ... in making the necessary investment in First of a Kind industrial CCS power plants'.¹⁴⁴

An alternative view regarding the future of Victoria's brown coal resources was expressed by the Friends of the Earth's (FoTE) submission. It claimed that as part of transitioning to a low-carbon economy, Victoria has a range of renewable/low-emission energy options (solar, wind, wave, geothermal) to explore instead of coal. It referred to coal mining as a 'single use' of land that adversely impacts Victoria's food production and food security by drastically altering landscapes, soils and groundwater resources. On this basis, FoTE claimed 'the time for further investment in brown coal ... is long over'.¹⁴⁵

In evidence presented to the Committee, Mr Peter Colley, National Research Director for the CFMEU, contrasted the brown coal and gold sectors:

When it comes to the State of Victoria, clearly when you look at the map of where mines are there just simply aren't that many in Victoria, apart from the major brown coal mines. I was told recently that Victorian brown coal is 93 per cent of the economic activity in the Victorian mining industry. Victoria obviously has had a lot of gold mining in the past, it was Australia's first big resources boom and I think it's the only resources boom that is probably greater than the current resources boom, in terms of impact on GDP. I haven't ever seen full figures on that Victorian gold mining boom in the 1850s, but it was huge. The fact that gold is so high priced these days does mean that there are some more prospects for gold mining in Victoria. In my time with the CFMEU, I think the price of gold has gone as low as \$200 an ounce and now it's in the order of \$2000 an ounce, so multiplied by a factor of 10. When it was down at \$200 an ounce, there were gold mines closing all around the world and a lot of gold miners being retrenched. That was in the mid-1990s, when a lot of central banks said that they didn't need their gold reserves anymore because the world was so stable.¹⁴⁶

Dr Jack Hamilton, Chief Executive Officer for Exergen, took a different tack, when he told the Committee:

The majority of that coal asset is actually held by the Government, there's a limited amount out in private hands. I can't go into those limits but they also have restrictions on what they can do in the way they have been allocated so on something we're doing. For example, one of the largest holders can't actually talk to us because it's not in their rights of how it was granted to apply. There's a tremendous asset with no way of actually currently getting access to it as an industry development, so the State itself is therefore the largest resource developer but actually doesn't view itself as one. The exempt nature of that resource actually puts the State in that position and our suggestion is it needs to actually think of itself as a resource developer and how as a developer would actually see that asset leveraged responsibly.¹⁴⁷

The submission from the Latrobe City Council (LCC) noted that power generators located in Latrobe City supply over 90 per cent of Victoria's electricity generation requirements. Its submission also relayed findings from a study commissioned by

¹⁴⁴ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011.

¹⁴⁵ Friends of the Earth, *submission*, no. 41, 26 August 2011, pp. 4–5.

¹⁴⁶ Peter Colley, National Research Director, Construction, Forestry, Mining & Energy Union, *transcript of evidence*, 7 November 2011, p. 2.

¹⁴⁷ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 3.

the LCC in August 2008, which reported on the economic importance of coal and electricity to the local economy. LCC's submission noted the report demonstrated that value-adding by the coal and electricity sectors to the city's economy is estimated at \$802.4 million (which represents 21.2 per cent of Latrobe City's gross regional product of \$3.8 billion). Additionally, for every 10 direct jobs the in coal and electricity sector, it is estimated that a further eight jobs are sustained in the local economy.¹⁴⁸

The submission from Latrobe City Council called on the Victorian Government to 'promote the responsible development of Latrobe Valley coal using new technologies, possibly for new applications in an environment where some see brown coal as inherently evil'.¹⁴⁹

To reduce emissions from coal powered electricity generation, the Government submission identified three approaches that can be used: coal drying; coal gasification; and CCS.¹⁵⁰

For the CFMEU, a focus on storage or re-use of brown coal emissions, including CCS and other measures such as algae farming, are required. They also recommended 'that the Victorian Government play a leading role in resolving the emissions problem of brown coal so that the industry can play an even larger role in Victoria's future'.¹⁵¹

Other submissions called for a similar response, including Exergen, who called on support programs, such as Brown Coal Innovation Australia, to be encouraged and expanded, while government needs to further development and push CCS initiatives.¹⁵²

3.2.4 Extractives

Extractives are sourced from over 860 quarries operating in Victoria. The quarries produce hard rock, clay, sand and gravel as raw materials for use in a range of items, including concrete, concrete products, bricks, pavers and roofing tiles. In 2009–10, 605 quarries reported a total production of 46.1 million tonnes.¹⁵³ As quarries tend to be located close to consumer markets to minimise transport costs, this can lead to conflicts between local residents and extractive companys.

In its submission to the Inquiry, the Victorian Government noted that extractive resources provide raw materials for building and construction. It also noted the size and value of Victoria's earth resources sector has declined over the past decade.¹⁵⁴

¹⁴⁸ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 2.

¹⁴⁹ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 7.

¹⁵⁰ Victorian Government, *submission*, no. 58, 22 October 2011, p. 20.

¹⁵¹ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011.

¹⁵² Exergen, *submission*, no. 22, 19 August 2011, pp. 2–3.

¹⁵³ Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁵⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

3.3 Emerging prospectivity for other earth resources

3.3.1 Base metals

Victoria currently has no significant production of base metals, such as copper, lead, zinc and nickel. At present, the only significant base metal mine in Victoria is the Wilga copper mine near Benambra in the northeast of the state. Deposits of base metals are known to exist throughout the state and prospectivity in the state's northwest is particularly strong.¹⁵⁵

3.3.2 Geothermal

Geothermal energy uses the heat generated by rocks or water bodies deep underground and can be converted into electricity, or can be used directly to heat buildings or other industrial applications.

The Victorian Government's submission stated that one of the advantages of geothermal energy is its potential ability to provide a continuous and controllable supply of baseload energy more cheaply than other sources of renewable energy. Despite this:

Geothermal energy is still relatively unexplored in Victoria, although it has been used for small scale purposes, such as heat pumps for industry, for decades. Victoria appears to have an abundance of high-heat producing basement rocks buried beneath sediments; however, the economic circumstances for accessing this type of geothermal energy do not currently exist. Information confirming the potential of Victoria's geothermal resources is limited. Exploration can be expensive and difficult because the geothermal resource is found deep underground.¹⁵⁶

Mr Mark Miller, Managing Director of Greenerth Energy, explained to the Committee aspects of geothermal energy:

Basically we are mining heat. We involve ourselves in exploration activities, but we are principally looking for heat, either in the form of hot water or steam, depending on the geothermal resource type. Geothermal has been utilised for centuries, but it was in 1904 in Lardarello in Tuscany, Italy, that the first geothermal power station was commissioned. It is not necessarily a new science, but today it is considered to be one of the leading baseload renewable technologies around the world.

... in Australia we are exploring for two types of geothermal systems. One is hot sedimentary aquifer geothermal systems, and the other is a term that is becoming a euphemism for the entire industry, hot rock geothermal ... Basically geothermal energy emanates from the core of the earth.

The key advantage of geothermal as opposed to other renewable energy types is that it is baseload power. It is a renewable energy type with zero emissions that runs 24/7. We are not required to have a sunny day or to have our hats blown off by the wind for this energy source to provide zero emissions baseload electricity. There are some other social and market benefits associated with geothermal, but the key consideration here is baseload power.¹⁵⁷

¹⁵⁵ Victorian Government, *submission*, no. 58, 22 October 2011, p. 23.

¹⁵⁶ Victorian Government, *submission*, no. 58, 22 October 2011, p. 24.

¹⁵⁷ Mark Miller, Managing Director, Greenerth Energy, *transcript of evidence*, 26 September 2011, pp. 2–3.

Mr Miller believes geothermal energy to be a viable alternative, as he told the Inquiry:

In terms of the national interest benefits of geothermal energy, Australia is host to a massive geothermal resource, we believe we have the lowest estimated cost for baseload renewables, there are zero emissions, geothermal is able to be integrated with other technologies, it is scalable, and we have certainly as a result of the ongoing work developed some R&D leadership in this space. The other area that is now starting to emerge is an area called direct use, where you are not necessarily generating power from the geothermal fluid that you bring to the surface, but you are using it in district heating and cooling or direct industry applications. There is also a low environmental footprint.¹⁵⁸

However, he cautioned that the sector will suffer unless greater support and cooperation is not forthcoming:

I think it is absolutely critical that state governments and the Commonwealth Government work together on this. There are lines that divide our states, obviously, but really we have an interconnector. I think there is a genuine interest in exploring for and developing renewable energy options or least understanding the implications of exploring for and developing our renewable energy options.¹⁵⁹

3.3.3 Coal seam gas

Coal seam gas (CSG), which is also known as coal bed methane or coal seam methane, occurs by a process of heating and compressing plant matter. The gas is trapped in coal deep underground and is contained through water pressure. Natural gas is released from the coal when the water has been removed, after which time it is sent to a compression plant and injected into gas transmission pipelines. It is similar to conventional natural gas and can be used for purposes such as power generation or fuelling natural gas appliances.¹⁶⁰

For all forms of gas, Victoria contains four major gas fields in the Gippsland Basin. Considerably smaller gas deposits have also been discovered in the Otway Basin¹⁶¹ and gas production has been increasing at an annual average rate of two per cent, with greater growth anticipated growth in baseload power generation from gas.¹⁶² The Victorian Government's submission also states that increased exploration may lead to the location of adjacent undiscovered conventional and unconventional gas resources (tight gas, shale gas, and CSG).¹⁶³

In his presentation to the Committee, Mr Mark Wakeham, Campaigns Director at Environment Victoria (EV), related EV's concerns over the Inquiry's focus:

... we are a little concerned that the focus of the Committee's terms of reference make the assumption that exploration will be a beneficial thing and then later — I

¹⁵⁸ Mark Miller, Managing Director, Greenearth Energy, *transcript of evidence*, 26 September 2011, p. 4.

¹⁵⁹ Mark Miller, Managing Director, Greenearth Energy, *transcript of evidence*, 26 September 2011, p. 5.

¹⁶⁰ Lenny Roth, 'Regulation of the coal seam gas industry in NSW', no. 1/2011, NSW Parliamentary Library Research Service, e-brief, 2011, p. 1.

¹⁶¹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 16.

¹⁶² Victorian Government, *submission*, no. 58, 22 October 2011, p. 17.

¹⁶³ Victorian Government, *submission*, no. 58, 22 October 2011, p. 18.

think it is the last item in the terms of reference — starts looking at how to mitigate the costs of exploration and mining activities.

He also raised concerns over the development of CSG:

We would advocate a more holistic approach which looks at the competing land uses and industries and the fact that one industry might be appropriate in one location but not in another. We make the point in the submission that we would like to see a strategic assessment approach to land use across the State. That is particularly important. We have done a lot of work around the State's coal resources, and the fertile agricultural lands almost mirror the coal resource exactly, so there is going to be a conflict there. That is why it is important that we make strategic decisions about what are the land uses that we support and what are the existing industries that could be affected by the development of new industries.¹⁶⁴

Mr Wakeham told the Inquiry:

It does seem that we are open for business for coal seam gas in Victoria, and we know from talking about affected communities that that is news to them, that their regions are open ...

...

I would argue that the Victorian Government does not know how to regulate coal seam gas at the moment because there are so many unknowns in relation to coal seam gas. A company could develop an Environment Effects Statement or we could require an EES, and the regulators would not know how to benchmark or assess it; we have no regulatory regime in place to deal with it or with its potential impacts.

...

I think there is a strong case for the coal seam gas industry being explored thoroughly by the Parliament and also by some of the regulators. I would hope the EPA is doing a lot of work on trying to understand this industry and its likely impacts. I do not know that that is actually happening at the moment. The EPA has no role in the issuing of exploration licences, so it probably has not got a handle on it at this point. It would probably only become relevant if a project is referred by a Planning and Environment Minister. I think with the coal seam gas industry the Government and the industry need to understand the risks and the competing interests. I think a parliamentary inquiry is a good first step, as is asking some of the agencies to do some serious work and to gather the evidence on the impact on water tables. At the moment the only data we have on greenhouse emissions from developing coal seam gas projects is what is from the industry. That needs to be scrutinised. If it needs government scrutiny or independent scientific scrutiny, that needs to be happening.¹⁶⁵

EV called on the Committee to recommend a moratorium on CSG until the following issues have been examined and resolved:

- Analysis of the life cycle greenhouse gas emissions of CSG projects — unlike conventional gas projects the lifecycle emissions of CSG and other unconventional gas technologies are poorly understood.

¹⁶⁴ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 3.

¹⁶⁵ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, pp. 3–11.

Industry is operating under the assumption that CSG has lower emissions than coal-fired generation, though this has not been proven.

- Analysis of the environmental impacts of hydraulic fracturing (fracking) in the Australian context.
- Analysis of the impact of CSG projects and fracking on the ability of other industries (such as farming) to co-exist.
- Analysis of CSG and fracking on potable and unpotable water resources.¹⁶⁶

In a letter to the Chair of the Committee, Mr Neale Burgess MP, the Environment Protection Authority (EPA) Victoria's Chief Executive Officer Mr John Merritt identified a number of environmental impacts associated with coal seam gas extraction, including impacts on groundwater and also wastewater generation.¹⁶⁷ The letter also updated the Committee on the current status of CSG in Victoria, noting the industry is still in its exploration phase and while a number of licences have been issued by DPI relating to mineral exploration (including coal and CSG exploration):

It is understood that there are currently no Mining Licences of Mining Licence applications under the MRSD Act for the extraction of coal seam gas in Victoria

No works approvals relating to coal seam gas have been received by EPA to date.

EPA is working with DPI and DSE [Department of Sustainability and Environment] to ensure that the regulatory framework for any future proposals if they arise is clearly coordinated and communicated.¹⁶⁸

The Committee did not hear significant evidence on CSG, however it believes this issue is sufficiently important to warrant further review.

Recommendation 1: That the Victorian Government establishes an appropriate process to enable open consultation with stakeholders, including local communities, for issues regarding future coal seam gas exploration and development.

The Committee notes the work being undertaken by the Council of Australian Governments (COAG) in establishing the *National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development* in April 2012. In signing the Agreement, the Australian and state governments seek to address public concerns about the actual and potential impacts of coal seam gas and coal mining activities on water resources, and agree there is need to strengthen the science that underpins the regulation of these industries.

¹⁶⁶ Environment Victoria, *submission*, no. 50, 29 August 2011, pp. 7–8.

¹⁶⁷ John Merritt, Chief Executive Officer, Environment Protection Authority Victoria, *personal communication*, 11 December 2011.

¹⁶⁸ John Merritt, Chief Executive Officer, Environment Protection Authority Victoria, *personal communication*, 11 December 2011.

The Agreement seeks to improve the scientific evidence that informs regulatory decisions; enhance the transparency and openness of regulatory processes; and ensure that independent expert advice on all relevant project proposals is available to communities, governments and industry. The Australian Government allocated \$200 million over five years to support this work, including the establishment of an Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining under the *Environment Protection and Biodiversity Conservation Act 1999*.¹⁶⁹

¹⁶⁹ Council of Australian Governments, 'National partnership agreement on coal seam gas and coal mining development', viewed 14 May 2012, <<http://www.federalfinancialrelations.gov.au/>>.

CHAPTER FOUR:**EXPLORATION AND MINING IN VICTORIA****4.1 Mining and the economy****4.1.1 Role of mining in Australia's economy**

As outlined in chapter two, the mining industry plays a significant role in the Australian economy. While mining contributes only approximately seven per cent of Gross Domestic Product, the industry's output comprises 46 per cent of Australia's total exports.

Domestically, Australia also relies on mining to fulfil its material and energy demands. Most important of these demands is electricity generation, satisfied through the mining of black and brown thermal coal. In 2009–10, 32 per cent of Australia's total energy production was consumed domestically, mostly for electricity generation.¹⁷⁰ Black and brown coal provided the energy source for 75 per cent of the 242 terawatt hours of electricity generated in Australia in 2009–10. Of this, 55.1 terawatt hours were generated in Victoria, primarily from brown coal.¹⁷¹

The importance of the extractives industry for domestic economic activity was also noted previously in chapter two. The 130 million tonnes of basic raw materials (such as stone, limestone, gravel and sand) produced by the extractives industries in 2009 were used to produce the majority of building and construction materials used in Australia, such as cement, concrete, bricks, tiles and road paving.¹⁷²

4.1.2 The role of mining in Victoria's economy

According to the Victorian Government's submission to the Inquiry, the earth resources sector (made up of the petroleum, mining and extractives industries) makes up a small but valuable part of the Victorian economy:

The sector contributes to economic prosperity, particularly in regional Victoria. It provides employment opportunities and consumes goods and services supplied by local businesses that form a vital part of the wider regional economy. More broadly, the sector is an important source of economic growth and stability.¹⁷³

Evidence provided to the Inquiry discussed the possible range of economic and employment effects that can flow from mineral exploration and mining activities, particularly in regional Victoria.

¹⁷⁰ Bureau of Energy and Resources, *Energy in Australia 2012*, Australian Government, Canberra, 2012, p. 1.

¹⁷¹ Bureau of Energy and Resources, *Energy in Australia 2012*, Australian Government, Canberra, 2012, pp. 32–33.

¹⁷² Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 1.

¹⁷³ Victorian Government, *submission*, no. 58, 22 October 2011, p. 3.

4.1.2.1 *Economic impacts*

In 2009–10, the earth resources sector contributed \$5.9 billion (around 2 per cent) towards Victoria’s Gross State Product.¹⁷⁴ While the majority of this contribution comes from the offshore production of oil and gas, the value of minerals produced in Victoria in this period (excluding brown coal) was \$502.5 million.¹⁷⁵ Table 3 below shows the value of the different commodities produced in Victoria in 2009–10.

Table 3: Production value of minerals mined in Victoria 2009–10¹⁷⁶

Commodity	Value (\$M)
Gold	\$300.1
Mineral Sands	\$190.1
Feldspar	\$4.8
Gypsum	\$4.3
Kaolin	\$2.4
Total	\$502.5

According to the Minerals Council of Australia (MCA), the minerals industry invested almost \$1 billion in capital works for new and expanded mining operations in Victoria, along with a further \$60 million on exploration activities in 2009.¹⁷⁷ In terms of the extractive industries, the submission to the Inquiry from Cement Concrete and Aggregates Australia (CCAA) states that Victoria has approximately 580 operational quarries. These quarries produced some 46.1 million tonnes of stone, limestone, gypsum, sand and gravel in 2009–10, with an estimated production value of \$652.7 million.¹⁷⁸

Other evidence tendered to the Inquiry spoke of the economic effects of investment in minerals exploration. Bruce Edwards of the Association of Mining and Exploration Companies (AMEC) told the Inquiry that while only a small number of exploration prospects became operating mines, all exploration prospects inject money into the economy, particularly in regional areas:

They do not become huge mines like Olympic Dam, Cadia Ridgeway, Mount Isa or Broken Hill, but they spend a lot of money. You might have a prospect. A smaller exploration company might raise \$5 million or \$6 million. They will spend probably 70 per cent to 80 per cent of it in the State. It will be drilling rigs. It will be geochemical sampling. It will be for land access. It will be in the pubs. I have been to a number of pubs from Braidwood to Beechworth and they say, ‘Thank God we have had exploration over the last 10 years’. It is the only thing that has kept the pubs afloat — not that that is a good sign.¹⁷⁹

¹⁷⁴ Victorian Government, *submission*, no. 58, 22 October 2011, pp. 3; 7.

¹⁷⁵ Department of Primary Industries, *2009–2010 Statistical Review*, Victorian Government, Melbourne, 2011, p. 28.

¹⁷⁶ Department of Primary Industries, *2009–2010 Statistical Review*, Victorian Government, Melbourne, 2011, p. 28.

¹⁷⁷ Minerals Council of Australia, Victorian Division, *2010 Victorian state election: minerals industry policy agenda*, Minerals Council of Australia, Melbourne, 2010, p. 1.

¹⁷⁸ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011.

¹⁷⁹ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 3.

4.1.2.2 *Employment impacts*

In an employment context, the mining and extractives industries provide a large number of direct and indirect employment opportunities across Victoria, both in metropolitan and regional areas of the state.

The Victorian Government's submission to the Inquiry stated the resources sector provides employment to 6227 people, over half of whom live in regional Victoria.¹⁸⁰ The MCA's submission indicated that direct employment in the Victorian mining industry was approximately 5000 people in regional Victoria, with a further 5000 estimated as employed in mining company head offices and service providers (such as consultancies and contractors) located in Melbourne.¹⁸¹ In terms of the extractives industry, CCAA reports that 3731 people are directly employed in Victoria with a further 7110 estimated to be employed indirectly.¹⁸²

While Victoria has a strong history of mining, it also has a lengthy history of being a service centre that supports mining, particularly in Melbourne. The combination of financial services (including its stock exchange), corporate headquarters, research and development facilities, professional education, and equipment manufacturers provide a more diversified range of mining-related activities and opportunities for value adding to mineral exploration and mining.

Evidence provided to the Inquiry points to the continued strength of the mining services sector in Victoria. Mr Richard Schodde, Managing Director of MinEx Consulting outlined the niches the mining services sector occupies in Victoria:

But one of the key things that Victoria has, which it does not appreciate very well, is a very good service sector. A lot of the banks that do the investment in the mining sector and a lot of the consultants, like AMC, SRK, Snowden and all these other companies, have their offices here in the State. So there is actually a very major export service going from Victoria both to the other states of Australia and internationally in providing technical advice. The history for that was because of the financing that was here in the past and also the long history of mining here in Victoria.¹⁸³

As did the MCA:

... Melbourne continues to be one of the few international mining capitals of the world. The Melbourne central business district is booming with regard to mining. Having the international head offices of mining houses located here, including the world's largest miner, is fundamentally important to Victoria retaining its connection to mining. Wherever those international headquarters of miners are located, all of the support and service sectors flow.¹⁸⁴

¹⁸⁰ Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁸¹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 8.

¹⁸² Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *personal communication*, 10 February 2012.

¹⁸³ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 10.

¹⁸⁴ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 2.

4.1.3 Wider economic benefits of mining

A limited number of submissions to the Inquiry spoke of the real and potential benefits created by mineral exploration and mining in Victoria. Of particular note are the benefits of the broader economic impacts in regional communities, direct and indirect employment opportunities, an increased demand for specialised goods and services and the role of Melbourne as a 'global' mining city.¹⁸⁵

The Committee did not receive the evidence it expected from industry peak bodies relating to economic impacts of mining. In the absence of sufficient and consistent data, the Committee relied on disparate and anecdotal information provided by individual stakeholders. The Committee believes that there should be a framework to quantify and monitor the economic impacts and benefits of the industry as whole.

Recommendation 2: That the Victorian Government in conjunction with industry establishes a framework for monitoring the health and activity of the mining sector.

4.1.3.1 Regional economic activity

Submissions to the Inquiry referred to the impacts of mineral exploration and mining on economic activity in regional Victoria. Even without the economic activity of a mining project, regional communities still benefit from activities such as exploration.

Mr Schodde from MinEx Consulting gave evidence regarding his research into the economic multipliers of major mining project over the past 30 years. He stated that:

... as a rule of thumb, probably three-quarters of the spend would stay inside the nation. Of that three-quarters probably three-quarters would stay within the State and maybe about one-quarter would stay in the local area, but it all depends on whether you are in an undeveloped part of the world where you have to import everything into the country. Then the ratios would be different. In the case of Australia I would say probably three-quarters of the spend would stay in Australia.¹⁸⁶

Submissions to the Inquiry by local governments quantified the contribution of mining to the economic development of their communities. Latrobe City Council's (LCC) submission cited a report commissioned to quantify the economic value of coal mining and electricity generation to the Latrobe Valley's economy. The report found the indirect economic benefits of these operations were calculated

¹⁸⁵ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁸⁶ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 8.

at \$802.4 million (or 21.2 per cent of LCC's \$3.8 billion Gross Regional Product [GRP]).¹⁸⁷

Northern Grampians Shire Council (NGSC), which hosts the Stawell gold mine and is partially involved in the mineral sands mining development at Donald, claimed that mining represents the second highest component (20.49 per cent) of its GRP of \$325.4 million.¹⁸⁸ NGSC also indicated that mining contributes an additional \$164.4 million of indirect economic activity to other sectors within its GRP.¹⁸⁹

4.1.3.2 *Regional employment*

A number of submissions to the Inquiry referred to the positive employment impacts of the resources sector on regional areas where exploration and mining projects are located.¹⁹⁰ The Victorian Government's submission stated that the resources sector provided employment to 6227 people, over half of whom live in regional Victoria.¹⁹¹ The MCA indicated that direct employment in the Victorian mining industry was approximately 5000 people in regional Victoria.¹⁹²

Independence Group (IGO) claimed that once its Stockman copper/gold project commences operation in East Gippsland, it could potentially:

... create approximately 300 new jobs, create a new base metals export industry for Victoria, generate revenue of approximately \$60M million [*sic*] for the State from royalties and taxes and increases the Gross Regional Product (GRP) of the East Gippsland region by \$680M over the (currently known) 8 year project life.¹⁹³

In regard to the services and industries that are built around and/or used to support mining operations in local and regional communities, IGO also claimed:

... substantial levels of re-investment of surplus cash flow into further regional projects making the industry an excellent recycler of economic activity.¹⁹⁴

The submission from Iluka Resources provided a specific example of direct employment resulted from an existing mining operation. The company stated its minerals separation plant in Hamilton and sand mining operation in Western Victoria employs in excess of 400 full-time staff and contractors.¹⁹⁵

¹⁸⁷ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 2.

¹⁸⁸ Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011, p. 1.

¹⁸⁹ Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011, p. 1.

¹⁹⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; City of Greater Bendigo, *submission*, no. 23, 19 August 2011; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011; Wellington Shire Council, *submission*, no. 42, 26 August 2011.

¹⁹¹ Victorian Government, *submission*, no. 58, 22 October 2011.

¹⁹² Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 8.

¹⁹³ Independence Group, *submission*, no. 39, 24 August 2011.

¹⁹⁴ Independence Group, *submission*, no. 39, 24 August 2011, p. 26.

¹⁹⁵ Iluka Resources, *submission*, no. 26, 19 August 2011.

4.1.3.3 *Direct and indirect job creation*

As part of his evidence to the Inquiry, Mr Schodde of MinEx Consulting spoke of the results of his research into economic multipliers for major mining projects, particularly on the ratio between direct and indirect employment:

I came to the conclusion that, on average, for every one job that is generated in the mining industry another two jobs are generated elsewhere in the economy. A significant number of those are actually in the local regions.¹⁹⁶

Ms Emma Vogel, Technical Services Manager for Donald Mineral Sands (DMS), gave evidence to the inquiry regarding the expected levels of direct and indirect job creation the company had calculated would be created as a result of their heavy mineral sand mining project in western Victoria:

The actual Donald Project, and I'm not sure if you have heard of it, is quite a large project. Our EES is for 7.5 million tonnes of ore per annum, which equates to about 120 local jobs ... As part of our socioeconomic study, they have found that for every one job we create on site, between two and three are created off site.¹⁹⁷

Two submissions from local governments attempted to quantify the contribution of mining to employment in their communities. NGSC claimed mining operations had directly created 229 jobs in the Shire.¹⁹⁸ LCC's submission cited its report on the economic value of coal mining and electricity generation in the Latrobe Valley the role of direct employment in sustaining other jobs in the community that hosts mining operations. LCC claims that for every 10 jobs directly related to the coal and electricity industries, eight additional jobs are estimated to be sustained in the local economy.¹⁹⁹

In 2006, the MCA commissioned a La Trobe University study²⁰⁰ to quantify the wider economic and employment contribution of mining to the Melbourne region. The study estimated that the level of demand by the mining sector for goods and services from the region in 2006 was:

... estimated at \$940.51m per annum. The flow-on impacts take this to approximately \$2.4 billion and a corresponding 9,797 jobs ... From the total stimulus provided by the mining sector in Victoria, including all direct, industrial and consumption impacts, the industry sectors to benefit the most include manufacturing (\$747.398m), property & business services (\$466.033m), and retail trade (\$217.111m).²⁰¹

The Committee believes that an update of this study with an expanded scope to cover all of Victoria, rather than Melbourne, would be beneficial for use by the Victorian Government for informed policy decisions on the resources sector.

¹⁹⁶ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 9.

¹⁹⁷ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 2.

¹⁹⁸ Northern Grampians Shire Council, *submission*, no. 21, 19 August 2011, p. 1.

¹⁹⁹ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 2.

²⁰⁰ See: La Trobe University, 'Urban Resources: Mining Sector — Economic Impacts for Melbourne', Economic Research Unit, La Trobe University, Bendigo, 2006.

²⁰¹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, pp. 9–10.

4.1.3.4 *Demand for specialised goods and services*

In identifying the benefits of the resources sector to the Victorian economy, a limited number of submissions referred to benefits generated through increased demand for specialised goods and services required by the sector, including consultancy services and contractors, suppliers of specialised mining equipment and mining-related services provided by education and research facilities.

For example, the Australasian Institute of Mining and Metallurgy's (AusIMM) submission referred to the growth in service industries supporting mining and high value-added mining technology services, which it claimed generates annual sales of \$12 billion across Australia.²⁰² The CSIRO's submission made reference to Victoria's strengths in higher education teaching and research facilities for earth sciences in Melbourne.²⁰³ Both the University of Melbourne and Monash University are world-class institutions for earth sciences education, ranked as numbers 30 and 39 respectively among the top 100 universities in the world.²⁰⁴

The strength of Melbourne's earth sciences teaching and research facilities are compounded by the 'clustering' together of specialist organisations and research facilities. An example of clustering is found at Monash University's Clayton campus. Around the undergraduate and postgraduate teaching and research facilities at the university's School of Geoscience, the CSIRO's major minerals and earth sciences research facility in Australia and the highly specialised Australian Synchrotron facility are located nearby.

4.1.3.5 *Melbourne as a 'global' mining city*

The MCA's submission discussed Melbourne's particular role as 'one of the few international mining capitals', as it contains the head office of the world's largest miner (BHP Billiton) based in Melbourne along with the headquarters of other mining companies.²⁰⁵ The MCA claims the presence of these companies attracts clusters of support and service providers (financial services, engineering and technical services, scientific research, equipment and materials manufacturers) to base themselves in Melbourne, providing mining-related economic and employment.²⁰⁶ The presence of multi-national corporate headquarters and the associated clustering of 'producer services' firms are defining characteristics of 'global' or 'world' cities.²⁰⁷

Another benefit, as highlighted by the AusIMM, arises from investment in research and development:

²⁰² Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 4.

²⁰³ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 5.

²⁰⁴ Guardian Professional, 'Top 100 universities in the world for earth & marine sciences 2011', *The Guardian*, 7 September 2011, viewed 14 March 2011, <<http://www.guardian.co.uk/>>.

²⁰⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 9.

²⁰⁶ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 9.

²⁰⁷ J V Beaverstock, et al., 'A roster of world cities', *Cities*, vol. 16, no. 6, 1999, pp. 445–458; Saskia Sassen, *The global city*, Princeton University Press, Princeton, 1991.

The benefits of economic innovation also go far beyond the immediate economic rewards. Innovative activities in mining are often conjoined with technological developments elsewhere in industry and the economy, creating spill-over effects and generating further innovation, productivity, and prosperity.²⁰⁸

4.1.4 Presenting the case for the Victorian resources sector

Alongside evidence provided to the Inquiry that outlined the importance of the resources sector to the Victorian economy, it was also claimed the sector in Victoria suffered from a relatively poor perception by both the global resources sector and Victorian community alike. To address this allegedly poor perception, many submissions called for the Victorian Government to publicly present ‘the case for mining’ and take action in changing perceptions that Victoria is not an area to invest in for mineral exploration.

Recommendation 3: That the Victorian Government adopts an integrated, whole-of-government approach to the state’s resources sector, supported by clear and consistent policies, and that this policy be widely communicated to the resources sector and the broader Victorian community to demonstrate strong support for the sector and its future.

This recommendation recognises that there are challenges and barriers that require redress for the establishment of a clear, consistent policy to take effect. Many of these will be addressed throughout following chapters of the Report, with recommendations to help develop and reinforce a Victorian Government policy position which, if successful will assist in creating an environment conducive to enhancing investment in mineral exploration and project development in Victoria.

4.1.4.1 High-level government support for the resources sector

Evidence from a number of witnesses appearing before the Inquiry saw the support of the resources sector by the Victorian Government at the highest levels as a critical factor to encouraging renewed investment on mineral exploration in Victoria.

Mining companies already operating in Victoria gave evidence of the need for the Victorian Government to provide strong, high-level support for mineral exploration and mining in the state. Mr Chris Roberts, Exploration Consultant at Orion Gold, working the Walhalla mine in eastern Victoria, told the Inquiry that:

I think it would probably be helpful if the Minister, and Parliament in general, were able to give stronger support for that to departments and so forth because, in simple terms, each department has its own jurisdiction and things it is worried about looking at. They often see exploration coming into their area as a bit of a nuisance ...²⁰⁹

Mr Rod Jacobs, Development Manager at IGO — with IGO being a proponent of a copper/gold mining project in East Gippsland — told the Inquiry that along with

²⁰⁸ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 4.

²⁰⁹ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. 2.

regulatory consistency, support for mining by government is critical in attracting exploration investment:

In terms of certainty, we really need to know that if we follow the process and do good science and work, then we will have an outcome at this point in time ... I would like to see ... a high-level government conviction that mining is welcome. I think it has to come from the highest levels of State Government that it is an industry that is welcome here ... Otherwise, if that is not the view, make the contrary view quite plain. People get quite annoyed when they come in and half invest under one set of ideas and then find out something different.²¹⁰

The Inquiry heard evidence from the South Australian Chamber of Mines and Energy (SACOME) during its hearings in Adelaide that a key element of South Australia's success in attracting new mineral exploration investment under its *Plan for Accelerating Exploration* (PACE) initiative was the explicit support for mineral exploration and mining by the South Australian Government. This support was seen to emanate from the state's Premier downwards into the bureaucracy and the government's strategic planning documents.

Mr Jonathan Forbes, Director of Industry Development at SACOME outlined the support provided to the resources sector by the Government:

... we think that the South Australian resources sector enjoys a supportive relationship with our government, the Government who sets targets for the resources sector as part of the Strategic Plan. So, for example, Target 41 is minerals exploration in the State Strategic Plan, our exploration expenditure to be maintained is in excess of \$200 million per annum until 2015. Another one, Target 42, minerals production and processing, is to increase the value of minerals production and processing to \$10 billion by 2020. So those underpin, I guess, the Government's focus, and I think having a couple of targets like that out of many targets inside the state Strategic Plan help us all focus on where we go. It is a good start.²¹¹

When questioned further about the source of support, Mr Forbes replied:

Ultimately there has to be a willingness right from the top ... Mike Rann as Premier, he had two main messages which he banged on for the last five years — forcefully — we are open for business for mining and defence, okay, and we will do everything we can and where that Strategic Plan is useful in the sense that, as gutsy as it is, for every single one of those Strategic Plan Targets there is a number against it ... The message has been very strong to the general public and getting the community support that we are open for business in mining and defence and then underlying that is all this regulation stuff.²¹²

The need for the Victorian Government to actively engage the resources sector at a national and international level to show the state is 'open for business' was stated by a number of witnesses. As Victoria has a national and international reputation for being 'closed for business' (examined further in chapter six), the

²¹⁰ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 6.

²¹¹ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 2.

²¹² Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 10.

changing of perceptions of Victoria as a place for mineral exploration and mining requires a careful and sustained effort.

Mr Schodde of MinEx Consulting struck a note of caution regarding engagement with industry to ensure that the reality of regulation and oversight matches the rhetoric of government:

... you have to be very mindful that whatever statements you make to industry you have to make them very carefully and in a measured way so that you do not send the wrong signals out to the marketplace. Trust is hard to earn and easy to lose is really the motto that I follow.²¹³

Evidence from the Victorian Department of Primary Industries (DPI) spoke of the need to actively engage the resources sector to communicate changes to Victorian policy and priorities. Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group at DPI told the Inquiry that:

Prospectivity is, unfortunately, perceived as low. We have the opportunity to leverage best in class and there's active regulatory reform in Victoria. Promotion requires the active engagement; we actually need to go out there and promote these things, not just by putting out a leaflet to be sent to people but by active engagement. We do have significant endowments, it's not that we have nothing out there that could be developed, we do have significant endowments that have potential for development.²¹⁴

Dr Hollitt saw communication with the industry and other stakeholders as a vital part of the package to encourage increased investment in mineral exploration in Victoria. These stakeholders included national and global mining companies, along with the Victorian community:

Geological data and the information relevant to competitive potential; competitive, coordinated and accessible regulatory and approvals regime are important, but if you only have those things you're not going to get there. The things that you also need are outreach into the global industry and to understand our competitive position and develop policies and programs to attract appropriate explorers to our small area and what we need in terms of investment in that area, and outreach into the community; making sure that we've got active engagement based on benefits and rights and that we can build community confidence.²¹⁵

4.1.4.2 Community perceptions of the resources sector

A number of submissions received from peak bodies, mining companies and local governments called upon the Victorian Government to play a lead role in disseminating factual information to the Victorian community on mineral

²¹³ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

²¹⁴ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 13.

²¹⁵ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

exploration and mining.²¹⁶ For at least three decades, it has been thought that many Australian communities, particularly in Victoria, have been averse to the benefits of mining, seeing only the costs. Geoffrey Blainey places this shift to 1978 and the attempt to restart gold mining in Bendigo being stymied by conservation and environmental issues.²¹⁷

Recommendation 4: That the Victorian Government works with industry to develop and support a comprehensive community education program that promotes the value of the resources sector to the state.

Mr Rodney Fraser, Chair of the Victorian branch of the Australian Institute of Geoscientists (AIG) stated in his evidence to the Inquiry that the Victorian Government needs to lead community opinion to supporting the resources sector, claiming it currently relies on the resources sector to undertake the role of informing and educating the community about mineral exploration and mining:

The onus at the moment is on the companies to carry out the community education and relations programs, but we have seen very little support from the Government, very little underlying information being disseminated by the Government of the value of that to the State, and we believe that is important and there should be more emphasis put on that.²¹⁸

Ms Megan Davison, Assistant Director of the MCA's Victorian Division echoed the AIG's evidence, stating the Victorian Government had a key role to play in demystifying the process of mineral exploration and mining in the state:

Often a lot of fear is drummed up around potential explorers, thinking that you have an exploration licence one day and you are going to start mining the next day. I see here the Government and the Parliament can very much demystify that, and that is with information ... if the Government or the Parliament of the day says, 'There are very robust rules in place. This simply is not a situation of getting a licence and then you are going to mine'. A lot of the fear can be dispelled very easily.²¹⁹

A commonly held view in submissions was the poor public perception of mining in Victoria. For example, Mitchell Shire Council reiterated concerns heard within the Shire that 'landholders will lose their land to miners if they are let on the land'.²²⁰ On this basis, the public provision of information on mineral exploration and mining was perceived as potentially minimising community anxiety and

²¹⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Municipal Association of Victoria, *submission*, no. 57, 6 September 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

²¹⁷ Geoffrey Blainey, *The rush that never ended — a history of Australian mining*, Melbourne University Press, Melbourne, 1993, pp. 377–8.

²¹⁸ Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 6.

²¹⁹ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 8.

²²⁰ Mitchell Shire Council, *submission*, no. 7, 29 July 2011.

dispel community misconceptions surrounding the presence of these industries in Victoria.²²¹

The AIG recommended the Victorian Government promote the value of mineral exploration and mining to Victoria in a public information campaign. It argued that explaining the benefits to the state and its people from resources-based royalties, taxes and employment opportunities would ultimately lead to a well-informed community where misleading or biased information would have a lesser chance of influencing public opinion.²²²

The public information campaign concept was backed by the Prospectors & Miners Association of Victoria, who stated that changing public perceptions is an important factor in the success of mineral exploration and mining in Victoria and that a 'balanced' education program targeted at Victorian school students would help change perceptions.²²³

²²¹ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011.

²²² Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011.

²²³ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

CHAPTER FIVE: REAL AND PERCEIVED CHALLENGES TO A SUCCESSFUL VICTORIAN RESOURCES SECTOR

A number of contributors to the Inquiry expressed strong opinions regarding the real and perceived challenges the resources sector faces in undertaking mineral exploration and mining projects in Victoria.²²⁴ The challenges can be grouped into four key areas:

- Victoria's human and natural geography
- competition for land between different potential uses
- Victoria's regulatory and policy environment governing the resources sector
- finance and taxation factors affecting investment.

As a whole, the resources sector claims these factors had a negative impact on investment in mineral exploration and mining projects in Victoria in recent years.

The Committee recognises each of these areas shapes the challenges facing the resources sector's future. Left unresolved, they create an operating environment that is difficult to manage, hard to navigate and contains a complex set of regulatory approaches. This affects not only greenfields mineral exploration but also other sectors of the mining industry in Victoria. These challenges mould the broader public policy debates around the complexities of land use in Victoria.

²²⁴ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Boral Quarries, *submission*, no. 37, 23 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; City of Greater Bendigo, *submission*, no. 23, 19 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Hg Recoveries, *submission*, no. 10, 15 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; William J Kyte, *submission*, no. 6, 27 July 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Minelab Electronics, *submission*, no. 13, 16 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Mount Rommel Mining, *submission*, no. 30, 19 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Prospecting Supplies Australia, *submission*, no. 18, 18 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011; Resource Futures, *submission*, no. 25, 19 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

Governments across Australia find it increasingly difficult to operate in an environment where clashes between human and natural geography, competition for use and regulatory complexity exist without a community consensus around resolving these issues. As both the owner of natural resources and promoter of their development, there is increasing pressure on governments to set land use policies managing the different values and demands of a growing population and a robust economy.

The Committee was persuaded that in managing these competing factors there is a role for government to ensure there is an effective legislative and regulatory framework (see chapter six) to bring security to the resources sector and the other land users in Victoria. This includes providing mechanisms for resolving land use disputes, including exploration and mining related activities.

While the Committee believes that government agencies were acting in good faith and in accordance with the various legislative and regulatory systems in the public policy framework, it is of the view that an integrated whole-of-government policy approach to resolve conflicting demands on land and other natural resources does not exist.

This inquiry has highlighted an absence of dispute resolution mechanisms between agencies and other stakeholders in identifying and ranking the comparative importance of land uses in particular locations. In the absence of these mechanisms, the Committee recognises entrenched conflicts over actual and potential land uses that reflects a 'silo mentality' among the various responsible organisations. However, the development of an overarching system to manage different uses of Victoria's land mass and best utilise its economic, social, environmental and cultural values requires comprehensive review and consultation with all stakeholders.

The Committee is of the view that a strategic land use policy framework is the missing ingredient in Victoria's land management system. The absence of a framework institutionalises competition between different land uses, particularly for the resources sector which, by its own admission, sees itself as a competitor struggling for community legitimacy in some areas of the Victorian community. It also contributes to the lack of certainty and regulatory protection that all land users seek to resolve, particularly the resources sector.

5.1 Human and natural geography

5.1.1 Closer human settlement patterns compared to other Australian jurisdictions

Many submissions to the Committee viewed competing land uses as a key issue affecting mineral exploration and mining. They are a function of Victoria's small land mass (2.6 per cent of Australia's area) containing a high proportion of Australia's population (25 per cent). The state's human geography is further compounded by between 35 and 36 per cent of the state's land area being held

as Crown land to preserve natural and environmental features in national parks, state forests and reserves.²²⁵

Evidence received during the Inquiry proposed a range of solutions to deal with the human and natural constraints of Victoria's geography. These solutions seek to manage mineral exploration and mining based on assessment of a combination of economic, social or environmental factors. The resources sector views competition between different land uses as constraining exploration and mining activity in Victoria.²²⁶ Other groups such as local governments²²⁷ and environmental groups²²⁸ view the issue in terms of social and environmental factors such as water and food security.

The Victorian Government's submission outlined geographical constraints (size and population density) and conflict between land uses as two factors affecting Victoria's perceived prospectivity, stating:

Victoria is commonly perceived as a small, densely populated jurisdiction, where accessible earth resources have been discovered already and, in some cases, exhausted. Close proximity between agricultural, commercial and residential activities means that there is a common perception that land use and resource conflicts are likely. Available evidence suggests that this can have adverse implications for how Victoria is perceived as a prospective jurisdiction for new investment.²²⁹

Figure 4 below shows the percentage breakdown of Victoria's land area dedicated to different uses. From this figure it is evident that the vast majority of land in Victoria is used either for agricultural production or held as Crown land. The remainder is held for other uses (such as human settlements), with a small proportion of that remainder containing mining and extractive operations.

²²⁵ Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 2.

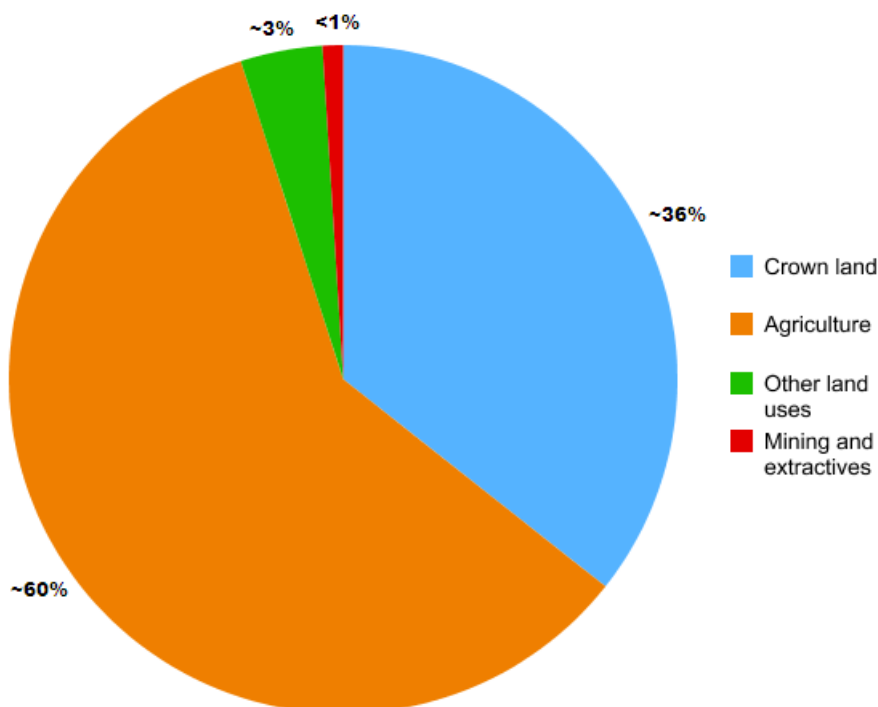
²²⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Independence Group, *submission*, no. 39, 24 August 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Minelab Electronics, *submission*, no. 13, 16 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

²²⁷ Allison Jones, General Manager, Economic Sustainability, Latrobe City Council, *transcript of evidence*, 7 November 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Municipal Association of Victoria, *submission*, no. 57, 6 September 2011.

²²⁸ Environment Victoria, *submission*, no. 50, 29 August 2011; Mordialloc Beaumaris Conservation League, *submission*, no. 5, 25 July 2011; Phil Piper, President, Mardan/Mirboo North Landcare Group, *transcript of evidence*, 7 November 2011; Saskia Sassen, *The global city*, Princeton University Press, Princeton, 1991.

²²⁹ Victorian Government, *submission*, no. 58, 22 October 2011, pp. 3–4.

Figure 4: Approximate percentages of Victoria's land mass allocated to different land uses²³⁰



A different perspective in terms of conflicting land uses was offered by Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group at the Department of Primary Industries (DPI). Dr Hollitt told the Committee:

Victoria has a mature and balanced approach to mining land use. The other thing that's probably worth recording — in case nobody has made this point to the Committee — is just how little of Victoria is actually covered by mining from the point of view of its area. It's well less than 0.5 per cent and the last number I saw was 0.27 per cent, this is by mining and extractors, it's really, really low.

... Certainly we have large parts of Victoria allocated for exploration, but because so little of that turns into mines it doesn't end up in a significant contest for area when it comes down to it. It's the perception that exploration will necessarily lead to mining that creates a lot of the land use concern.²³¹

Evidence provided by Ms Megan Davison, Assistant Director of the Victorian Division of the Minerals Council of Australia (MCA) spoke of the potential for conflict between the resources sector and the wider Victorian community caused

²³⁰ Department of Primary Industries, *Annual Report 2010–11*, Victorian Government, Melbourne, 2011, p. 17; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10; Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 3.

²³¹ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

by the combination of high population density, competing land uses, constrained access to land and good mineral prospectivity:

Victoria is unique with regard to its land size ... We have almost three times the population density of any other jurisdiction ... meaning access to land is pretty tight. Of course there are areas of land where exploration and mining is not permitted with regard to nature conserves and national parks ... With regard to our small land mass and having the second largest population, we are also very well endowed with resources.²³²

Mr Brian Hauser, State Director, Victoria-Tasmania-South Australia of Cement, Concrete and Aggregates Australia (CCAA) told the Committee of the challenges from land use conflicts. Of particular concern to CCAA are the effects urban growth in Melbourne and regional cities has on the future supply of extractives through increased transport costs and ultimately, higher costs for infrastructure:

Victoria, as you know, has 3 per cent of the land mass and 25 per cent of the population. It is heavily urbanised, and increasingly so. But for our industries to survive, the proximity of the materials must be close to market ... about a third to half the cost of supplying the materials is around transport costs.

So if we ... Go too far, on natural logic, the price goes up. The nature of our industry is that the only way we can deal with that is — we cannot absorb those costs — to invariably pass those costs on. Those costs end up being absorbed into the cost of infrastructure for Victoria; hence less infrastructure, potentially, or more costly infrastructure.²³³

Mr Richard Schodde, Managing Director of MinEx Consulting, gave evidence to the Committee regarding Victoria's population density creating greater potential for land use conflicts. In response to a question from Mr Wade Noonan MP, Mr Schodde spoke of the essential conflict between agricultural and mining uses, effects on perceptions of prospectivity in a jurisdiction and the possibility of resolving these conflicts by the resources sector:

Mr NOONAN — To what extent does government positioning and statements made around mining versus agricultural use of land feed into those sensitivities, wherever they might be, about those competing interests?

Mr SCHODDE — Yes, it is a major problem, a major challenge. One of the reasons Queensland has been marked down so severely in the last Fraser Institute survey and will get marked down even more in the next one is because of this whole issue of loss of access and control to things like land for coal seam gas. That issue of farmers' rights versus miners' rights is quite a thorny one, and it is brought to a point here in Victoria because of a higher population density than you have in many of the other states. You cannot walk away from it, but it is not a new challenge, and responsible miners come up with responsible ways of developing operations there. So I think the two can coexist.²³⁴

²³² Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 4.

²³³ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, pp. 2–3.

²³⁴ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 13.

Environmental groups also raised the issue of Victoria's closely settled geography in setting up conflict between the resources sector and other land users. Mr Mark Wakeham, Campaigns Director from Environment Victoria (EV) spoke of the need for the government to develop a strategic land use framework to better manage conflicts:

We would advocate a more holistic approach which looks at the competing land uses and industries and the fact that one industry might be appropriate in one location but not in another ... We have done a lot of work around the State's coal resources, and the fertile agricultural lands almost mirror the coal resource exactly, so there is going to be a conflict there. That is why it is important that we make strategic decisions about what are the land uses that we support and what are the existing industries that could be affected by the development of new industries.²³⁵

EV's recommendation for a state-wide strategic land use framework was also supported by the Victorian Environmental Defenders Office.²³⁶

The Friends of the Earth's (FoE) submission examined the land use conflicts inherent in mining operations stemming from successful exploration, particularly for fossil fuels such as brown coal. Its submission called attention to the social, economic and environmental effects of increased brown coal mining, and the impact new, open cut mines could have on:

- Ground and surface water supplies and quality,
- Remnant vegetation and potentially key species of animals and plants,
- Some of the state's most significant food producing areas,
- Rural and farming communities who may be exposed to these operations.²³⁷

The Victorian Farmers Federation (VFF) spoke of their success in working with the resources sector to develop constructive solutions to land use conflicts. Mr Alex Arbuthnot, member of the VFF's land management committee, gave evidence of the efforts made by the VFF to educate their members and lobby for legislative changes to reduce conflicts between agriculture and mineral exploration and mining:

Even though the Victorian Farmers Federation is very passionate about the protection of farmer's rights and the protection of agricultural land and the rehabilitation of that, over the years we have worked with the mining industry to achieve outcomes that are win-win situations for both organisations. I think I can categorically say that our legislation in Victoria is probably the strongest when it comes to rehabilitation, communication, engagement with communities and the protection of farmer's rights.

We have over the years tried to embed those principles in any changes and amendments that have gone on with the Acts. Because the protection of farmers rights does not only cover mining, we have also produced property access information for our landowners that covers pipelines, power generation and mining.

²³⁵ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 3.

²³⁶ Environmental Defenders Office, *submission*, no. 54, 2 September 2011, p. 7.

²³⁷ Friends of the Earth, *submission*, no. 41, 26 August 2011, p. 2.

Any of these documents are available. They basically say to landowners that these are the things you should look for before anybody comes onto your property.²³⁸

5.1.2 Restrictions on land access for exploration and mining

5.1.2.1 Crown land

One of the key constraints to increased mineral exploration and mining in Victoria as identified by the resources sector was the restrictions and conditions on accessing Crown land. In particular, the perceived 'locking up' of Crown land was seen as a barrier to greenfields mineral exploration, particularly for gold.²³⁹

The Department of Sustainability and Environment (DSE) is the responsible authority for the management of Crown land in Victoria. DSE manages approximately 7.2 million hectares (around 35 per cent of the state's land area) of Crown land, consisting of parks, other conservation reserves and state forests. For the purposes of mineral exploration and mining, Victoria's 7.2 million hectares of Crown land is divided into three categories: 'land not available', 'restricted' and 'unrestricted'.²⁴⁰ The geographical distribution of Crown land in Victoria is shown in Figure 5 below.

Under section 6 of the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA) certain types of Crown land are classified as 'not available' and are exempt from being subject to an exploration or mining.²⁴¹ The 'land not available' category comprises 3.3 million hectares (14 per cent of Victoria's land area).²⁴² These types of Crown land include:

- land that is a national park, wilderness park or state park under the *National Parks Act 1975* that is not already subject to a pre-existing exploration or mining
- land that is a marine national park or marine sanctuary under the *National Parks Act 1975*
- land that is a reference area under the *Reference Areas Act 1978*

²³⁸ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 2.

²³⁹ Ararat City Council, *submission*, no. 16, 18 August 2011; Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; City of Greater Bendigo, *submission*, no. 23, 19 August 2011; Minelab Electronics, *submission*, no. 13, 16 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

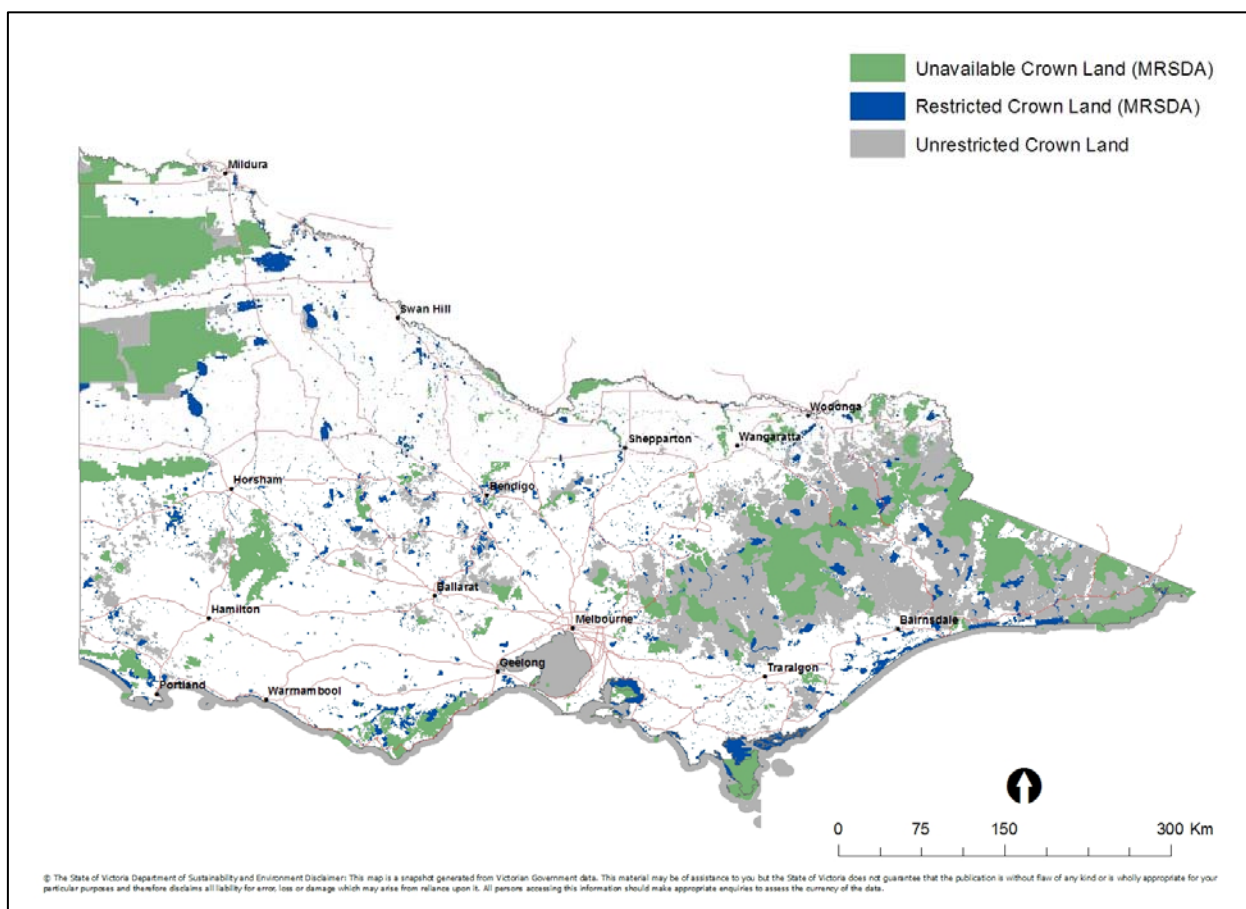
²⁴⁰ Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, pp. 2–3.

²⁴¹ 'Not available' Crown land is also exempt from being subject to retention and prospecting licences, extractive industry consents to search for stone and extractive industry work authorities.

²⁴² Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 3.

- land subject to an ongoing protection declaration under the *Aboriginal Heritage Act 2006*.²⁴³

Figure 5: Map of Crown land holdings in Victoria by category²⁴⁴



‘Restricted’ Crown land comprises 1.2 million hectares (approximately 5 per cent of Victoria’s land area).²⁴⁵ Regional parks, coastal parks, marine parks, coastal reserves, alpine resorts and forest parks are examples of restricted Crown land as defined under schedule three of the MRSDA.²⁴⁶ On restricted Crown land a licensee cannot apply for an exploration or mining licence without consent from both (presently) the Ministers for Energy and Resources and Environment and Climate Change.²⁴⁷

The third category, ‘unrestricted’ Crown land comprises four million hectares (approximately 17 per cent of Victoria) and includes state forests and unreserved

²⁴³ *Mineral Resources (Sustainable Development) Act 1990* (Vic).sections 6; 6AA

²⁴⁴ Department of Sustainability and Environment, Presentation to Committee: ‘EDIC Inquiry into greenfields mineral exploration and project development’, 30 January 2012, p. 9.

²⁴⁵ Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 3.

²⁴⁶ *Mineral Resources (Sustainable Development) Act 1990* (Vic), schedule 3.

²⁴⁷ Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 3.

Crown land.²⁴⁸ Applications for mining and exploration licences on ‘unrestricted’ Crown land must receive consent from the responsible ministers (currently the Minister for Energy and Resources and Minister for Environment and Climate Change).²⁴⁹

The Australasian Institute of Mining and Metallurgy’s (AusIMM) submission stated Victoria’s restrictions for mineral exploration on Crown land acts as a deterrent to investment in exploration, with a major contributor being the inconsistent declaration of parks and protected lands.²⁵⁰ Similarly, the MCA’s submission highlighted concerns regarding growth in Crown land restricted and exempt from mining.²⁵¹

In its submission, Morning Star Gold, a small mining company operating in eastern Victoria said the company’s exploration and mining efforts in what it believes to be a highly prospective gold area were constrained because:

Significant areas of land in Victoria are unavailable for any exploration activity or are viewed as exceedingly difficult to do work on ... of great significance is the amount of land that is not available for exploration under any circumstances ... Direct prohibitions to mining or exploration prevent any activity on nearly one third of Crown land in the State as it has been locked up as State or National Parks or in other classifications which ... make exploration or mining incompatible with that land status.²⁵²

Access restrictions to Crown land for exploration and mining were also viewed as problematic by the small mining and prospecting industry. In its submission, Orion Gold referred to the highly regulated access regime for its exploration licences located on Crown land in eastern Victoria. The company claims seasonal closures of access to its exploration sites limit access to its tenements for up to six months each year.²⁵³

Minelab Electronics noted that hobbyists and prospectors using hand-held metal detecting equipment cannot access Crown land despite operating in an extremely low-impact manner.²⁵⁴ The Prospectors and Miners Association of Victoria (PMAV) recommended to the Committee the removal of prohibitions on exploring and mining in national and state parks, except where it is proven that these activities have a detrimental long-term environmental impact.²⁵⁵

5.1.2.2 *Private land*

Although at present between 35 and 36 per cent of Victoria’s land mass is Crown land, the vast majority of the state’s land area is ‘alienated’ Crown land that is currently held as privately owned freehold land. Under the Part XI of the *Land Act*

²⁴⁸ Lee Mieziš, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 3.

²⁴⁹ Lee Mieziš, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 4.

²⁵⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

²⁵¹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

²⁵² Morning Star Gold, *submission*, no. 14, 16 August 2011.

²⁵³ Orion Gold, *submission*, no. 35, 22 August 2011.

²⁵⁴ Minelab Electronics, *submission*, no. 13, 16 August 2011.

²⁵⁵ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

1958, titles of alienated Crown land are subject to a depth limitation, below which the Crown retains ownership of the land and any minerals in it.²⁵⁶ The depth of title for most freehold land in Victoria is 15 metres from the surface.²⁵⁷

The MCA claimed that gaining access to private land represents a significant challenge for exploration and mining companies.²⁵⁸ This view was supported by Mount Rommel Mining's submission, which outlined the difficulties of accessing privately owned land for exploration within the area of the historic Victorian goldfields 'when the owner of the surface to 15 metres does not wish to allow access in any way'.²⁵⁹

Access to privately owned land is also an issue to exploration and mining companies who are more familiar with the systems of pastoral leases in other mainland Australian states and the Northern Territory. These systems provide long-term exclusive leases of Crown land for pastoral purposes, but retain the Crown's right to terminate pastoral leases for other uses such as mining, tourism or environmental uses.²⁶⁰

Mr Antonio Belperio, Exploration Director for Minotaur Mining, gave evidence that access to land is a key factor influencing exploration investment decisions for junior miners. In response to questions from Mr Neale Burgess MP, Mr Belperio commented on his company's reluctance to conduct exploration in Victoria compared to South Australia:

Mr BELPERIO — ... the regulatory and land access environment that we have to work under ... it is not the major decision, but it is certainly an important decision and Victoria has actually scored quite poorly in the past. That is why we have always been hesitant to go there.

Mr BURGESS — And that was the reason.

Mr BELPERIO — Yes. The geological argument is now starting to outweigh that, so we say, 'Okay, let's grit our teeth and go in'. Now, a lot of that is to do with the fact that Victoria does not have pastoral country; it has private property. So you have got to be fair, you have got to compare oranges with oranges. So in South Australia we would be very hesitant to work in the Adelaide Hills because it is all private land. It is hard work and you have got to have an agreement with every landowner, a lot of doors to knock on and a lot of notices to serve. The pastoral country is so much easier to deal with.²⁶¹

5.1.3 Deep sedimentary cover of potential ore bodies

Finding deposits of similar quality and quantity to historic large-scale surface discoveries such as a Central Victorian goldfield or Broken Hill at depth under

²⁵⁶ *Land Act 1958* (Vic), section 339.

²⁵⁷ Lee Miezi, Executive Director, Forests & Parks, Department of Sustainability and Environment, *personal communication*, 8 March 2012.

²⁵⁸ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 38.

²⁵⁹ Mount Rommel Mining, *submission*, no. 30, 19 August 2011, p. 2.

²⁶⁰ Productivity Commission, *Pastoral leases and non-pastoral land use*, Commission research paper, AusInfo, Canberra, 2002.

²⁶¹ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, pp. 4–5.

sedimentary cover requires new finding techniques and tools. Making these discoveries at depth will also cost considerably more than finding surface deposits using existing methods.

Victoria is a world-renowned gold province, with approximately 80 million ounces produced from Victoria's 13 goldfields.²⁶² Victoria's historic gold output accounts for two per cent of all the gold ever produced.²⁶³ Geoscience Australia's (GA) submission refers to data gained from DPI's *Developing Gold Undercover* initiative, which indicates the possibility of another '73 million ounces of gold still to be discovered under the cover of sediments in northern Victoria'.²⁶⁴ The potential in-ground value of this resource is calculated to be in excess of \$120 billion at current gold prices.²⁶⁵

Much of Australia's land mass is covered by thick layers of sediment atop the underlying bedrock, transported over millions of years. These sediments can partially or fully obscure mineral deposits underneath. Mr Jonathan Law, Director of the Minerals Down Under Flagship at the CSIRO, gave evidence to the Committee outlining the three main types of sedimentary cover found in Australia:

It really occurs probably in three ways. One is the recent river sediments that often cover large parts of Australia, particularly central Australia, some of the more desert regions. You have these recent river sediments that just obscure all the geology that is underneath. The second type of cover is really the regular, which is the weathering that changes the nature of the rock formations as they outcrop. It can fundamentally change the chemical composition; it can leach out the metals that you are looking for — it makes the rocks look different — so it is a kind of an obscuring type of cover. Lastly, there are the younger sedimentary formations that overlie the ore-bearing horizons in many jurisdictions. In Victoria, the Murray Basin would be a good example. The Murray Basin overlies a lot of older geological formations that contain mineralisation, so you have to look through that before you can explore the bedrock that lies underneath.²⁶⁶

Mr Law also told the Committee of the technical and geological challenges to exploring for new mineral deposits at depth:

The Victorian challenges are very similar to the broader national challenges in Australia ... In terms of the challenge of transported cover, a significant part of Victoria and the continent is actually covered by transported sediments, which make it very difficult to know what is underneath. Most exploration in Victoria and elsewhere (that is not brownfields) has been very shallow in nature, so we have literally only scratched the surface of the potential opportunity at depth.²⁶⁷

The challenges of mineral exploration at depth, such as the extent of sedimentary cover, increased costs and technical complexity combine to heighten geological

²⁶² C. E. Willman, *Gold Undercover: summary of geological findings. Exploring for buried gold in northern Victoria*, 2010, p. 3.

²⁶³ Geoscience Australia, *submission*, no. 19, 18 August 2011.

²⁶⁴ Geoscience Australia, *submission*, no. 19, 18 August 2011.

²⁶⁵ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

²⁶⁶ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 7.

²⁶⁷ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, pp. 3–4.

risks for mining companies exploring in Victoria. Ms Emma Vogel, Technical Services Manager for Donald Mineral Sands (DMS), gave evidence to the Committee summarising the geological risks and challenges inherent to exploration in Victoria, compared to other jurisdictions:

Specific to Victoria, unfortunately the geological risk in Victoria is considered to be quite high. It's a global industry, so when you are comparing that to the geological risk in West Africa, for example, I have spoken to people working in West Africa and they report back that those deposits are very exciting. It's a little bit more difficult in Victoria for gold, where we are looking. Most of the area to the north is what they consider under cover, the depth to basement is quite deep, therefore your drilling costs are high. You may have to drill up to 100 metres before you hit basement and then you have to get into basement. It makes things like geochemical soil sampling difficult because of the geological formulation; those results generally aren't as reliable as they are in other areas, and there are some structural complexities once you do get into the basement.²⁶⁸

The Australian Institute of Geoscientists' (AIG) highlighted the importance of DPI initiatives such as *Developing Gold Undercover* and *Rediscover Victoria* in providing pre-competitive geoscience for mining companies. These initiatives are claimed to reduce geological risk and attract mining companies to explore under sedimentary cover in Victoria:

The GSV have done excellent work in recent years with the *Developing Gold Undercover* project, the VIMP program, the Rediscover Victoria drilling programs and the extensive seismic surveys through the west and central parts of the state to investigate the underlying geological structure of the state, the host rocks types and the mineral depositional environments. This work has led to the extensive mineral sands mining in the north west of the state and to the discovery of the new deposits undercover in the north of the state at Tandarra, Mitiamo and Lockington.²⁶⁹

Mr Law of the CSIRO stated that the challenges created by sedimentary cover also provide long-term opportunities from the successful development of new exploration technologies to search for minerals under cover:

In terms of the perception of prospectivity, if that is turned around, of course, the investment flow into exploration is likely to be quite significant. In terms of transported cover, there is effectively a new search space that becomes available if you can develop technology as a way of exploring under cover.²⁷⁰

5.1.4 Nuggetty gold

An issue raised in submissions related to perceptions of Victoria's prospectivity was the 'nuggetty' nature of its gold deposits. Nuggetty gold is one of the geological risks faced by mining companies exploring for gold in Victoria. Victoria's gold deposits were largely created as nuggetty gold, rather than the more evenly distributed, finer grained gold found in Western Australia. Four submissions discussed the difficulties that nuggetty gold creates for miners,

²⁶⁸ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 3.

²⁶⁹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, pp. 2–3.

²⁷⁰ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 7.

particularly the challenges in estimating its size in a way that complies with the Joint Ore Reserves Committee's (JORC) code of practice.²⁷¹

The Australian mining industry sought to regulate the way in which ore reserves were classified and reported in the aftermath of the Poseidon nickel boom and bust in Western Australia during the late 1960s and early 1970s.²⁷² The JORC code sets minimum standards for public reporting of exploration results, mineral resources and ore reserves in Australia. These standards provide commonly understood principles, allowing investors to make informed investment decisions on mineral exploration and mining projects. The JORC code is sponsored by the Australian mining industry and its professional associations.²⁷³ Having a mineral resource defined as 'JORC compliant' assists mining companies to list and raise capital on the Australian Stock Exchange (ASX).

Successful development of a methodology assessing nuggetty gold resources in a JORC code compliant manner would potentially increase investment by companies exploring for gold in Victoria, giving them easier access to exploration capital.

The CSIRO noted in its submission that the nature of nuggetty gold resources made many companies reluctant to commit significant capital to gold mining in Victoria.²⁷⁴ Mr Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania for the Association of Mining and Exploration Companies (AMEC), gave evidence to the Committee of the difficulties of exploring for nuggetty gold:

... if you are drilling into the traditional Victorian nuggetty gold, you can pass a drill hole right next to it and come up with nothing, yet you can go through here and you have a bonanza.²⁷⁵

From the miner's perspective, Castlemaine Gold highlighted other difficulties associated with exploring for and defining nuggetty gold resources, such as increased expenditure of money and time to determine its value. The company argues the additional costs have an impact on the ability of mining companies to fully define a nuggetty gold resource before complying with relinquishment conditions in their exploration licences.²⁷⁶ Unity Mining's submission claims increased drilling programs to obtain an optimum size of samples would more accurately determine the true value of a nuggetty resource. However, it claimed

²⁷¹ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Castlemaine Goldfields, *submission*, no. 53, 30 August 2011; Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

²⁷² Geoffrey Blainey, *The rush that never ended — a history of Australian mining*, Melbourne University Press, Melbourne, 1993, pp. 346–8; Joint Ore Reserves Committee, *Reporting of exploration results, mineral resources and ore resources*, 2004.

²⁷³ Joint Ore Reserves Committee, *Reporting of exploration results, mineral resources and ore resources*, 2004.

²⁷⁴ Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011.

²⁷⁵ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 6.

²⁷⁶ Castlemaine Goldfields, *submission*, no. 53, 30 August 2011.

that this is to achieve is difficult in Victoria as 'The onerous regulatory processes experienced in Victoria inhibit drilling and soil and rock sampling and therefore the collection of an optimal number of samples'.²⁷⁷

The AMEC submission recommends that DPI's Earth Resources Division work closely with the JORC to develop improved methods of establishing nuggetty gold resources. These improved methods would better reflect the 'in ground economic value' of the resource and would mean these resources would comply with the JORC code.²⁷⁸

Recommendation 5: That the Victorian Government works together with the Joint Ore Reserves Committee (JORC) and other stakeholders to better define nuggetty gold resources within the JORC framework to encourage greater investment in gold exploration in Victoria.

5.2 Land use conflicts

Submissions and evidence gathered by the Committee revealed a range of real and potential land use conflicts involving the resources sector in Victoria. Essentially, there are three main sources of conflict examined below, namely:

- agriculture and mining
- urban development and mining
- environment and mining.

5.2.1 Agriculture and mining

Agriculture remains an important part of the Victorian economy, producing 27 per cent of Australia's agricultural output, valued at around \$10 billion (or 3.3 per cent of Victoria's Gross State Product). Victoria's agriculture sector employs approximately 89 000 people across 33 000 farm businesses, occupies around 60 per cent of Victoria's land mass (comprising approximately 3 per cent of Australia's arable land) and accounts for 65 per cent of the state's annual water consumption.²⁷⁹

A fundamental cause of the conflict between agriculture and mining resides in the system of freehold land titles in Victoria. The overwhelming majority of freehold land is held under Torrens Title, which gives the owner a right to use the first 15 metres below the surface. After the first 15 metres, the land remains property of the Crown. All minerals on freehold land in Victoria are property of the Crown.²⁸⁰

Land use conflicts between agriculture and mining are contentious, not only in Victoria but also at a national level. The Australian Government views conflicting

²⁷⁷ Unity Mining, *submission*, no. 34, 22 August 2011.

²⁷⁸ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

²⁷⁹ Department of Primary Industries, *Annual Report 2010–11*, Victorian Government, Melbourne, 2011, p. 17.

²⁸⁰ Lee Miezi, Executive Director, Forests & Parks, Department of Sustainability and Environment, *personal communication*, 8 March 2012.

uses of agricultural land as a key issue informing the development of a national food strategy.²⁸¹

From the resources sector's perspective, Geos Mining's submission questioned where mineral exploration and mining sits within the Victorian Government's land use priorities, commenting on its perception that 'the industry plays second fiddle to other land uses'.²⁸²

Ms Sarah Gafforini, Manager of Policy and Professional Standards at the AusIMM told the Committee of an opinion commonly held by the resources sector that community attitudes view farming and other land uses (such as mining) in Victoria as mutually exclusive:

The other area that I would like to touch on, just quickly, is about land access. Land access is not just a Victorian issue, it is a national issue, yet it seems to be a bigger issue here in Victoria. As we have heard before, there is the attitude that farming and other land uses are totally incompatible, and that is well entrenched in Victoria.²⁸³

There have been a range of responses by governments in Australia in dealing with community concerns around real and perceived land use conflicts between mining and agriculture. These include parliamentary inquiries into impacts of the resources sector on agricultural land (with particular reference to the extraction of coal seam gas) by the New South Wales Legislative Council²⁸⁴ and the Australian Senate²⁸⁵. Queensland²⁸⁶ and South Australia²⁸⁷ have passed new or amended legislation that gives some protection to agricultural land from mineral exploration and mining.

5.2.1.1 *Protecting agricultural land*

A number of arguments were heard during the Inquiry recommending agricultural land uses be prioritised over mineral exploration and mining in Victoria. These arguments include the longer-term economic value of agriculture compared to shorter-term gains from mining, along with maintaining food security, and the need to protect high-value agricultural land.

Some submissions made reference to the current and future economic value to Victoria from agricultural land. Ms Kate Tubbs, President of Moorabool Environment Group (MEG) gave evidence of the scale and diversity of agricultural activity currently taking place near her property at Parwan near Bacchus Marsh, an area that is subject to an exploration licence searching for brown coal:

²⁸¹ Department of Agriculture, Fisheries and Forestry, *Issues paper to inform development of a national food plan*, Australian Government, Canberra, 2011.

²⁸² Geos Mining, *submission*, no. 15, 17 August 2011, p. 2.

²⁸³ Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011, p. 4.

²⁸⁴ Parliament of New South Wales, 'Coal seam gas (Inquiry)', viewed 8 March 2012, <<http://www.parliament.nsw.gov.au/>>.

²⁸⁵ Rural Affairs and Transport References Committee, *Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, Parliament of Australia, Canberra, 2011.

²⁸⁶ *Strategic Cropping Land Act 2011* (Qld).

²⁸⁷ *Mining Act 1971* (SA).

This is an area that's got agricultural land — I don't know if any of you know Bacchus Marsh at all with The Avenue of Honour; we grow everything from strawberries, cherries and raspberries through to spinach, lettuce and cabbages ... it's an area that is a food bowl for the rest of Victoria — canola crops; it's just endless what we've got just within our vicinity.²⁸⁸

Mardan/Mirboo North Landcare Group's (MMNLG) submission spoke of the economic costs of changing the land use of South Gippsland from agriculture to mining:

The entire area of South Gippsland (which is presently covered by mining exploration leases) is prime agricultural country. Our milk, meat, potatoes etc. supply the needs of Melbourne and other centres. The economic cost of mining of any kind due to the loss or destruction of highly productive land would be enormous for the local farmers and producers. The economic cost to Melbourne and other centres would also be large as food would have to be sourced from further afield.²⁸⁹

The VFF's submission contends that food security will become an increasingly important issue as populations increase in Victoria and throughout the world. It argues pressure on land availability for agricultural as opposed to other land uses is strongest in Victoria due to the state's position as a major producer of Australia's food supply.²⁹⁰ The food security argument was also advanced by Ms Carol Vincent, Chief Executive and President of the South Australian Farmers Federation (SAFF), who stated:

Consumers are much more concerned about what they put in their mouths than they used to be. They are more sophisticated and are certainly showing that they do not want a totally imported food regime. They want local food and they want access to healthy, affordable domestic supply. Now, to be able to maintain that and also to look at the growing population as well — which will reach nine billion by 2050 — we need to have sensible arrangements in place and sensible legislation that ensures that we are able to maintain our prime food production lands whilst still being able to grow the State as far as mineral resources and how that works and how we can all appropriate together.²⁹¹

Mr Wakeham from EV spoke of the need to protect high value agricultural land in Gippsland (which overlies extensive brown coal formations) to ensure Victoria's long-term food security:

... there are strategic industries for Victoria's long-term prosperity, and having a viable agricultural industry and being able to feed ourselves is really important. As I said earlier, there is almost a perfect overlay between the high-value agricultural lands and the coal resource in particular. In many of these areas in Gippsland, if all the climate change projections are accurate, and they are the best we have got, so

²⁸⁸ Kate Tubbs, President, Moorabool Environment Group, *transcript of evidence*, 10 October 2011, p. 3.

²⁸⁹ Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011, p. 2.

²⁹⁰ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 6; Victorian Farmers Federation, *submission*, no. 20, 19 August 2011, p. 2.

²⁹¹ Carol Vincent, Chief Executive & President, South Australian Farmers Federation, *transcript of evidence*, 17 November 2011, pp. 2–3.

we have to assume that they are worth taking notice of, Gippsland is going to be the food bowl of Victoria.²⁹²

South Gippsland has a number of active exploration licences, with mining companies mostly searching for brown and black coal and coal seam gas. Mr Phil Piper, President of MMNLG, gave evidence to the Inquiry of possible impacts on Melbourne's food supply if mining were to take place in this region:

I guess our main concern in that area is that this is prime agricultural land. The potatoes and the dairy products that are grown in our area eventually get down and they feed a lot of people down here, I guess, in Melbourne. It just seems to me to be pretty silly, really, that they can go and take this good land and basically destroy it for a short-term gain.²⁹³

As previously noted, the VFF's submission claims that the MRSDA already contains strong legislative protection for farmers and farming.²⁹⁴ However, other Australian jurisdictions have chosen to further amend legislation in order to provide statutory protection (at varying levels) to farming land from mineral exploration and mining activities.

In South Australia, recent amendments to the *Mining Act 1971* provides for categories of land to be exempt from mining operations, including yards, gardens, cultivated fields, plantations, orchards and vineyards, as well as land within 400 metres of homes and land within 150 metres of other farm buildings, dams or wells.²⁹⁵ If land falls within one of these categories, mining companies are not permitted to go onto that land to explore or mine, unless the landholder signs a waiver, or the Environment, Resources and Development Court allows the mining company to enter the land.²⁹⁶

In Queensland, the recently enacted *Strategic Cropping Lands Act 2011* defines certain parts of the state as 'strategic cropping lands' based on scientific soil profiling.²⁹⁷ Approximately 7.5 million hectares (around four per cent of Queensland's land area) is potentially deemed to be strategic cropping land, creating 'protection areas' in the Darling Downs and Lockyer Valley in the state's south east and 'management areas' for coastal farming land. In protection areas, future open-cut mines or other developments (such as urbanisation) which permanently alienate the land will effectively be banned. In management areas, mining can still go ahead but only if the proponent can prove that they have avoided, minimised and mitigated their impact on farming land.²⁹⁸

²⁹² Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 8.

²⁹³ Phil Piper, President, Mardan/Mirboo North Landcare Group, *transcript of evidence*, 7 November 2011, p. 3.

²⁹⁴ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 2.

²⁹⁵ *Mining Act 1971 (SA)*, section 9.

²⁹⁶ Melissa Ballantyne, *personal communication*, 16 February 2012.

²⁹⁷ *Strategic Cropping Land Act 2011 (Qld)*.

²⁹⁸ Rachael Nolan MP, 'Strategic Cropping Land Bill 2011 (QLD): explanatory speech, 25 October 2011'.

The NSW the State Government has recently (in March 2012) released its draft 'Strategic Land Use Policies' to protect high-quality agricultural land and water sources from inappropriate mining and coal seam gas developments. These draft policies focus on protecting food and wine production, grazing and thoroughbred horse breeding areas in the Upper Hunter Valley, New England and the Liverpool Plains in the north of the state.²⁹⁹

5.2.1.2 *Striking the balance between agriculture and mining*

A number of submissions to the Inquiry argued that when all necessary processes are conducted properly, mining and agricultural land uses can exist together.

Resource sector organisations that gave evidence to the Inquiry believe that the sector and agriculture can coexist, at least in the exploration phase of mining. Ms Gafforini from the AusIMM said:

For our members, when it comes to land access we think that there are no surprises from our side for landowners. We feel that we undertake appropriate negotiations and that there should not be any surprises once an exploration company turns up on the land, because all of that has actually happened.³⁰⁰

The MCA's submission stated there is an increasing assumption that mineral development activities are inconsistent with other land use objectives. It claims that land can be used for different purposes at the same time or after a particular land use has ceased:

Land use conflict has transcended the historical issues with the conservation estate to centre on the intersection between mining and agriculture, and a perception that the industry's activities are having a negative impact on soil structure and water availability in agricultural regions, in turn impacting on food security. The reality is that these industries have co-existed for over 150 years, that mining operations water consumption by volume could be largely offset by minor efficiency gains in the agricultural sector, and that food security, while an international issue of concern, is not yet a real concern for Australia.³⁰¹

In response to a question from Mrs Inga Peulich MLC, Mr Schodde from MinEx Consulting also spoke of the symbiotic relationship between farming and mining, especially for farmers in regional areas. His evidence spoke largely in terms of benefits gained by farmers through mining-related off-farm income and employment:

Mrs PEULICH — So it can be a win-win?

Mr SCHODDE — Definitely. I am a country Victorian boy, and the farmers up my way just find it wonderful that they can go and work in one of the mineral sands

²⁹⁹ New South Wales Government, 'Strategic regional land use policy delivery', viewed 9 March 2012, <<http://haveyoursay.nsw.gov.au/>>.

³⁰⁰ Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011, p. 4.

³⁰¹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 33.

mines because it pays well, it is regular work, and it fits in very nicely with their lifestyle, so they view it as a win-win.³⁰²

In searching for where the most effective interventions can be made to ensure that agricultural and mining land uses can co-exist, a range of opinions were offered to the Inquiry. These included legislating protection for farmers to seeking mutually beneficial outcomes between the resource and agricultural sectors through negotiation and adherence to codes of practice. These are particularly important during the exploration phase of mining, where there is a requirement for access to land and often, some disturbance to farming activities.

An example of the past use of legislative measures to ensure both industries can co-exist, Mr Arbuthnot of the VFF regarding the VFF's successful role in embedding farmer's rights into legislation:

I think historically we have had some controversial issues, and what that did — because there was a lot of subsequent policy — was allow us to perhaps get enough focus to be able to put some of these farmers rights issues into our legislation and into our documents. The same advice is what I am giving New South Wales and Queensland: while you are using this issue, use that opportunity to strengthen up your legislation, because it will drop off the media, and when it drops off the media you should hopefully have used that opportunity to strengthen some of those land-holder rights.³⁰³

Ms Davison of the MCA also gave evidence of the dispute resolution methods that reside within the *Mineral Resources (Sustainable Development) Act 1990* that complements the strong working relationship developed between the MCA and the VFF:

Invariably there will be rare cases of dispute over land and access to land. We have been very lucky and have used effectively a dispute resolution procedure that is enshrined in the MRSD Act through the Mining Warden. We are very supportive of that dispute resolution procedure, and we have been working again with the Victorian Farmers Federation on improving that — increasing its transparency and increasing its independence.³⁰⁴

Another example of legislative measures to protect farming land came from the SAFF. Ms Carol Vincent favoured strengthened legislation that allows South Australian farmers to say no to mineral exploration, and if that was not possible, to regulate the exploration process on farming land:

We would say that we still think that it would be a far better situation for the farming sector, especially primary food producing lands, that they have the ability to say no to exploration. However, if that was not going to be the case, then we must say that there has to be a very firm timeline about how long that exploration process can be. To be fair to the South Australian legislation, there is some ability; they do deal with sort of to some degree with intrusiveness and work we are doing with SACOME and the Government's mineral resources sector. We all work quite well together trying to

³⁰² Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 13.

³⁰³ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 6.

³⁰⁴ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 4.

ensure that we do not have conflict situations, but where everybody has got agreements that they are able to live with.³⁰⁵

Mr Tom Burrowes, Director of Providence Gold and Minerals Pty Ltd gave evidence as part of the MCA's appearance before the Inquiry on the willingness of the mining industry to use best practice to operate within existing regulations and to meet community expectations, including access to land:

Obviously access to land is critical. We do not wish to diminish in any way our responsibilities to the environment and to communities. Clearly they are not negotiable; we must operate within our communities

...

Clearly we as practitioners must do our bit to ensure that our communities are friendly, on side, well informed and do not feel threatened at all. Personally I do not want to cause any anxiety on the farms on which I operate; I want to get on well with my fellow citizens who live up there — and so far so good — in a way that we generate win-wins for rural Victoria and the State as a whole.³⁰⁶

Farming groups also believe that a balance in land uses between the resources sector and agriculture can be achieved through direct discussion and negotiation. Mr Arbuthnot also spoke of the successful long-term co-operation between the VFF and the MCA to develop codes of practice and advice to their members to negotiate land access issues.³⁰⁷

5.2.2 Urban development and mining

The land use conflict affecting the extractives industry was that of urban growth on the fringes of metropolitan Melbourne and regional Victorian cities. This need to increase residential land supply has created significant challenges for extractives industries in expanding existing operations and developing new extractives deposits.³⁰⁸

CCAA's submission spoke of the economic pressures placed on the extractives industry by residential development:

Victoria, as you know, has 3 per cent of the land mass and 25 per cent of the population. It is heavily urbanised, and increasingly so. But for our industries to survive, the proximity of the materials must be close to market. That means that invariably we run into the issues that you have seen elsewhere with other industries. We need to be close to market, and therefore things like planning are key issues for

³⁰⁵ Carol Vincent, Chief Executive & President, South Australian Farmers Federation, *transcript of evidence*, 17 November 2011, p. 8.

³⁰⁶ Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 7.

³⁰⁷ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 6.

³⁰⁸ Boral Quarries, *submission*, no. 37, 23 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

us — good planning and planning protection. Also about a third to a half the cost of supplying the materials is around transport costs.³⁰⁹

Mr Hauser from CCAA gave evidence to the Inquiry that changes to the Urban Growth Boundary (UGB) in recent years had ‘sterilised’ extractive resources that had been identified in previous Victorian Government planning studies, placing increasing reliance on existing sites close to Melbourne:

There is less and less opportunity for greenfield development. In fact mostly what the industry is doing is relying on some good planning that was done some 40 years ago, basically drawing down on brownfield sites and eventually depleting those resources.

Overlaying that is then the continuing sterilisation of what little resources there are still available. An example of that was the recent expansion of the urban growth boundary. While a lot of material is needed to produce those houses, in effect what it did was sterilise something like 27 per cent of potential resources.³¹⁰

Mr Roger Buckley, Industry Relations Manager for CCAA’s Victorian Branch, spoke of the impact from the changing UGB and the lack of protection in Victoria’s planning system for extractive resource deposits close to markets:

... in the planning system at the moment is something called extractive industry interest areas, which is a low level in the planning system. There has been a process of identifying these areas as potentially holding economic resources of extractive industry with some attempt to refine areas that are environmentally sensitive out of those particular interest areas; trying to focus the future development in those particular areas. It is an attempt to provide some planning protection for extractive industries, but to date it has not been very successful for various reasons over the last almost 20 years they have been in existence. Those extractive industry interest areas were defined within the area that was subsequently covered by the expansion of the urban growth boundary, and within that general area 27 per cent of those interest areas were sterilised by the growth of the urban growth boundary. It was not including areas within the green wedge; it was areas that have been identified through this particular process.³¹¹

Submissions from other extractives operators reinforced the need for the Victorian Government to consider the protection of extractive resource deposits as part of the urban development process. This would ensure existing sites are not ‘sterilised’ by urban development, forced to close through urban encroachment or remain undeveloped.³¹²

Boral Quarries provided two examples of its sites being affected in this way. The first relates to expansion of its existing Montrose quarry, which is likely to be severely constrained by the encroachment of urban development around the site. The second was its ‘greenfields’ quarry site at Donnybrook, which is now

³⁰⁹ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, pp. 2–3.

³¹⁰ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 3.

³¹¹ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, pp. 3–4.

³¹² Boral Quarries, *submission*, no. 37, 23 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

unlikely to be developed after the site became incorporated within the expanded UGB and rezoned as Urban Growth Zone land.³¹³

Mr Robert Spence, Chief Executive Officer of the Municipal Association of Victoria (MAV), told of the encroachment of urban development into buffer zones around extractive industry sites and the effects this has on the industry:

There is an issue about growth development into the buffer zones and what it does to the development over time. We have seen it in extractive industries, particularly through the Dandenongs and in other parts of Victoria, where as developments have moved into the buffer zone, they have impacted on the capacity of the industry to continue to operate. We think there needs to be some protection of the buffer zone to ensure that the industry can complete its work program and then close the facility down before ... you allow development.³¹⁴

Recommendation 6: That the Victorian Government develops a state-wide integrated, strategic land use policy framework to better manage competing land uses in Victoria. This framework should be subject to periodic review giving consideration to economic, social and environmental factors.

A number of submissions highlighted the need for the Victorian Government to manage competing land uses and to formulate a hierarchy of preferred land uses to better guide development in Victoria.³¹⁵

The extractives industry was the resources sector's greatest advocate for the formulation of a strategic land use. Boral Quarries and the Construction Material Processors Association (CMPA) both stated in their submissions the need for the Victorian Government to consider extractives sites as part of the urban development process to ensure existing sites are not surrounded or leapfrogged by urban development and forced to close.³¹⁶

CCAA identified the need to use the planning system to protect sites with key heavy construction materials (stone, limestone, gypsum, sand, gravel) close to Melbourne and major regional centres. It viewed planning protection of greenfields extractive resource sites as critical to ensuring a low-cost, long-term future supply of construction materials for Victoria.³¹⁷

³¹³ Boral Quarries, *submission*, no. 37, 23 August 2011.

³¹⁴ Rob Spence, Chief Executive Officer, Municipal Association of Victoria, *transcript of evidence*, 19 September 2011, p. 2.

³¹⁵ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Boral Quarries, *submission*, no. 37, 23 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Environment Victoria, *submission*, no. 50, 29 August 2011; Friends of the Earth, *submission*, no. 41, 26 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Latrobe City Council, *submission*, no. 12, 15 August 2011; Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011; Victorian Limestone Producers Association, *submission*, no. 52, 29 August 2011; Wellington Shire Council, *submission*, no. 42, 26 August 2011.

³¹⁶ Boral Quarries, *submission*, no. 37, 23 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

³¹⁷ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 11..

From a mining industry perspective, the AMEC supported development of a strategic land use framework in Victoria in order 'to provide certainty, long-term tenure to the minerals, agricultural and tourism sectors'.³¹⁸

The MCA's submission claimed that for the Victorian Government to achieve a range of land use objectives including mineral exploration and mining, it needs to be able to manage both the transition between different land uses over time and multiple uses of land:

Access to land for exploration is a key issue for the prosperity of the industry. The MCA recognises that land can be used for different purposes at the same time (multiple) and for different purposes after a land use has finished (sequential). Multiple and sequential land use is fundamental to achieving simultaneously the State's economic and conservation objectives and is consistent with the principles of sustainable development ...³¹⁹

The AIG supported the MCA's concept of managing multiple and sequential land uses. Mr Rodney Fraser, Victorian Branch Chairman of the AIG, claimed the use of prospective land in Victoria could change over time based on a range of factors guiding decision making for the optimal land use, including rehabilitation of mining land for other uses:

... we are saying the prospectivity of the geological terrain of the State is assessed constantly and is also determined by the mineral cycle, the prices of various minerals, but that doesn't preclude the multiple use of the State. It can be used as farmland, mining, back to farmland, whatever, conservation areas, mining, back to conservation areas.³²⁰

Submissions from environmental groups articulated the need for a strategic land use assessment process and development of a hierarchy of land uses to evaluate the relative values of mining projects against other possible land uses.³²¹ They proposed a hierarchy where agricultural and environmental uses are prioritised over mining and other uses to achieve sustainable development. EV supported the development of a strategic land use planning framework that involves:

... developing high level targets and strategies for government, and then assessing competing land uses through a process of strategic planning, and then looking at ways for different industries to co-exist.³²²

In achieving this framework, EV proposes a three-stage process to assist decision-making about land use and development, comprising:

- state-wide objectives (overarching economic and land use policies)

³¹⁸ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 4.

³¹⁹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 4.

³²⁰ Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 6.

³²¹ Environment Victoria, *submission*, no. 50, 29 August 2011; Friends of the Earth, *submission*, no. 41, 26 August 2011; Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011.

³²² Environment Victoria, *submission*, no. 50, 29 August 2011, p. 7.

- industry sector strategies to assist in delivering the state-wide objectives such as energy and agriculture strategies
- regional land use planning to identify appropriate uses for particular zones. This process would map land for key activities (food production, aquifer protection, habitat conservation), and other activities like mining.³²³

The MMNLG agreed with EV's land use hierarchy, arguing the economic, social and environmental costs of mining (particularly coal mining) are too high when compared to the value of food production.³²⁴

Farming groups also supported strategic land use planning to prioritise and sequence land use. The VFF gave evidence to the Inquiry on the need for the development of a state food plan, following on from the development of a national food plan.³²⁵ Mr Arbuthnot of the VFF told the Committee that development of state and regional food plans would be required to enable agriculture and mining to co-exist:

... we have a lot of brown coal, a lot of it in Gippsland and a lot of it in my shire, actually — in Wellington Shire. I think the economic future development is how mining and food is going to progress side by side. In Gippsland we are also working on a food plan, and as you know, the State needs to write a food plan and we will need to write a food plan.³²⁶

As part of the food plan making process, Mr Arbuthnot spoke of the possibility of the declaration of certain parts of Victoria as 'no-go zones' for mineral exploration or mining. Specifically referring to Gippsland:

We have put on the table to the mining industry that, following the adoption of a national food plan and perhaps a Victorian food plan next year, food security ... is going to become a major issue. I have flagged to the mining industry here that there could be some no-go zones for food. Let me give you an example. The Macalister Irrigation District, which I irrigate in, is a very important food production area, and there is coal under my land. A journalist asked me if I should have the right to veto. Yes, I have no objection to farmers having a right to say no, as long as they have the right to say yes, too. I would earn a lot more from a coal seam gas well on my farm than I would from milking cows, and I would not have to get up at 4 o'clock in the morning to milk 400 cows.³²⁷

Ms Vincent from SAFF said the balance between economic development from mining and the long-term security of food supplies through farming was best achieved through a strategic planning process, such as a state food plan:

Nationally, government is in the process holding a number of consultations and developing a food plan. The states need individual food plans too and they need to

³²³ Environment Victoria, *submission*, no. 50, 29 August 2011, p. 7.

³²⁴ Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011.

³²⁵ Department of Agriculture, Fisheries and Forestry, *Issues paper to inform development of a national food plan*, Australian Government, Canberra, 2011.

³²⁶ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 6.

³²⁷ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 6.

get some clarity, not just for the agricultural sector but also for the mining sector as to what they think is important and where the continuity of economic development lies in some of those areas. Food production will go on forever. Most mining has a lifespan. Whether it is 10 years or 40 or even more, it is benign. So in some of these areas the best economic outcome for the State is in maintaining its food production and its potential food security for the future against imported and foreign investment, imported foods, or is it mining and how do we create some kind of balance that is important.³²⁸

Recommendation 7: As part of the development of an integrated state-wide strategic land use framework, that the Victorian Government ensures studies are undertaken to determine areas of high prospectivity for extractives and future extractives needs in metropolitan Melbourne and regional Victoria.

The Committee heard evidence from a number of witnesses from the extractives sector that a comprehensive strategy to identify and protect extractive resources for the future is required. Such a strategy would maintain extractive supplies of sufficient quality and quantity to accommodate long-term demand for housing and infrastructure in metropolitan Melbourne and regional Victoria.

A key recommendation to the Victorian Government from the extractives sector was to identify greenfields sites in order to secure a long-term supply of extractive materials. Having done this, it was also recommended that the Government protect these sites through the land use planning system to ensure the sites are not sterilised by inappropriate development.

CCAA's evidence to the Inquiry stated the majority of extractive resources production sites serving metropolitan Melbourne today were identified in a planning process undertaken by the Victorian Government around 40 years ago. Other greenfield areas with prospectivity for sand (particularly in South and West Gippsland) were also investigated approximately 20 years ago to encourage development and maintain a long-term resource supply.³²⁹ Many currently operating brownfields sites identified in these earlier processes are reaching the end of their productive life, or cannot expand further. A number of identified greenfields extractive sites have subsequently been 'sterilised' by urban growth in recent years.³³⁰

Currently, there is limited protection for extractive resources in Victoria's planning system. CCAA identified the existence of extractive industry interest areas (EIAs) as a form of protection for extractive resources in the planning system.³³¹ While EIAs provide a basis for the long-term protection and availability of extractive resources and require state and local governments to consider extractive supply in land use planning decisions, they do not provide

³²⁸ Carol Vincent, Chief Executive & President, South Australian Farmers Federation, *transcript of evidence*, 17 November 2011, pp. 2–3.

³²⁹ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 10; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 14.

³³⁰ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, pp. 2–3.

³³¹ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, pp. 3–4.

protection in the planning system for extractive resources or preclude other uses for land containing extractives.³³²

In its submission, the CMPA spoke of the disconnected land use and infrastructure planning processes in Victoria when protecting the long-term supply of extractive resources:

It is irrational and short-sighted that the Government plans massive infrastructure projects while sterilising material for the associated construction phases. There is an inherent lack of understanding between those involved in the conceptual phase (and associated public announcements) and the hardnosed project management phase. A strategically planned approach would have dealt with the constrictions on supply of essential raw material before these infrastructure projects were approved.³³³

CCAA recommended DPI undertake a new surveying exercise to identify extractive resources that will be supply constrained in the future. The Victorian Limestone Producers Association's (VLPA) submission recommended an ongoing program of exploration to ensure the maintenance of a long-term domestic supply of extractive resources.³³⁴

Following on from a renewed survey program for extractives, Mr Buckley of CCAA gave evidence of the need to protect the resources from sterilisation:

I suppose the next step on from that is — identifying the resource is one thing — then providing planning protection for that resource so it is not overrun by the next urban growth boundary expansion or the next expansion of Bendigo or Ballarat, or whatever it may be, and then providing some streamlining of the approvals process for that resource.³³⁵

Recommendation 8: That the findings of the extractives prospectivity and future needs studies be incorporated into the state-wide strategic land use framework, be protected in local planning schemes, and have appropriate post-extractive uses identified that are consistent with and sensitive to abutting areas.

The VLPA recommended that DPI become a referral authority under section 55 of the *Planning and Environment Act 1987* to ensure it is part of the decision-making process around proposals for development or changes of use on sites containing extractive resource deposits. This would provide some additional protection for greenfields extractive sites in the Victorian planning system.³³⁶

Other Australian jurisdictions have taken stronger measures to define and protect extractive resources. South Australia (SA) has recently undertaken a review of its hard rock resources, with a review of sand resources to follow in 2012. Mr Brett Brown, Chief Executive Officer of Southern Quarries and Direct Mix Group, gave

³³² Department of Primary Industries, *Melbourne supply area — extractive industry interest areas review*, Geological Survey of Victoria, Melbourne, 2003, p. 5.

³³³ Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 42.

³³⁴ Victorian Limestone Producers Association, *submission*, no. 52, 29 August 2011, p. 1.

³³⁵ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 10.

³³⁶ Victorian Limestone Producers Association, *submission*, no. 52, 29 August 2011.

evidence to the Committee of the SA Government's intent to investigate and define its extractive resources to develop a long-term extractives supply strategy:

The Government has spent a lot of time investigating it and we have recently compiled a hard rock review. What that was, was looking at all the quarries around South Australia, looking at their reserve life, quality of reserves, different types of aggregates, whether they were for sealing and ash facility and concrete aggregates, and they are just about to embark upon a strategic sand review as well. From that perspective, the Government has been focussed on ensuring there is plentiful supply of raw materials for the building and construction material.³³⁷

Following on from its review, the SA Government has convened a Ministerial task force to examine extractive industry resources and their protection in the state's planning system. The task force consists of senior representatives from CCAA, the Department for Manufacturing, Innovation, Trade, Resources and Energy (formerly Primary Industries and Resources), Department for Transport, Energy and Infrastructure and the Urban Development Institute of Australia and will be chaired by the Chief Executive of the Department of Planning and Local Government.³³⁸ Mr Brown gave evidence that this task force would seek to develop comprehensive protection for extractive resources in the planning system:

... we would be looking ... at key resource areas in South Australia ... not only the resource but also the transport routes. So that is something we are undertaking at the moment.

We have people there from Planning, people there from — we will have people from the UDIA as an example. So we will have all the stakeholders around the table representing all of their interests and trying to then get an outcome whereby we can actually look at putting in place key resource area protection for those key resources.³³⁹

Queensland's key resource area (KRA) system for protecting important extractive resources from incompatible land uses was seen by CCAA as providing the 'best current model in Australia', albeit with the proviso that: 'This model, however, does not provide full resource protection and as such needs to be modified accordingly'.³⁴⁰

The KRA system works by including land containing an extractive resource into Queensland's state planning policy (SPP) and subsequently incorporating the KRA into the relevant local government's planning scheme when it is made or amended.

KRAs have three parts to them, shown in Figure 6 below:

- The resource/processing area covering the site where the extractive resource occurs and where a processing plant is or could be located.

³³⁷ Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011, p. 2.

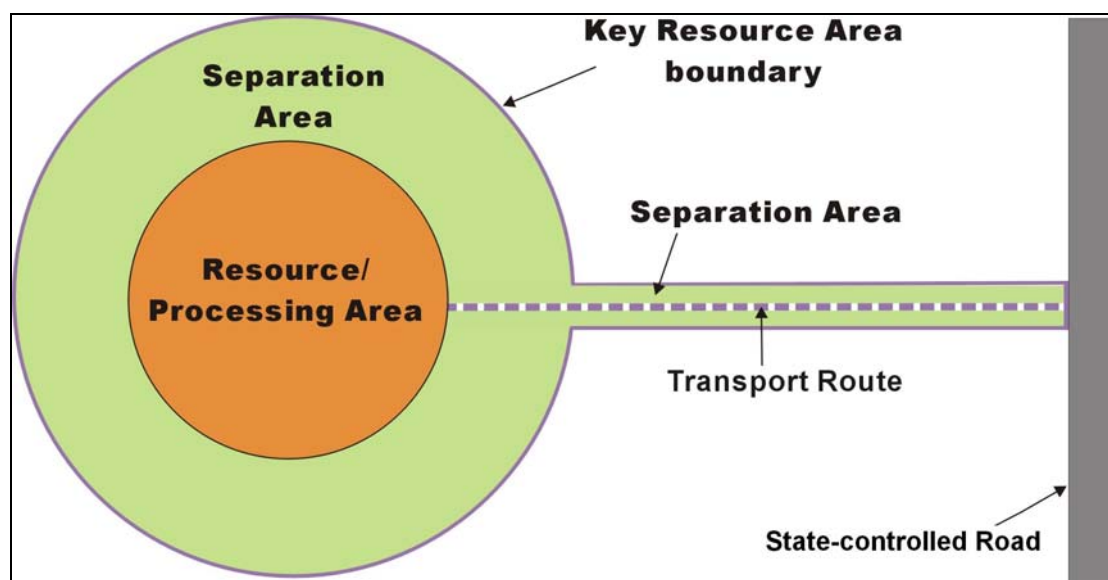
³³⁸ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 11.

³³⁹ Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011, pp. 4–5.

³⁴⁰ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 11..

- The land around the resource/processing area, which is called a separation area.
- A transport route, which is used to transport the raw quarry products from where they have been extracted out to a rail link or the nearest and most suitable state controlled road. This transport route also has a separation area.³⁴¹

Figure 6: Key resource area diagram³⁴²



The Committee finds that as part of any strategic land use program in Victoria, the Victorian Government protects a long-term supply of extractives by adopting the Queensland KRA model, with modification to ensure land designated for extractive sites, buffers and transport routes are not overridden by other planning mechanisms or incompatible Commonwealth and state legislation.

5.2.3 Environmental values and mining

The Inquiry was also presented with a small but significant body of evidence regarding the conflict in land usage between the preservation of environmental values and mineral exploration, mining and extractives activities.³⁴³ The key areas of concern regarding this conflict are:

- difficulties in gaining access to Crown land for mineral exploration
- native vegetation offsets

³⁴¹ Department of Mines and Industry, 'Training notes — state planning policy 2/07: protection of extractive resources', viewed 17 March 2012, <<http://mines.industry.qld.gov.au/>>.

³⁴² Department of Mines and Industry, 'Training notes — state planning policy 2/07: protection of extractive resources', viewed 17 March 2012, <<http://mines.industry.qld.gov.au/>>.

³⁴³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011.

- the rise of environmental conservation on private land.

Orion Gold holds exploration licences over a large area of Crown land (used as national parks and state forests) in eastern Victoria. Its submission spoke of the difficulties it faced gaining access to its exploration tenements on Crown land from restrictions aimed at preserving the environment.³⁴⁴ The company cited the need to obtain Ministerial approval for exploration work plans on Crown land, lengthy processing times and exclusion from exploration tenements for up to seven months at a time create a range of barriers to their exploration program.³⁴⁵

This view was echoed by Independence Group (IGO), which also runs an exploration project on Crown land in eastern Victoria. Its Approvals Manager, Mr Ian Blucher, gave evidence to the Committee that:

Our project has a big handicap, because it is in a state forest. We are on Crown land, and there is a whole set of nuances that apply to that, which were not readily apparent until we got right into the middle of the whole process.³⁴⁶

Orion Gold gave evidence that interdepartmental rivalries between Parks Victoria and DPI are partly responsible for the more onerous access and rehabilitation conditions for mineral exploration when compared with those applying to other uses of Crown land. Mr Chris Roberts, Exploration Consultant for Orion Gold, told the Committee:

I think probably Parks Victoria does not particularly want DPI and mines people coming in and dictating to it how things are going to be done. I think there is that sort of thing. It is just natural in any organisation of humans, I think, but I am sure it can be better dealt with.³⁴⁷

In dealing with mineral exploration on Crown land, Mr Roberts claimed Victorian Government agencies have been resistant to changing practices, particularly around seasonal access restrictions:

It is a bit new I think, but generally it has been a blanket restriction that just makes it easy — everybody is happy and nobody goes in. But we are sort of registered forest users, as having exploration licences here, and forestry goes on in some of these periods.³⁴⁸

Crown land access was also an issue at the prospecting and small-scale mining end of mineral exploration. Minelab Electronics, an equipment supplier to prospectors noted in its submission that access to Crown land for prospectors using hand-held detectors was limited, and greater access to Crown land for low-impact prospecting was desirable.³⁴⁹ This opinion was shared by the PMAV. Mr Noel Laidlaw, consultant mining engineer to PMAV spoke of how prospectors

³⁴⁴ Orion Gold, *submission*, no. 35, 22 August 2011.

³⁴⁵ Orion Gold, *submission*, no. 35, 22 August 2011, p. 3.

³⁴⁶ Ian Blucher, Approvals Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 7.

³⁴⁷ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. 6.

³⁴⁸ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. &.

³⁴⁹ Minelab Electronics, *submission*, no. 13, 16 August 2011.

were largely excluded from Crown land such as state and national parks, particularly around former goldfields:

The only area that the prospectors really would like to see would be that a lot of land had been tied up previously in national and state parks. Some of that land has been released for prospecting, but we believe that the environmental impact of the prospectors is negligible and we would like to see that process continue of more land being released from the state and national parks just for prospecting, because there are classic cases where up at St Arnaud, for example, you have a national park that you can prospect in, but go down the road a couple of kilometres and there is a state park there that you cannot prospect in, yet you would think that a national park would have a higher standard of protection, if you like, than a state park.³⁵⁰

Mr M E Williams' submission similarly spoke of difficulties he had in gaining access to Crown land for low-impact mining in former goldmining areas due to environmental and native vegetation controls.³⁵¹

Several extractive and mining companies viewed Victoria's Native Vegetation Management Framework as a barrier to successful exploration, extractives and mining projects in Victoria.³⁵² The prioritising of environmental values above other values was evident in the 'net gain' compared to a 'no net loss' focus of the framework. Access constraints to offsetting land were also seen as problematic, particularly the lack of access to Crown land for vegetation offsets. The state's native vegetation system will be covered in greater depth in chapters six and seven of this report.

The inability of explorers, miners and extractives operators to manage their native vegetation offsets through using Crown land is seen as a particular issue.

CCAA's submission noted the 2010 extension of the UGB and the creation of the 15 000 hectare Western Grassland Reserve as a native vegetation offset for development inside the UGB and the inability of the extractives industry to access offsets within the Reserve puts extractive developments outside the UGB at a competitive disadvantage compared to developments within the UGB:

The Western Grasslands Reserve is only accessible for offsets for developments within the Urban Growth Boundary (UGB). All other proposed developments outside the UGB, including quarry developments adjacent to the Western Grasslands

³⁵⁰ Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011.

³⁵¹ ME Williams, *submission*, no. 27, 19 August 2011.

³⁵² Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *An unsustainable future: the prohibitive costs of securing access to construction material resources in Victoria*, Construction Material Processors Association, 2009; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

Reserve, do not have access to this Reserve for their offsets. This does not provide for a level playing field for developers seeking native grassland offsets.³⁵³

Mr Paul Hillyer, Victorian Regional Manager for Boral Quarries, gave evidence on the extractive industry's concerns over the perceived bias toward preserving environmental values. In Boral's case, the inflexibility of native vegetation offsetting requirements and the value to industry of consolidating native vegetation offset land into larger parcels on Crown land was commented on:

Environmental considerations are of concern certainly to Boral and to the industry at the moment ... but it appears that in a lot of cases the environment is given the total consideration and the value of the resource and the importance to the community of the resource for development and economic growth is given little consideration. I guess Boral is really seeking a true triple-bottom-line approach. We are not saying that we do not need to be environmentally responsible, but we need to balance that with the need for resources close to the market.

The native vegetation framework requires offsets for land to be quarried. These offsets often become small parcels of land which require ongoing maintenance. I guess it is more efficient to have larger tracts of land which can be accessed for offsets. I know this approach is being taken with the expansion of the urban growth area with land set aside in Werribee. As an industry we have spoken with the DSE on a couple of occasions about trying to access that land as offsets for quarry development, but we have had no success to date.³⁵⁴

The MCA gave evidence of where it sees opportunities for a more balanced regulatory regime around native vegetation offsets on Crown land:

One of the areas where we are looking for very simple improvements is around native vegetation ... The industry could provide enormous benefit in that if we were given access to providing native vegetation offsets on Crown land. The Crown land manager, we have long suggested, is not adequately resourced, and there is a lot of opportunity for the private sector to get involved in that with the ultimate goal of no net loss. In some cases the industry is better able to provide that preservation of native vegetation on Crown land.³⁵⁵

The AusIMM's submission brought the issue of private sector conservation of land to the Committee's attention. Private sector conservation in Australia involves two main methods: placing conservation covenants upon freehold land to protect native vegetation and environmental features in perpetuity and the use of private philanthropic trusts to purchase and manage private land for conservation purposes. In 2011, Trust for Nature (manager of conservation covenants in Victoria) has more than 1088 conservation covenants in place, protecting 45 848 hectares across the state.³⁵⁶ Private philanthropic trusts are based on a model used extensively in the US.

³⁵³ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 17.

³⁵⁴ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, pp. 4–5.

³⁵⁵ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 7.

³⁵⁶ Trust for Nature, 'Conservation covenants', viewed 27 February 2012, <<http://www.trustfornature.org.au/>>.

The AusIMM submission claims private sector conservation is less accountable and regulated compared to the traditional system of public sector conservation on Crown land. It believes that private sector conservation has become 'a political tool to attempt to block exploration and mining in Australia'.³⁵⁷

The CMPA also gave evidence regarding private sector conservation as part of a wider discussion of native vegetation offsetting. Mr Basil Natoli, member of the CMPA management committee, spoke of the ideological underpinnings of private sector conservation in Victoria:

The whole concept behind the process is an ideology; it is not science. Money is being spent in tying up these Trust for Nature blocks and covenants. There are little blocks, thousands of hectares, being tied up around the whole state. These have to be monitored. I do not know who is going to pay to do that. There is no fire risk assessment or management for any of these. This is happening right across the State, and there are literally hundreds of millions of dollars being spent on this ... This is all based on an untested ideology which was put forward ...³⁵⁸

A range of organisations representing environmental interests called for tighter regulation of mineral exploration and mining in Victoria in their submissions, including a moratorium on exploration and extraction of coal seam gas (CSG) in Victoria.³⁵⁹ While CSG lies outside the terms of reference for this Inquiry, it is worth noting that CSG is not currently extracted in Victoria. Media reports claim there are presently 24 exploration licences (ELs) issued for coal seam gas exploration in the state.³⁶⁰ According to EV's CoalWatch project that aims to map all active coal and CSG exploration and mining licence applications in Victoria, there are 33 CSG ELs in the state, the majority of which are not searching exclusively for CSG.³⁶¹ The DPI website does not provide readily accessible information on the number of ELs searching for CSG in Victoria.³⁶²

MEG discussed the need to undertake a true triple-bottom line assessment of mining projects that examines the long-term costs and benefits to the state. It argues such assessments of costs and benefits of mining projects should consider the state's ability to ensure food security and the quality and quantity of clean air and safe drinking water for communities.³⁶³

³⁵⁷ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 17.

³⁵⁸ Basil Natoli, Management Committee Member, Construction Material Processors Association, *transcript of evidence*, 30 January 2012, p. 12.

³⁵⁹ DJ, MJ & SJ Minifie, *submission*, no. 46, 26 August 2011; Environment Victoria, *submission*, no. 50, 29 August 2011; Environmental Defenders Office, *submission*, no. 54, 2 September 2011; Friends of the Earth, *submission*, no. 41, 26 August 2011; Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011; Moorabool Environment Group, *submission*, no. 47, 26 August 2011; Mordialloc Beaumaris Conservation League, *submission*, no. 5, 25 July 2011; Ovens Landcare Network, *submission*, no. 45, 26 August 2011.

³⁶⁰ Adam Morton, 'Labor call to ban fracking', *The Age*, 12 April 2012.

³⁶¹ Environment Victoria, 'CoalWatch', viewed 11 May 2012, <<http://environmentvictoria.org.au/>>.

³⁶² Department of Primary Industries, 'Current licences and permits', viewed 8 May 2012.

³⁶³ Moorabool Environment Group, *submission*, no. 47, 26 August 2011, p. 11.

Particular concern for the preservation of groundwater resources such as artesian aquifers was raised in a number of submissions. MMNLG's submission referenced the protection of groundwater resources for environmental and agricultural uses.³⁶⁴ The Mordialloc-Beaumaris Conservation League recommended that no open-cut mining, quarrying or CSG extraction be approved before legislation is in place to safeguard groundwater resources and the environment generally.³⁶⁵ Despite there being no coal seam gas extraction currently taking place in Victoria, concerns over the potential pollution of groundwater from future CSG extraction was expressed by the Ovens Landcare Network and Friends of the Earth.³⁶⁶

5.3 Financial and regulatory environment

The Committee received evidence from the resources sector that the complexity and uncertainty of the regulatory and taxation environments in Victoria and Australia impacted negatively on the perceptions of Victoria and its place as a location for investment in greenfields mineral exploration.

The resources sector appeared reluctant to make critical comment on the broader taxation framework affecting the sector in Victoria, despite the wider political debate about the Australian Government's introduction of the Mineral Resources Rent Tax (MRRT) and pricing of carbon emissions. This was an inherent contradiction in the sector's submissions, as many stated that even small subsidies have an impact on the commercial viability of smaller mineral exploration, mining and extractives operations.

Industry comments on the taxation and royalties regime affecting exploration and mining in Victoria were mostly positive and seen as attractive to industry or at least equivalent to those regimes in other Australian states and territories.³⁶⁷ The evidence received contends that the Australian Government's recent taxation initiatives, particularly the MRRT was not a significant factor affecting investment in greenfields mineral exploration in Victoria. Taxation factors are further explored in section 5.3.2 below.

The view of the Committee is that taxation and royalty systems are undoubtedly a factor contributing to the confidence and investment approaches of the resource sector in Australia. If anything, miners in Victoria have lower exposure to the MRRT miners in other Australian jurisdictions, which are more exposed by types of commodities being mined and the greater value of production.

The Committee was persuaded of the sector's strong view that the Victorian regulatory environment was complex, difficult to navigate and contrary to the

³⁶⁴ Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011, p. 2.

³⁶⁵ Mordialloc Beaumaris Conservation League, *submission*, no. 5, 25 July 2011, p. 3.

³⁶⁶ Friends of the Earth, *submission*, no. 41, 26 August 2011; Ovens Landcare Network, *submission*, no. 45, 26 August 2011.

³⁶⁷ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011; ME Williams, *submission*, no. 27, 19 August 2011.

interests of increasing investment in the greenfields exploration sector. Victoria's regulatory environment is explored in further in chapter six.

5.3.1 Sovereign risk

The issue of sovereign risk as a barrier to investment in mineral exploration and mining in Victoria was articulated by a number of parties giving evidence to the Inquiry.³⁶⁸ Much of this evidence in regard to Victoria did not directly relate to the commonly accepted definition of sovereign risk,³⁶⁹ and as such did not strictly apply in the case of investment mineral exploration and mining.³⁷⁰ Much of the resource sector's evidence focusing on sovereign risk factors for greenfields mineral exploration and mining in Victoria included regulatory risk, involving increased levels of procedural uncertainty and regulatory complexity.

The mining sector works across a range of countries with different levels of sovereign risk. Mr Tim Goldsmith, Global Leader, Mining for PricewaterhouseCoopers (PwC), discussed countries with high levels of real sovereign risk in comparison to Australian jurisdictions as part of his evidence to the Inquiry:

In South Africa there is certainly growing sentiment about nationalisation in the industry. Not many people are looking to put money into South Africa at the moment. When he was on the hustings the new president of Peru talked about how he was going to create a windfall tax on the minerals industry. Again a lot of companies are holding off putting investment in. Part of the problem is the announcement or the potential for an announcement, which makes people have a degree of uncertainty.³⁷¹

Mr Schodde of MinEx Consulting also gave evidence regarding the international jurisdictions with high levels of real sovereign risk and the impact:

³⁶⁸ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011; Peter Colley, National Research Director, Construction, Forestry, Mining & Energy Union, *transcript of evidence*, 7 November 2011; Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011; Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Professor Neil Phillips, Consulting Geologist, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

³⁶⁹ Broadly, sovereign risk is the probability of a national government expropriating private assets or renegeing on repayment of its debts.

³⁷⁰ International Monetary Fund, 'Definition and measurement of sovereign risk needs to be broadened, IMF roundtable concludes', viewed 16 March 2012, <<http://www.imf.org/>>.

³⁷¹ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 8.

If you get it wrong, this is what the impact on your policy potential index or ability to do work will be. I have chosen some pretty extreme examples here. Venezuela is in the news at the moment because President Chavez has just announced that he is going to nationalise everything and bring all his gold back from Europe to Venezuela. In terms of the policy potential index it is actually the lowest of all of them, so I do not suggest you emulate them.

Bolivia has also got some very strong nationalistic tendencies. South Africa has been talking about what they call black empowerment rules for several years, and that has actually scared most of the foreign companies away from South Africa. It has actually scared a lot of South African companies out of South Africa as well.

Mongolia was the poster child for a number of years. But in 2006, as part of a concern that the Government was missing out on the rewards associated with a major discovery there, they changed the rules and, if you will excuse my French, 'They went feral'. It basically killed most of the exploration activity in the country after that. Peru has been going through some major problems, and it is actually going to be worse this year.³⁷²

5.3.2 Taxation

While state and territory governments control the regime of royalties for minerals extracted within their borders, the Australian Government controls the direct and indirect taxation regime for all Australian states and territories. The Australian Government has recently passed legislation to alter the taxation system by implementing the MRRT on the extraction of mineral resources and pricing carbon emissions as part of its 'Clean Energy Futures' package.

5.3.2.1 Minerals Resource Rent Tax

The MRRT originated as part of the Commonwealth Government's review of the taxation system ('Australia's Future Tax System' or the 'Henry Review') conducted in 2009.³⁷³ Scaled down in scope from the original proposal for a Resources Super Profits Tax (RSPT), the MRRT will tax profits from coal and iron ore mining in Australia greater than \$50 million at a basic rate of 30 per cent from 1 July 2012.³⁷⁴ Changes to the existing Petroleum Resource Rent Tax (PRRT) will extend its scope to all on- and offshore oil and gas projects, including CSG on the same date.³⁷⁵

Evidence provided to the Committee suggests the most serious impact that implementing the MRRT will have on investment in mineral exploration and mining in Victoria will be on international perceptions of Australia's sovereign risk. Mr Goldsmith from PwC spoke of the effect of the announcement of the RSPT in 2010 had on the global mining industry in creating perceptions of an uncertain taxation environment in Australia:

... companies do look at a whole raft of issues when they determine where they are going to look next, and the RSPT of last year in particular was the one that really sent a key message. Australia has always been perceived as probably the freest

³⁷² Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 9.

³⁷³ Mineral Resource Rent Tax Bill 2011: explanatory memorandum (Cwlth), section 5.

³⁷⁴ Mineral Resource Rent Tax Bill 2011: explanatory memorandum (Cwlth), section 13–14.

³⁷⁵ Mineral Resource Rent Tax Bill 2011: explanatory memorandum (Cwlth), section 5.

nation in the world in terms of open access to anyone and fair rules and all that sort of stuff, and all of a sudden here was a massive great retrospective potential nationalisation of 40 per cent of the industry just handed down overnight. Wow! That was a real shock to the system, I think. That was the piece which I think really alarmed mining companies all around the world. And, as I mentioned earlier, you can alarm people one day and it then takes a long time thereafter to take that away. As I travel around the world and people say that tax is just ridiculous, I say, 'Here we are 12 months on and there is no tax. There might be, but there might not be'.³⁷⁶

Dr Jack Hamilton, Chief Executive Officer of Exergen spoke of the impact the MRRT had on his company, particularly with one of the international investment partners in the consortium:

I did make a comment back when MRRT was very political about 18 months ago that if Exergen is needing to pay MRRT I'll be quite happy; we will have commercialised. It did, though, at the time certainly disturb a couple of my international investors, more so my Japanese investor who is also an existing black coal resource investor in Queensland. That was more around the mechanism of how it was approached, not necessarily the principle that if there is a super profit to be paid that it would see the retrospective nature of it, which has been dealt with in the subsequent revisions.³⁷⁷

Support for the MRRT came from the Construction, Forestry, Mining and Energy Union (CFMEU). Its submission stated that:

The CFMEU has been strong [sic] supporter of resource rent taxation for at least two decades. The union has therefore welcomed the Minerals Resource Rent Tax by the Australian Government. Our principal disappointment is that it is weaker and will produce fewer benefits for the Australian community than the earlier proposed Resource Super Profits Tax.³⁷⁸

Mr Peter Colley, National Research Director for the CFMEU gave evidence regarding the progressive nature of the MRRT in taxing profits and allowing losses to be offset:

We understand well that the industry goes through major boom and bust cycles. Resource rent taxation is a way of capturing the excess profits at the top of the cycle whilst mitigating the impacts at the bottom of the cycle, where companies can't afford to pay much tax. Resource rent taxes fade out when companies aren't making money; they only pay the tax when they are making good money.³⁷⁹

5.3.2.2 Carbon pricing (the 'carbon tax')

As the key element of the Australian Government's 'Clean Energy Futures' legislative package, the *Clean Energy Act 2011* introduces a pricing mechanism on carbon emissions, which will take effect from 1 July 2012.³⁸⁰ From that date,

³⁷⁶ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 3.

³⁷⁷ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 8.

³⁷⁸ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011, p. 3.

³⁷⁹ Peter Colley, National Research Director, Construction, Forestry, Mining & Energy Union, *transcript of evidence*, 7 November 2011, p. 4.

³⁸⁰ *Clean Energy Act 2011* (Cwth).

businesses covered by the Act will pay a price for each tonne of carbon emissions they emit into the atmosphere each year.³⁸¹

The carbon pricing regime will take place in two stages: For the first three years, the price for each tonne of carbon emissions will be fixed, and the regime will operate like a carbon tax. From 1 July 2015, the mechanism will shift to a market-based 'cap and trade' emissions trading scheme.³⁸²

In a Victorian context, a price on carbon will have the greatest effect on the mining of Victoria's brown coal resources and their use for electricity generation. The effect of a carbon tax of increasing the costs of electricity generation is perhaps the most publicly visible impact of carbon pricing, providing both a challenge and an opportunity for the energy industry.

Dr Hamilton from Exergen responded to a question from Mr Geoff Shaw MP that a price on carbon would provide a clear price signal to stimulate the development of its brown coal dewatering technology and make power generated from coal treated through this process price competitive with other fuels:

Mr SHAW — ... at federal level, the carbon tax and mining tax: how does that affect the people in the Valley, your business and consumers of the product at the end?

Dr HAMILTON — Carbon tax in two ways. One from our side is actually a help to Exergen because we are a low emission technology company, so carbon pricing signals actually help drive the use of these types of technologies, so that on one side is a positive. The power emission technology we're developing collaboratively with CSIRO would see from coal in ground to power dispatched numbers using Exergen feed technology around 675 kilograms per megawatt sent out, about 55 per cent lower than Hazelwood today. So actually carbon price signalling which pushes towards gases will see the next commercial price signal and will make that technology very commercial and we believe on the numbers that we've modelled, and CSIRO has verified, that we can put power out at about \$55 per megawatt hour out of Latrobe Valley, which is significantly lower than any gas forecast that's coming.³⁸³

Evidence was also provided by Greenerth Energy, a publicly listed company developing geothermal power as a baseload renewable energy source. The company has exploration tenements in Victoria's Gippsland and Otway basins and is developing the first stage of a geothermal baseload energy project near Geelong. Mr Mark Miller, Managing Director of Greenerth Energy spoke of the role of carbon pricing in stimulating development of new, renewable energy resources such as geothermal energy:

As you can imagine, being renewable energy developers we are caught up in a political debate at this point in time. Actually we have been since the best part of 2008. We enter the third year of life in something of a vacuum whereby we may have a carbon tax or a price on carbon or we may not have a carbon tax or a price on carbon. That is a fairly substantial enabler when it comes to the development of these new technologies. Latrobe Valley generators can produce power at some of the lowest costs in the world, and while the EPRI predicts that by 2030 hot

³⁸¹ Clean Energy Bill 2011: explanatory memorandum.

³⁸² Clean Energy Bill 2011: explanatory memorandum.

³⁸³ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 8.

sedimentary aquifer geothermal will be one of the lowest cost renewable energy generation types in the world, we obviously have a long way to go between now and 2030. There is a substantial gap between what the Latrobe Valley can produce power at and where we are at this point in time.³⁸⁴

The CFMEU's submission favours setting a price on carbon, but with qualifications protecting workers and communities involved in exposed industries:

The CFMEU supports the introduction of carbon pricing and emissions trading, beginning with the Australian Government's Clean Energy Future policies. The union sees it as essential that specific complementary measures be implemented to assist the workers and communities in the brown coal industry to adjust to both the threats and opportunities presented by carbon pricing.³⁸⁵

From the extractives industry viewpoint, Mr Hauser and Mr Buckley of CCAA gave evidence to the Inquiry that the increased cost of fuel under a carbon pricing regime was the greatest challenge to their industry's business model:

Mr HAUSER — The carbon tax situation ... For us, again it is around the transport issue. That is the particular pressure that is applied — the cost pressure. Increasing transport distances and use of fuel will simply add to the costs, so it is another regulatory burden on top of ones that are already in existence. In terms of order of impact, David, I don't know — —

Mr BUCKLEY — Again, it is incremental. In the next few years it will certainly escalate because we also have a lot of fuel used in the extraction: the extraction, load and haul, and then the transport component as well.³⁸⁶

CCAA claims that higher fuel costs will ultimately be transferred on to consumers of its commodities, decreasing housing affordability and increasing infrastructure construction costs.³⁸⁷

5.3.3 Perceptions of Victoria as a place to explore and mine

The perception of Victoria as an unreceptive state for investment in mineral exploration and mining projects was a common theme in submissions and evidence presented to the Inquiry that 'Victoria is closed for business'.³⁸⁸ Many

³⁸⁴ Mark Miller, Managing Director, Greenearth Energy, *transcript of evidence*, 26 September 2011, pp. 4–5.

³⁸⁵ Construction Forestry Mining and Energy Union, *submission*, no. 28, 19 August 2011, p. 3.

³⁸⁶ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 6; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 6.

³⁸⁷ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 6.

³⁸⁸ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Prospecting Supplies Australia,

contributions stated that while Victoria had historically produced great mineral wealth, the resources sector's perception was that in recent decades, Victoria was not an environment that welcomed new investment.

The AusIMM stated that locally, nationally and globally, the Victorian Government and DPI is perceived to take an 'overly adversarial approach to exploration'.³⁸⁹ Its members reported other Australian states and territories provided better support and less inflexible application of regulations to mineral exploration projects. The AusIMM also stated there is a perception the Victorian Government does not recognise the role junior explorers play in making discoveries that ultimately lead to successful long-term mining operations.³⁹⁰

In the context of the extractives industry, the CMPA's submission referred to declining rates of applications for new extractive operations as a signal to the market that Victoria is perceived as a high-risk jurisdiction for investment.³⁹¹ It claimed this stemmed from a combination of factors including 'sterilisation' of greenfield sites by competing land uses, onerous native vegetation requirements and lengthy regulatory compliance processes.³⁹²

Mr Goldsmith from PwC gave evidence that the notion Victoria was 'closed for business' had its roots in decisions made in previous decades and that a similar timeframe was needed to turn around that perception:

History takes a long time to write but a very short time to change if you make the wrong decisions. I think 20 years ago people stopped thinking that Victoria was open for business in this regard, so nobody really bothered looking. It takes a long time to change that mindset.³⁹³

Evidence from Ms Davison from the MCA claimed the perceptions of Victoria act as a disincentive for investment in mineral exploration and mining in the state:

... there is a perception that Victoria is a pretty tough place to do business. No matter how many times governments state that Victoria is open for business, on the ground the reality is that maybe it is not as open as we would all like it to be. The continuing existence of these barriers to companies that are part of a global industry do result in ongoing and very significant hindrances to investment in Victoria. Simply put, the scarce resources for exploration projects will be applied elsewhere.³⁹⁴

Mr Law of the CSIRO saw the perception of Victoria as unwelcoming to mineral exploration and mining as the main challenge facing efforts to increase

submission, no. 18, 18 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

³⁸⁹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 10.

³⁹⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, pp. 10–11.

³⁹¹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

³⁹² Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

³⁹³ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 4.

³⁹⁴ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 3.

investment in the state, greater than issues of prospectivity or the role of mining in the state economy:

I think the no. 1 challenge for Victoria is the perception around how welcome the industry is in Victoria. I think that holds back a lot of investment. Beyond that I think it is all about the geology of Victoria and whether the State sees itself as a mining state, a services state or a manufacturing state relative to the mining industry and how it wants to integrate its minerals business with the rest of the earth resources business, which as I said is geothermal, energy and carbon sequestration and all of those activities. I think it would be far better to take a global perspective of earth sciences and think about how important minerals are within that perspective and how important production is within that perspective or whether or not the state wants to take an alternative approach to the opportunity.³⁹⁵

Evidence provided by DPI spoke of the effect of this negative perception has had on reducing investment in mineral exploration and mining in Victoria. Reduced investment has led to fewer discoveries, particularly of major deposits. This in turn has reinforced existing negative perceptions of Victoria as a place to explore. Dr Hollitt from DPI summarised the situation, saying that in Victoria: 'our lack of success is breeding further lack of success'.³⁹⁶ This opinion was reinforced by Mr Schodde from MinEx Consulting:

... basically it is about the fact that we really have not found much here in Victoria in the last decade or two.

We are in a sort of a negative spiral in that sense. The Government's role there is to actually break that spiral and change the story, to turn it into a virtuous circle.³⁹⁷

Mr Rod Jacobs, Development Manager at IGO (developers of the Stockman mine project in eastern Victoria) told the Committee of the need to change perceptions of Victoria's mineral prospectivity. Mr Jacobs believed nothing less than a mineral discovery and its subsequent development into a mine would achieve this change:

Something has to change. You cannot just wish for a better mining industry without changing anything and expect it to happen. That is getting close to the definition of insanity, isn't it? Something must happen. I believe Victoria is in desperate need of a success story or a case study. I would very much like the Stockman project to be a case study. I have been pretty blatant about it to some of the regulators that we are here, we are doing this, we can be your success story, and you need them to repudiate perceptions, so let's get on with it.³⁹⁸

Mr Schodde of MinEx Consulting shared this view:

The perception is that Victoria is not a good place to explore for minerals because of the poor endowment of the area. It may be the fact that there have not been any

³⁹⁵ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 9.

³⁹⁶ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

³⁹⁷ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 3.

³⁹⁸ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, pp. 3–4.

significant discoveries in recent years. People get excited about where major discoveries have been made in recent years. These are the challenges. Victoria has to try to break that cycle by making a major discovery. That would change the perception.³⁹⁹

5.3.3.1 *An international perspective*

As the mining industry is a global industry, international perceptions of Victoria as a target for investment in mineral exploration and mining are important.

A number of organisations around the world rank the perceptions of different countries and jurisdictions for various levels of risk, from sovereign risk to geological risk.

Since 1999, American mineral industry advisors Behre Dolbear Group (BDG) have published an annual assessment of risk of the 25 most important nations in the global mining industry.⁴⁰⁰ Australia is covered at a national level, without going to state or territory level. BDG stresses its assessment covers political risk only:

Geology and mineral potential were not considered, as the fact that exploration, development, and mining activity are occurring confirms the existence of such potential. Only factors relevant to “political risk” have been considered.⁴⁰¹

Australia’s score of 57 out of a possible 70 in the BDG assessment saw it first placed among the 25 countries assessed for a third year in a row, receiving continued high scores for its regulatory system and political stability, although its score has fallen from 61 since 2010. Comment was made on the potential effects of attempts to introduce legislation protecting prime farming land:

Australia’s rating was almost lowered by 1 point due to continued government interference. The introduction of Strategic Cropping Land legislation in Queensland has removed some large tracts of land from potential coal mining in that state; although in New South Wales, the state government has intervened in the granting of title in some areas (e.g. Liverpool Plains) for open cut coal mining.⁴⁰²

Another measure of perceptions of Australia in general and Victoria in particular as a place to explore or mine is found in the ‘Policy Potential Index’ (PPI) developed as part of the Fraser Institute’s annual *Survey of Mining Companies*. The PPI scorecard is based on a survey sample of 494 mining industry executives and managers covering a range of factors relating to exploration and mining around the world.⁴⁰³

Since 1997, the Canadian-based institute has surveyed exploration, development and other mining-related companies around the world to gauge how mineral endowments and public policy factors affect investment decisions in mineral

³⁹⁹ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 4.

⁴⁰⁰ Behre Dolbear Group Inc., *2012 Ranking of countries for mining investment — where ‘not to invest’*, 2012.

⁴⁰¹ Behre Dolbear Group Inc., *2012 Ranking of countries for mining investment — where ‘not to invest’*, 2012, p. 1.

⁴⁰² Behre Dolbear Group Inc., *2012 Ranking of countries for mining investment — where ‘not to invest’*, 2012, p. 5.

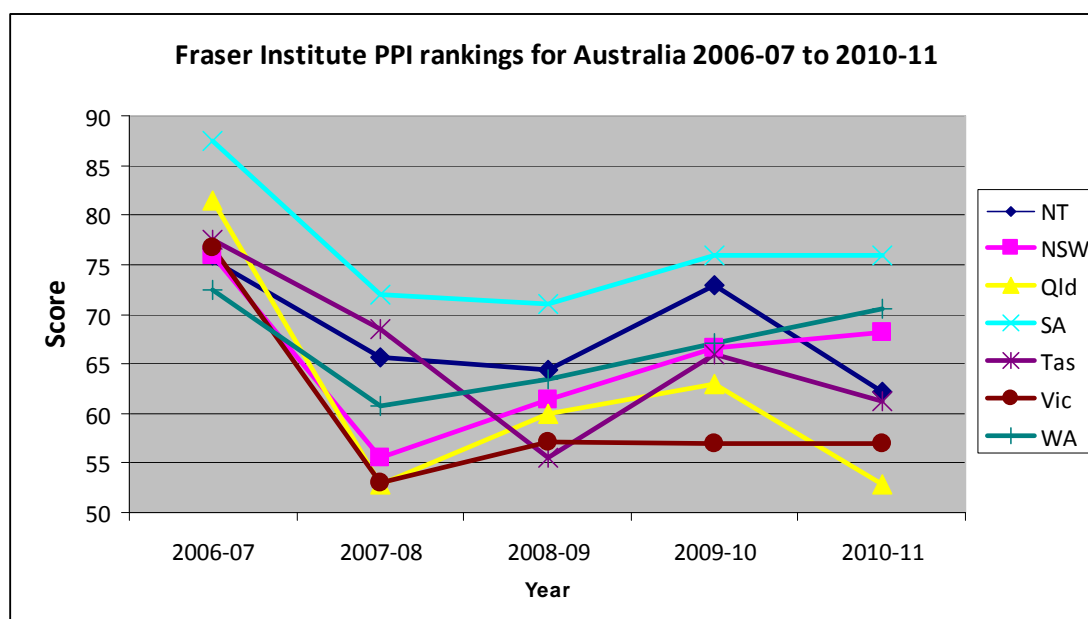
⁴⁰³ Fraser Institute, *Mining Survey 2010–11*, Fraser Institute, Vancouver, 2011.

exploration.⁴⁰⁴ The survey examines 79 jurisdictions around the world (including all Australian states and the Northern Territory) and scores them out of 100 on the PPI.

Evidence provided to the Inquiry pointed to the Fraser Institute's *Survey of Mining Companies* is considered among the most influential shaper of perceptions on Australia by international mining companies.⁴⁰⁵ Between 2006–7 and 2009–10, the Fraser Institute's PPI score of Victoria's attractiveness as a place for investment in exploration decreased from 76.7/100 to 56.9/100.⁴⁰⁶

Victoria's position on the PPI rankings among the other Australian jurisdictions is shown in Figure 7 below.

Figure 7: Five-year PPI rankings for Australian states/territories⁴⁰⁷



The AMEC commented in its submission regarding the Fraser Institute's survey results:

⁴⁰⁴ Fraser Institute, *Mining Survey 2010–11*, Fraser Institute, Vancouver, 2011, pp. 4–6.

⁴⁰⁵ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011; Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: 'Inquiry into greenfields mineral exploration and project development in Victoria', 22 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

⁴⁰⁶ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 25.

⁴⁰⁷ Fraser Institute, *Mining Survey 2010–11*, Fraser Institute, Vancouver, 2011, p. 11.

Victoria competes on both the national and the global stage for mineral exploration investment. This is reflected in the recent Canadian Fraser Institute 2010/2011 Survey of Mining Companies — (Current Mineral Potential, assuming current regulations and land use restrictions), that has seen Victoria fall from 43rd out of 65 in 2006 to 60th out of 79 in 2011 (next to China) and last of all Australian States and Territories.

...

The Fraser Institute Survey of 2011 was disturbing in that it ranked Victoria the lowest State in terms of government/environmental regulation, parks and socioeconomics and low on regulatory duplications/inconsistencies. A positive note was the high rankings for infrastructure and geological data.⁴⁰⁸

In its submission, the Victorian Government referred to the relatively poor perceptions of Victoria on a number of the criteria assessed in the survey:

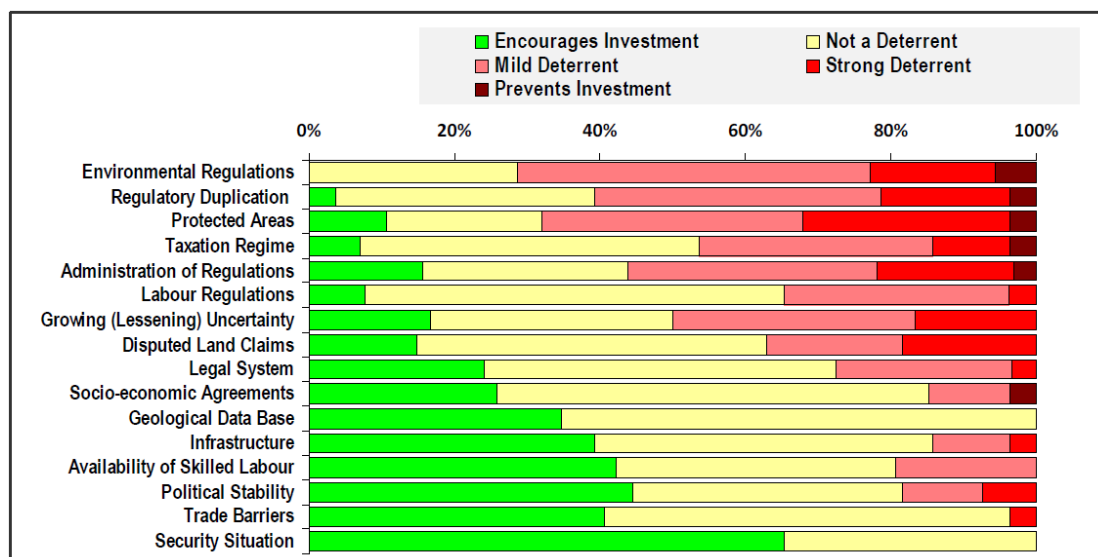
The Fraser Institute survey indicates that Victoria is perceived as a jurisdiction with low mineral potential and limited prospects for exploration, with limited room to improve this perception by altering its regulatory framework. The survey has highlighted over the past five years that there is a strong, positive perception of the quality of Victoria's geological data provision; however, when considered alongside recent trends in greenfields mineral exploration there is no apparent evidence that greater data availability has led to an increase in greenfields exploration activity in the state.⁴⁰⁹

Mr Schodde from MinEx Consulting gave evidence that while Victoria performed poorly in some categories, it performed well on others, particularly those regarding political and security stability, infrastructure and labour provision and geoscience. The 16 factors that contributed to Victoria's score in the 2010–2011 Fraser Institute survey report are shown below in Figure 8.

⁴⁰⁸ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, pp. 1–2.

⁴⁰⁹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 4.

Figure 8: Factors influencing Victoria’s 2011 Fraser Institute survey PPI score⁴¹⁰



Of these 16 factors, Mr Schodde identified the key issues claimed to deter investment in Victoria and which needed attention from government. He said:

The key hot buttons for the mining industry in terms of coming and doing business in Victoria as an explorer or a miner are environmental regulations and regulatory duplication.⁴¹¹

Covering these factors in greater depth, Mr Schodde added:

In terms of government agencies, the key issues there would be getting a much quicker and clearer process for the granting of environmental permits, and there are dispute resolution practices with local parties. Getting land access is absolutely vital for the exploration of business. This all sort of leads into maybe having a one-stop-shop — other states do this approach, where particularly foreign countries which are not very familiar of how to do business here in the State have got the comfort of knowing where to go to talk and get things done. At the very least there should be a one-stop-shop.⁴¹²

Dr Hollitt from DPI presented the Victorian Government’s view on international perceptions of Victoria’s prospectivity. While Victoria’s perceived regulatory issues as revealed in the Fraser Institute’s survey needed attention, he stated there were other issues affecting the state’s attractiveness for investment in mineral exploration:

Although Victoria is not seen as best in the Australian class in red tape and approvals, the one thing the Fraser survey does show is that there’s actually not a lot of room for improving the policy potential settings. It doesn’t mean that they shouldn’t be improved — of course they should be — but what it means is that the

⁴¹⁰ Richard Schodde, Managing Director, MinEx Consulting, Presentation to Committee: 'Inquiry into greenfields mineral exploration and project development in Victoria', 22 August 2011.

⁴¹¹ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 7.

⁴¹² Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 8.

prospectivity issues dominate and therefore the room to improve from red tape is less than the room to improve from a global prospectivity point of view.⁴¹³

He added that a vital element in addressing negative perceptions of Victoria's prospectivity would involve combining the state's existing high-quality pre-competitive geoscience with better marketing to an international audience:

From the point of view of prospectivity, which is the big gap — there are two gaps, there's a gap in the way in which our approval processes are seen compared with the rest of Australia, that's clear. It's a fairly small gap — we're still within the Australian group compared with the rest of the world — but it's not a gap that we're ignoring; a lot of our reform agendas are completely associated with that gap but the other one is the gap in perceived prospectivity. If your work is mainly about data collection and providing a good system for access, there is nothing in that that says that you are out there interfacing in a leveraged kind of way with the people who can make use of that data. The world is a really big place and there are lots of people out there who have got really good data and lots of opportunity. How do you distinguish yourself in such a way that you bring explorers to your jurisdiction? The answer is that it appears that others are doing the marketing job a little bit better than what we have been traditionally and leaves open an opportunity for us to do something.⁴¹⁴

Under question from Mr Martin Foley MP, Mr Edwards from the AMEC referred to the need for Victoria to better promote itself as a destination for investment in mineral exploration, based on its good prospectivity and high-quality geoscience:

Mr EDWARDS — Where money needs to be spent is on marketing the fact that you have prospective geology and very good geoscience. That needs to be trumpeted, whether you do that through Invest Victoria or through annual conferences, or whether you take booths at PDAC in Canada. The AMEC national conference was in Perth. The Tasmanians were there, the Western Australians were there, the South Australians were there; New South Wales was not there.

Mr FOLEY — And Victoria?

Mr EDWARDS — Victoria was not there.⁴¹⁵

5.3.3.2 *What the miners said*

The Committee was presented with evidence from mining companies and industry groups of the negative perceptions of Victoria as a jurisdiction for investment in minerals exploration. The AMEC's submission indicated that at a national level:

'Victoria is closed for business' is the perception most commonly held by mineral exploration and mining companies operating in Australia. With enormous geographic choice available in Australia, Asia, Africa and South and Central America, Victoria has been put into the 'too hard basket' alongside California and Western Europe.

⁴¹³ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

⁴¹⁴ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 19.

⁴¹⁵ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 4.

This needs not be the case as the geological potential exists in Victoria to support a vibrant and profitable exploration and mining sector.⁴¹⁶

IGO's submission pointed to the factors of risk aversion by explorers, mobility of exploration capital and competitive international markets for investment in mineral exploration in its assessment of Victoria's poor perception as a place to undertake mineral exploration:

Victoria remains prospective for new discoveries in previously unknown locations ... However, the combination of a number of factors ... greatly reduces the attractiveness of the state to exploration companies. Exploration is a high financial risk business, and exploration capital is scarce and mobile, sensitive to many factors beyond mineral prospectivity ... Victoria has for a long period of time held a reputation for being a difficult state in which to work.⁴¹⁷

Mr Jacobs of IGO identified the high costs of regulatory compliance and 'non-attributable costs' (such as native vegetation offsets) as draining off money from direct investment in on-ground exploration on the company's Stockman project in eastern Victoria:

From an exploration point of view, again Victoria is a relatively expensive jurisdiction. There is a bias that we see in on-ground costs, which is really what the Government should be aiming for — people spending money, having companies drill holes, having geologists take samples, do assays et cetera — real work versus the compliance costs of beating our way around Collins Street, going to see some office about something. I find in Victoria that there is a higher percentage of compliance costs compared to on-ground work than we are used to. There are significant non-attributable costs as well. When we report our expenditures to maintain our good status on our tenements, we have to meet obligations there. There are only certain expenditures that you are allowed to quote, for good reason — to stop people lumping all of head office in there and pretending they are doing work on the ground. There are things like vegetation offsets in Victoria that are very expensive and they are not attributable to the tenements. It tends to mask the true cost of exploration in Victoria when you look at the Government statistics.⁴¹⁸

Not all perceptions of Victoria by the resources sector were negative. The AMEC's submission noted Victoria is deemed to have a number of social and economic benefits over other Australian jurisdictions:

The infrastructure is well developed and well distributed. Availability of process water is much less of an issue than in other Australian states. The labour force is available and often close to the prospective regions, eliminating the fly in/fly out expense and social/community problems of other States.⁴¹⁹

Also, Victoria's historical legacy of high-quality exploration and mining data and recent initiatives by DPI (particularly *Rediscover Victoria* and *Developing Gold*

⁴¹⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 2.

⁴¹⁷ Independence Group, *submission*, no. 39, 24 August 2011, p. 7.

⁴¹⁸ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 3.

⁴¹⁹ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 6.

Undercover) meant that Victorian pre-competitive geoscience data is both useful and easily available to explorers. This was noted in several submissions.⁴²⁰

5.3.3.3 *What others said*

Other, non-resource sector organisations gave evidence to the Inquiry about perceptions of Victoria as a place for mineral exploration. Another example of Victoria's perceived unattractiveness to explorers and miners was recorded by Mitchell Shire Council (MSC) in its submission:

Many exploration companies large and small avoid exploring ... because of the access difficulties and heavy government regulation, not because of any lack of Greenfields prospectivity or potential.⁴²¹

Evidence from EV's submission stated an opposite viewpoint from many of the negative perceptions of Victoria's prospectivity, claiming that the state is 'open for business'. It claims that the current regulatory environment provides a 'green light' for exploration and mining, particularly through the large areas of land covered by exploration licences, which include areas of high environmental value.⁴²²

Mr Wakeham from EV claims the current regime of exploration and mining licences has raised expectations among mining companies, stating:

... once you give the green light to exploration you create the impression that that area will be available for mining.

... if you put yourself in the shoes of an explorer — a mining company that is exploring — and you are spending hundreds of thousands or millions of dollars on proving up resources, you would do so with a reasonable expectation that you are going to be allowed to mine it at some future point in time.⁴²³

A nationwide survey of 1400 people conducted in March 2012 by Nielsen for the *Australian Financial Review* claimed that Australians agree the mining boom has benefited the country as a whole, while personally little or no benefit had been received. The survey results showed that of all Australian states and territories, Victorians felt they had benefited least from the boom, with 59 per cent of respondents claiming they had received no personal benefit. Three out of 10 Victorians surveyed claimed they had received only a little benefit, while 8 per cent claimed they had benefited a lot from the mining boom, a lower level than any other mainland state or territory.⁴²⁴

⁴²⁰ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

⁴²¹ Mitchell Shire Council, *submission*, no. 7, 29 July 2011.

⁴²² Environment Victoria, *submission*, no. 50, 29 August 2011, pp. 3–4.

⁴²³ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, pp. 4–5.

⁴²⁴ Laura Tingle, 'Mine benefits go unsung', *Australian Financial Review*, 10 April 2012.

5.3.4 Community education and engagement

Industry stakeholders and local governments called upon the Victorian Government to play a leading role in disseminating factual information on mineral exploration and mining to Victorian communities. In its presentation to the Committee, DPI acknowledged the need to promote the resources industry through active community engagement, and stated this was one of the subjects for reform in the MRSDA review.⁴²⁵

From the evidence received by the Committee, a commonly held view was that mineral exploration and mining in Victoria rated poorly in the public's perception. The MSC submission reiterated concerns heard within the Shire that 'landholders will lose their land to miners if they are let on the land'.⁴²⁶ Mr Law of the CSIRO identified an increase in the negative perceptions of mining in communities due to media reporting of in the context of the 'two-speed economy'.⁴²⁷ Ms Rita Bentley, President of the PMAV considered misconceptions around exploration work originated from 'scare campaigns':

You hear these scare campaigns occasionally — 'My God, there is an exploration licence over my property'. The odds of the explorer wanting to actually access that property is unlikely. When they do it is perhaps a drilling rig or somebody chipping a few rocks. From that stage, if they find something, then they deal with the landowner, a compensation agreement is written up and everybody is happy. But there are scare campaigns about our industry that are ridiculous and very unfounded.⁴²⁸

In changing such poor perceptions of mineral exploration and mining in Victoria, the AIG recommended the Victorian Government take charge of promoting the value of mineral exploration and mining in Victoria. It claimed that explaining the benefits created by mining (income from royalties and taxes, economic growth and employment opportunities) would lead to a better-informed community.⁴²⁹ Ms Vogel from DMS suggested that DPI conduct a 'road show' for new exploration projects to inform private landholders of the processes and characteristics of exploration licences.⁴³⁰ The PMAV recommended factual information be provided in the Victorian school curriculum to present a 'balanced view' of the resource sector.⁴³¹

⁴²⁵ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 14.

⁴²⁶ Mitchell Shire Council, *submission*, no. 7, 29 July 2011.

⁴²⁷ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 10.

⁴²⁸ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 4.

⁴²⁹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011; Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011.

⁴³⁰ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 10.

⁴³¹ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011, p. 6.

Community and environmental groups also identified the need for DPI to better inform communities regarding questions they have with processes and procedures for mineral exploration and mining in Victoria. EV and MEG both raised concerns over the lack of a role within the Earth Resources Division of DPI that deals specifically with community members' concerns regarding exploration and mining.⁴³² MEG advised the Committee of difficulties community members had in trying to gain information on an exploration licence around Bacchus Marsh:

Deb [Porter] was personally advised by a DPI Earth resources staff member that "any contact or enquiry to do with the Bacchus Marsh area, from the community, had to go through the media person, Alex". She was inquiring to have a speaker to our local community (this was reasonable to direct to media) and to ask some questions about process and where to find information on the DPI website, which she is still waiting for advice on from media who have been nominated as the only contact for our community. She has just resent a request and asked if she would have to go through freedom of information to gain the information which she believe should be readily available, being a copy of the exploration permit issued by DPI for exploration of our area, and a copy of the work plans which relate to the exploration — which the DPI website report advises have been approved.⁴³³

The Committee believes that information relating to new mineral or extractive licence applications should be readily available to the public, particularly to residents of an area affected by a licence application.

5.3.4.1 *Notification of new licences for residents*

The Committee received extensive evidence on the ineffectiveness of statutory notification requirements under the MRSDA for licensees to inform landowners, occupiers and the broader community about applications in their local areas. Landowners from MEG and MMNLG stated that they were unaware of notices published in either local or state-wide newspapers of EL applications affecting their land. Ms Tubbs of MEG told the Committee:

They had put notices in the local papers but the local papers don't get delivered to the areas that are affected. They put an ad in *The Age* but, again, being a harness racing family, *The Age* doesn't do a form guide so we buy the *Herald Sun* so weren't privy to that as well.⁴³⁴

Similarly, Mr Piper of the MMNLG advised the Committee that he was unaware that an EL had been granted on his property until being notified by a journalist:

I live in Mirboo North, which is a long way from Warragul and it's a long way from Morwell. The mining company in question was Mantle Mining and they put ads in the *Warragul & Drouin Gazette* and the Latrobe Valley something or other — it was a Morwell-based paper which is over in the Latrobe Valley, which is sort of half an hour's drive from where I live — and the other ad was in *The Age* ... I've got copies of them and the ads are pretty obscure ... it was some little ad somewhere which, to my way of thinking, it's pretty silly really because for a start, I read *The Age*

⁴³² Deb Porter, Secretary, Moorabool Environment Group, *transcript of evidence*, 10 October 2011, p. 4; Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 6.

⁴³³ Moorabool Environment Group, *submission*, no. 47, 26 August 2011, p. 6.

⁴³⁴ Kate Tubbs, President, Moorabool Environment Group, *transcript of evidence*, 10 October 2011.

occasionally but not every day and I certainly don't read papers outside my area and even if it was the local paper, you don't always get the local paper either.⁴³⁵

As a consequence of not seeing the advertisements, these landowners missed the opportunity to engage in the public consultation process and to provide objections to the application. The Committee believes it is important that landowners be aware of licence applications on their land prior to the granting of those licences by DPI. This awareness enhances the capacity of owners and occupiers to seek further clarification on applications where necessary and to make informed decisions about whether to consent to exploration and mining activities being proposed on their land.

The Committee notes that resource sector's peak bodies recognise negotiation with landowners as a necessary function in mineral exploration and mining project development as part of the sector's 'social licence to operate'.⁴³⁶

CCAA stressed the importance of maintaining the social licence to operate if the extractives industry in Victoria. Mr Brian Hauser of CCAA told the Committee:

I think that the key issue for us is that social licence to operate. We recognise that, without that, we have nothing. I would like to think that the bulk of our industry is responsible, identifies that and knows that they cannot do business without that social licence to operate.⁴³⁷

Evidence from the MCA spoke of the importance of community consultation as part of building the mining industry's social licence to operate. Ms Davison stated:

We often refer to our social licence to operate. Obviously the industry requires a regulatory licence to operate, but the social licence can certainly set up a company's future as well. Consultation early and often is the key, and we were instrumental in encouraging the former Government in legislation reform to enshrine that concept of community consultation. The industry had been doing it for quite a long time, and bringing laggards up from various industries can only benefit us all.⁴³⁸

Community and environmental groups have emphasised the need for improved notification of licence applications to reduce conflict between landowners and applicants.⁴³⁹ These groups suggested letters of notification be sent to each landowner in the area covered by an exploration licence. Mr Piper of MMNLG suggested exploration and mining proponents adhere to the same notification system as electricity companies:

⁴³⁵ Phil Piper, President, Mardan/Mirboo North Landcare Group, *transcript of evidence*, 7 November 2011, p. 2.

⁴³⁶ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

⁴³⁷ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 7.

⁴³⁸ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 4.

⁴³⁹ Mardan/Mirboo North Landcare Group, *submission*, no. 49, 29 August 2011; Moorabool Environment Group, *submission*, no. 47, 26 August 2011.

To me, why can't the mining companies do what the power companies do, just send you a letter and point out their intentions and maybe the benefits or the non-benefits to the landholders.⁴⁴⁰

The Committee received differing views as to where the onus of distributing letters of notification would rest. These views canvassed a wide range of opinions from the licence applicant, local government or DPI. MEG and MMNLG called for the letter to be distributed from the licence applicant.⁴⁴¹ Ms Alison Currie, Principal Exploration Geologist at Iluka Resources, stated under questioning from the Committee that while she saw no issue with mining companies informing landowners of an exploration licence application by letter, there were privacy issues involved in that process. Nevertheless, she indicated that DPI could perform this function:

Mr NOONAN — Would you object to sending them a letter as opposed to advertising in the paper?

Ms CURRIE — The only problem would be with that would the Privacy Act because at the moment we're not allowed to obtain details of — —

Mrs PEULICH — Someone would need to do it on your behalf.

Mr NOONAN — Yes, if there was a medium. Let's say DPI did it across the private landowners where your exploration licence was subject to?

Ms CURRIE — I don't see that as a problem. I would imagine that the letter would accompany some sort of information to say 1 in 1000 of these will become a mine and most probably the company won't even contact you. We have a very small amount of landowners that we actually have to deal with, most of the time we deal with the Shire, drill on the roadside and then move on. But we have the problem that we can't get that information, that landholder information, so that would have to be some way sorted out.⁴⁴²

Cr Pat Griffin, Mayor of Moorabool Shire Council, expressed broad support for letters of notification by applicants and suggested that the councils could assist by including notifications in publications that council distributes to residents.⁴⁴³

Recommendation 9: That the Victorian Government reviews the system in which landholders are notified by mineral or extractive licence applications covering their land, to ensure, where appropriate, directly affected landholders receive timely, written notification.

Several stakeholders were frustrated by the lack of transparency of information on exploration and mining licence applications on the DPI website. EV considered

⁴⁴⁰ Phil Piper, President, Mardan/Mirboo North Landcare Group, *transcript of evidence*, 7 November 2011, p. 4.

⁴⁴¹ Phil Piper, President, Mardan/Mirboo North Landcare Group, *transcript of evidence*, 7 November 2011; Deb Porter, Secretary, Moorabool Environment Group, *transcript of evidence*, 10 October 2011; Kate Tubbs, President, Moorabool Environment Group, *transcript of evidence*, 10 October 2011.

⁴⁴² Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011.

⁴⁴³ Cr Pat Griffin, Mayor, Moorabool Shire Council, *transcript of evidence*, 14 December 2011.

the information on the website to be inadequate for non-industry users. In response, it launched its own website, 'CoalWatch' in an effort to document exploration and mining licences and applications for coal and CSG in a format that is easier for the general public to understand. EV has since received concerns from landowners who were unaware of licences and applications over their land:

Since launching CoalWatch we have heard from many farmers who only discovered that exploration licences or applications had been issued or submitted for their land via the CoalWatch website, suggesting that DPI and proponents are failing in their duty to ensure informed consent is given to mining and exploration activities.⁴⁴⁴

At the time this report was written, information on new licence applications and the progress of work authorisations was available on the website, as well as maps of all current minerals and petroleum exploration licences and applications and geothermal permits in Victoria. With exceptions for new EL applications, the targeted resources of each EL are not listed. The Committee recommends the information be provided in a way that allows users to generate all relevant data for any given area.

Recommendation 10: That all new applications for exploration licences be advertised on the Department of Primary Industries' website with an interactive, searchable, user-friendly interface.

In response to the concerns of community and environmental groups, some mining groups commented on the advertising process. The MCA's submission considered that a letter to landholder preceding a personal visit sets a negative precedent for the explorer from the outset of the consultation process.⁴⁴⁵

The PMAV considered the current licence advertisement process adequate for the small-scale mining industry and further consultation requirements as unnecessary. Ms Bentley told the Committee:

I think if you are — I have not thought about a specific distance, but — a distance from a residence or a town, then, as we have always done, advertising in the local paper through the planning process, or some process, saying, 'I have applied for a mining licence, and this is basically where it is', should be enough, and, 'If you've got any concerns, come to me'. But the way that at the moment people have to set up formal consultation is a nonsense. I do not know of any other business that does that. The timber industry goes out there; do they have to talk to all the locals about what they are doing, when they are doing it and how they are doing it and give them updates every now and again on how they are going. To me the mining industry is being targeted because largely the mining industry just says, 'Yes, we'll do that'. But we have reached a stage where we cannot anymore.⁴⁴⁶

Mr Laidlaw of the PMAV further clarified this view, stating that small-scale miners do not want to avoid consultation, but rather 'they are so small that their effect

⁴⁴⁴ Environment Victoria, *submission*, no. 50, 29 August 2011, p. 3.

⁴⁴⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 34.

⁴⁴⁶ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 8.

on people's lives is insignificant'.⁴⁴⁷ Ms Bentley also raised concerns over security issues that arise from consultation. In particular, she noted that this poses a security risk for small-scale mining sites, where machinery is often left on site.⁴⁴⁸

Mantle Mining indicated in its evidence to the Committee that it had gone beyond the statutory requirements of community consultation under the MRSDA and the *Mineral Resources Development Regulations (2002)* by directly consulting with residents. Mr Ian Kraemer, Managing Director of Mantle Mining considered the issue to be underpinned by the perception of mining by the community rather than in the advertisement process itself:

I have personally been to two community meetings, we have held two open days and we have provided immense amounts of information to the newspapers to circulate and I think answered most questions that everyone has thrown at us. We do a lot of exploration projects around the country, and I would submit to you that we have done much more than the minimum. We have escalated our community consultation process as we have seen a requirement for more. However, the reality is that sitting underneath this is not a lack of community consultation; it is just 'We do not want coal; we do not want fossil fuel'.⁴⁴⁹

Local councils supported the view that they are positioned to take a more active role in new mining developments. East Gippsland Shire Council and Latrobe City Council considered councils to have the potential to take a broader role regarding the social, economic and environmental effects and outcomes of developments.⁴⁵⁰ Moorabool Shire Council shared this view in its presentation to the Committee, stating that although licensees are required to notify councils of work they plan to undertake, councils are not engaged in the approvals process:

They merely have to give us notice that they're going to do their exploration and once they send us a letter to that effect they've done their legislative obligation, which is part of what we're saying about the need for a broader community consultation.⁴⁵¹

The MAV's submission relayed concerns it had received from local councils about the limited notification and lack of consultation prior to decisions on licences issued. It stated that local councils are generally the first point of contact for the community, and on this basis recommended:

... that the MR Act [MRSDA] be amended to provide for councils to be notified prior to the advertisement of applications for exploration licences to ensure councils are

⁴⁴⁷ Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 8.

⁴⁴⁸ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011.

⁴⁴⁹ Ian Kraemer, Managing Director, Mantle Mining, *transcript of evidence*, 30 January 2012, p. 8.

⁴⁵⁰ Allison Jones, General Manager, Economic Sustainability, Latrobe City Council, *transcript of evidence*, 7 November 2011, p. 5; Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 2.

⁴⁵¹ Peter Hawkins, Acting General Manager, Shire Development, Moorabool Shire Council, *transcript of evidence*, 14 December 2011, p. 6.

fully aware of the proposal and enable them to provide relevant local information to facilitate decision making.⁴⁵²

Mr Wakeham from EV concurred with the MAV, stating 'that there should be a requirement to notify every affected land-holder and council, through the local councils'.⁴⁵³

Recommendation 11: That the Victorian Government, through the Department of Primary Industries, notifies local governments of applications for exploration licences that are located within their jurisdictions.

5.3.5 Lengthy approval periods

Exploration and mining companies commonly identified the complexity of Victoria's regulatory environment as a key barrier to pursuing exploration and mining projects in the state.⁴⁵⁴

The AIG's submission spoke of its members' concern at Victoria's regulatory and operating environment, because 'there are too many people, too many parks, too much bureaucracy'.⁴⁵⁵ Prospecting Supplies Australia, a mining equipment supplier, claimed that its Victorian customers feel 'hamstrung by regulation and red tape'.⁴⁵⁶ Furthermore, the PMAV stated that the Earth Resources Division of DPI is 'purely regulatory with almost no customer support and no focus on encouragement'.⁴⁵⁷

In its submission, Hg Recoveries summarised international perceptions of Victoria's prospectivity:

From the Asian perspective, Victoria is regarded as a potentially highly productive precious metals area that is regulated or controlled by some of the worst regulatory systems in the Asian-Pacific area.⁴⁵⁸

Morning Star Gold claimed that the regulatory environment imposes a heavy burden on companies and individuals wishing to operate in Victoria and is a key reason why companies choose to operate in other Australian jurisdictions or countries.⁴⁵⁹ Iluka Resources indicated in its submission that the length of time required to obtain approvals for new exploration projects to extend the life of an

⁴⁵² Municipal Association of Victoria, *submission*, no. 57, 6 September 2011, p. 2.

⁴⁵³ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 3.

⁴⁵⁴ Geos Mining, *submission*, no. 15, 17 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Mount Rommel Mining, *submission*, no. 30, 19 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

⁴⁵⁵ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 2.

⁴⁵⁶ Prospecting Supplies Australia, *submission*, no. 18, 18 August 2011.

⁴⁵⁷ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁴⁵⁸ Hg Recoveries, *submission*, no. 10, 15 August 2011, p. 1.

⁴⁵⁹ Morning Star Gold, *submission*, no. 14, 16 August 2011.

existing mineral sands mine had contributed to company decisions not to pursue those projects.⁴⁶⁰

Further detailed analysis and commentary on the regulation of the Victorian resources sector is discussed in chapters six and seven.

⁴⁶⁰ Iluka Resources, *submission*, no. 26, 19 August 2011.

CHAPTER SIX: VICTORIA'S REGULATORY ENVIRONMENT FOR THE RESOURCES SECTOR

This chapter examines the regulatory environment of the resources sector and discusses issues raised by stakeholders about the current requirements of industry under legislation. It identifies areas for reform in licensing and work authority approval processes; permits and consents; community and stakeholder consultation; cultural heritage requirements; fees and royalties; and regulation of mineral and extractive developments in Victoria. It also discusses the role of the Victorian Government in the sector and identifies issues with its current level of involvement with community and industry.

6.1 **Principal Act: the *Mineral Resources (Sustainable Development) Act 1990***

In Victoria, the resources sector is governed under the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA), which is administered by the Victorian Department of Primary Industries (DPI). The purpose of the MRSDA is to:

... encourage mineral exploration and economically viable mining and extractive industries which make the best use of, and extract the value from resources in a way that is compatible with the economic, social and environmental objectives of the State.⁴⁶¹

It aims to achieve this through regulation of a licensing and approvals system, and provision of an economically efficient system of royalties, rentals, fees and charges. The Act also aims to establish a legal framework that ensures:

- minimisation of adverse impacts on the community and the environment arising from the development of resources
- effective consultation processes and access to information
- rehabilitation of land used for mining of minerals or extraction of stone
- enforcement of licensing conditions and approvals
- effective dispute resolution procedures

⁴⁶¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 1(1).

- protection of the health and safety of the public in regard to work conducted under a licence.⁴⁶²

The details of procedures, requirements, fees, royalties, information required in documents, and offences under the MRSDA are prescribed in the *Mineral Resources Development Regulations 2002* (MRDR) for mineral developments and the *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (MRSDEIR) for extractive industries. The MRSDA also establishes the position of the Mining Warden to resolve disputes under the Act (see section 6.10).

Furthermore, the MRSDA recognises that exploration, mining and extractive activities must be conducted in a way that is consistent with the *Native Title Act 1993*.⁴⁶³ This is discussed further in section 6.8.

The minerals and extractive industries are also subject to a broader regulatory environment, with the MRSDA supported and augmented by various other Victorian and Commonwealth legislative and policy frameworks. This includes, but is not limited to, the Acts and regulations listed in Table 4 below.

Table 4: Overview of the Victorian regulatory framework for the mineral and extractive industries⁴⁶⁴

Act or Regulation	Administering agency/ies
<i>Mineral Resources (Sustainable Development) Act 1990</i>	DPI
<i>Aboriginal Heritage Act 2006</i>	DPDC, AAV
<i>Climate Change Act 2010</i>	DSE
<i>Conservation Forest & Land Act 1987</i>	DSE
<i>Crown Land (Reserves) Act 1987</i>	DSE
<i>Environment Effects Act 1978</i>	DPCD
<i>Environment Protection Act 1970</i>	DSE, EPA Victoria
<i>Flora and Fauna Guarantee Act 1988</i>	DSE
<i>National Parks Act 1975</i>	DSE, Parks Victoria
<i>Occupational Health and Safety Act 2004</i>	DTF, WorkSafe Victoria
<i>Planning and Environment Act 1987</i>	DPCD
<i>Traditional Owner Settlement Act 2010</i>	DoJ
<i>Water Act 1989</i>	DSE, DPI
Commonwealth legislation (e.g. <i>Native Title Act 1993</i> ; <i>Environment Protection and Biodiversity Conservation Act 1999</i>)	Various
Regulatory instruments (Victorian Planning Provisions; State Planning Policy Framework)	Various

The specific requirements for each development under state and Commonwealth legislation differ on a case-by-case basis.

⁴⁶² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 2.

⁴⁶³ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 2.

⁴⁶⁴ Department of Sustainability and Environment, Presentation to Committee: 'EDIC Inquiry into greenfields mineral exploration and project development', 30 January 2012, p. 4.

Evidence received during the Inquiry continually emphasised the size and complexity of Victoria's regulatory environment for the resources sector. Exploration, mining and extractive industry stakeholders considered the number of approvals and government agencies involved in resource approvals processes as excessive and a significant burden to developments.⁴⁶⁵ Several experienced delays in project developments as a result of issues with referral agencies, such as non-adherence to timeframes and dealing with inexperienced staff.⁴⁶⁶ Morning Star Gold's submission summarised the frustration of resource stakeholders:

There are well over fifty Acts which may have a direct bearing on any mining or exploration activity in Victoria. This regulatory framework is confusing, cumbersome and in some cases contradictory. It imposes a heavy burden of [sic] companies and individuals which wish to operate in Victoria and we believe a primary cause of

⁴⁶⁵ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Boral Quarries, *submission*, no. 37, 23 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012; Independence Group, *submission*, no. 39, 24 August 2011; Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011; Andrew Mattiske, Chair, Environment and Communities Working Group, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011; Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

⁴⁶⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011; Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Hg Recoveries, *submission*, no. 10, 15 August 2011; Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Andrew Mattiske, Chair, Environment and Communities Working Group, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Mount Rommel Mining, *submission*, no. 30, 19 August 2011; Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011; Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

companies like MCO [Morning Star Gold] choosing to operate in other states or territories ...⁴⁶⁷

The exploration and mining company Independence Group (IGO) informed the Committee of so far dealing with 17 separate government agencies during the development of its Stockman mine in eastern Victoria. IGO commenced the approvals process in early 2010 and anticipates possible completion in late 2012.⁴⁶⁸

In order to facilitate greenfields investment in Victoria, the Committee has identified a need to streamline the approvals process for exploration, mining and extractive developments. Specific issues are discussed throughout the course of this chapter and within chapter seven.

Geothermal resources are governed by the *Geothermal Energy Resources Act 2005* and coal seam gas under the *Petroleum Act 1998* (for onshore resources) or the *Petroleum (Submerged Lands) Act 1982* (for offshore resources up to three nautical miles from the Victorian coastline). While the Committee notes the importance of both these resources in regards to the Inquiry, discussion of their relevant regulatory environments is outside the scope of this report.

6.2 Review of the MRSDA

At the same time that this Inquiry was conducted, the Victorian Government was reviewing the MRSDA in a two-stage process. Stage one of the review commenced in 2009 and resulted in various amendments to the Act that came into operation in February 2012. Stage two of the review is currently underway.

Stage one focused on the need to reform and modernise Victoria's licensing arrangements for the mineral and extractive industries. Key amendments to the MRSDA included:

- the introduction of two new licences — a retention licence and a prospecting licence
- restrictions on exploration licence renewals and additional licence area relinquishment requirements
- requiring mineral resources to be identified before granting or renewing a mining licence
- statutory endorsement of work plans
- clarification of the 'fit and proper person' criteria to assist determine who licences should be granted to.

According to DPI, these new arrangements were designed to:

- encourage development of Victoria's resources

⁴⁶⁷ Morning Star Gold, *submission*, no. 14, 16 August 2011, p. 2.

⁴⁶⁸ Independence Group, *submission*, no. 39, 24 August 2011.

- improve security of tenure when a resource is identified
- ensure that land not being explored or mined becomes available for development of the state's mineral resources
- be aligned to today's industry.⁴⁶⁹

These changes are discussed further throughout this chapter.

Stage two of the review relates to the work authorisation approvals process for the mineral and extractive industries, and maintaining efficient and effective regulation of the overall sector. In its submission to the Inquiry, the Victorian Government outlined the key objectives of this review:

- reducing regulatory and administrative burden associated with the approvals processes for all agencies and legislative requirements while maintaining the integrity and objectives of competing government portfolios
- creating efficiencies to improve the timeliness of the approvals process and actively supporting industry through project approvals where warranted
- introducing risk based regulation where possible for exploration and mining operations and ensuring regulation is 'fit for purpose'
- introducing less prescriptive work plan requirements
- reducing any economic inefficiencies of regulation such as for the administration of rehabilitation bonds.⁴⁷⁰

As the Committee understands, stage two of the review is due for completion later in 2012. As a result, the Committee is not in a position to draw any conclusions regarding its likely effectiveness or impact on issues concerning the work authorisation approvals process for the mineral and extractive industries. The Committee has, however, identified areas within the MRSDA that it believes requires redress, and anticipates that the Government will acknowledge these during stage two of the review.

6.3 Overview of licence types

6.3.1 Mineral licences

Seeking approval to conduct exploration or mining of minerals in Victoria comprises two main steps. The first involves obtaining a licence and the second requires licence holders to obtain a work authority according to the licence type. The processes for obtaining a licence and work authority are detailed below.

The MRSDA defines four licences for undertaking exploration and mining work: exploration licences (EL); retention licences (RL); prospecting licences (PL); and mining licences (ML).

⁴⁶⁹ Department of Primary Industries, 'MRSDA review phase 1 — licensing agreements under the *Mineral Resources Amendment (Sustainable Development) Act 2010*', viewed 10 January 2012, <<http://www.dpi.vic.gov.au/>>.

⁴⁷⁰ Victorian Government, *submission*, no. 58, 22 October 2011, p. 35.

- **Exploration licence** — grants exclusive rights, subject to conditions, to explore for minerals in an area up to 500 square kilometres. Exploration activities include conducting geological, geophysical and geochemical surveys; drilling; collecting samples for analysis; and non-commercial extraction of minerals. It does not include mining.⁴⁷¹

The term of an EL is five years, with a renewal opportunity for a further five years. A second five-year renewal requires Ministerial approval. Licensees are required to relinquish land from the licence area upon the following anniversaries of the grant date:

- o two years: 25 per cent of the land covered by the licence
 - o four years: 35 per cent of the original land size
 - o seven years: 20 per cent of the original land size
 - o ten years: 10 per cent of the original land size.⁴⁷²
- **Retention licence** — provides retention of rights to allow licensees to undertake intensive exploration, research and other non-mining activities to demonstrate the economic viability of an identified mineral resource. It is an intermediate licence between an EL and an ML. EL and PL holders have the right to apply for an RL or an ML, while RL holders can only apply for an ML.⁴⁷³

An RL can only be granted in circumstances where a mineral resource has been identified. Licence applications must include a description of the resource and its economic viability. The standard for identification of mineral resources is not specified in the MRSDA but rather in ministerial guidelines, and typically complies with the definition of an 'inferred resource' from the Joint Ore Reserves Committee (JORC) Code for Reporting of Exploration Results, Mineral Resources and Ore Resources.⁴⁷⁴ This is a lower standard of mineral resource identification than required when applying for an ML.⁴⁷⁵

The term of an RL is up to 10 years, with an opportunity to renew the licence twice, although the second renewal requires Ministerial approval. There are no relinquishment requirements; this aims to

⁴⁷¹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 25.

⁴⁷² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 38A.

⁴⁷³ Department of Primary Industries, 'Fact sheet: retention licences', viewed 13 January 2012, <<http://www.dpi.vic.gov.au/>>.

⁴⁷⁴ Joint Ore Reserves Committee, *Reporting of exploration results, mineral resources and ore resources*, 2004.

⁴⁷⁵ Department of Primary Industries, 'Fact sheet: retention licences', viewed 13 January 2012, <<http://www.dpi.vic.gov.au/>>.

provide increased security of tenure to those who have a genuine interest in developing identified mineral resources.⁴⁷⁶

- **Prospecting licence** — authorises prospectors and small-scale miners to undertake exploration and/or mining activities in an area of five hectares or less. The term of a PL is up to five years and it cannot be renewed.⁴⁷⁷ A PL holder may apply for an RL or an ML over the area of the PL, however, a mineral resource must be identified for either of these licences to be granted.⁴⁷⁸
- **Mining licence** — transfers mineral rights from the Crown to the licensee. New MLs cannot be granted or existing MLs renewed unless a mineral resource has been identified through submission of a mineralisation report, and where it has been determined by prefeasibility assessments to be commercially viable. According to the Victorian Government, the introduction of this requirement in February 2012 reduces the number of existing MLs that do not have an identified mineral resource or a demonstrated intent to develop the resource.⁴⁷⁹

The term of an ML is for up to 20 years, unless the Minister approves a longer length of time. Renewals are assessed on a case-by-case basis.⁴⁸⁰

6.3.2 Extractive consents and authorities

Unlike the mineral resources application process, proponents of potential extractive industries are not required to apply for a licence to search for or extract stone. Instead, the MRSDA requires proponents to apply for consent to search for stone or to apply for a work authority to extract stone.

6.3.2.1 Consent to search for stone

The MRSDA contains provisions for proponents to gain consent to search for stone on Crown land; land controlled by an authority under the *Water Act 1989* (i.e. a Catchment Management Authority [CMA]); a licensee under the *Water Industry Act 1994* (i.e. a Water Corporation); or the manager of a public highway, road or street.⁴⁸¹

In the case of stone on Crown land, the proponent applies for consent to the Minister responsible for Crown land (presently the Minister for Environment and Climate Change). The Minister will then refer the application to the Department

⁴⁷⁶ Department of Primary Industries, 'Fact sheet: retention licences', viewed 13 January 2012, <<http://www.dpi.vic.gov.au/>>.

⁴⁷⁷ Department of Primary Industries, 'Fact sheet: prospecting licence', viewed 13 January 2012, <<http://www.dpi.vic.gov.au/>>.

⁴⁷⁸ PLs did not supersede 'miner's rights' upon their introduction, despite the two licences having similar properties. Discussion of miner's rights is beyond the Committee's Terms of Reference.

⁴⁷⁹ Victorian Government, *submission*, no. 58, 22 October 2011.

⁴⁸⁰ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 31(8).

⁴⁸¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77A.

of Planning and Community Development (DPCD) and any Registered Aboriginal Party (RAP) in the area for comment. The Minister is required to grant or refuse the application within 60 days of receiving the application, and may choose to impose conditions on the consent. Applicants can apply to the Victorian Civil and Administrative Tribunal (VCAT) to review a decision made by the Minister.⁴⁸²

For applications to search for stone on land that is controlled by a CMA or a Water Corporation, the applicant must obtain consent of the relevant land manager. If the application is over land where there is a public highway, road or street, the proponent must give 21 days notice of the search for stone to the relevant managing body (e.g. VicRoads). The CMA, Water Corporation or road managing body has 60 days to grant or refuse the application, and may choose to impose conditions on the consent. Applicants may apply to VCAT to review a decision made by any of these managing bodies.⁴⁸³

The MRSDA does not include provisions for consent to search for stone on most private land, other than surveys carried out on behalf of the Minister. Such consents are dealt with by private arrangements between extractive operators and landowners. When an applicant disputes the arrangement or the landowner refuses consent, the applicant can apply for a review of the decision by VCAT.⁴⁸⁴

6.3.2.2 Work authority

The MRSDA requires proponents of extractive proposals to apply for an extractive industry work authority (EIWA). The term of the EIWA is specified by the Minister at the time of grant.⁴⁸⁵ Proponents are not required to apply for a work authority if the proposed quarry has an area of less than one hectare and a depth of less than two metres.⁴⁸⁶

Stone which is on or below the surface of the land is the property of the owner of the land. In the case of Crown land, the stone remains the property of the Crown, and the holder of the work authority is required to pay royalties according to the rates specified in the MRSDEIR.⁴⁸⁷ These are discussed in section 6.9.2. For stone on private land not owned by the applicant of a work authority, compensation on the value of the stone is negotiated between the two parties during the application process.

The process of obtaining EIWAs is detailed in section 6.5.

6.3.3 Security of tenure

The Committee received a number of comments from industry stakeholders regarding security of tenure for licence holders, particularly of the relinquishment of licence area required by EL holders. DPI indicated the focus of the stage one

⁴⁸² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77A.

⁴⁸³ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77A.

⁴⁸⁴ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77A.

⁴⁸⁵ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77L.

⁴⁸⁶ *Victorian Government Gazette*, 2009, no. S493, Melbourne, 29 December 2009.

⁴⁸⁷ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 11A.

review of the MRSDA was to ensure licences were being actively worked⁴⁸⁸, and indicated a relationship between the ability for explorers to raise capital and short EL cycle times:

What we're really saying is the ability to find finance is the thing that shortens the cycle time; in other words we would like to have shorter cycle times but not by government edict but by the fact that the jurisdiction attracts exploration.⁴⁸⁹

According to the Victorian Government, limiting the number of EL renewals and imposing relinquishment requirements is mitigated by the introduction of an RL.⁴⁹⁰ However, exploration and mining groups were opposed to the additional relinquishment requirements. Industry cited delays caused by land access, geological complexity and general environmental issues as problematic, and that short timeframes imposed for relinquishment were burdensome and increased the sovereign risk of exploration in Victoria.⁴⁹¹ Castlemaine Goldfields considered relinquishing requirements a disincentive to exploration investment:

The forced breakup of strategic ground positions due to narrow prescriptive relinquishment requirements by companies that have a proven track record for active exploration programs will not encourage further exploration activity.⁴⁹²

The Australasian Institute of Mining and Metallurgy (AusIMM) claimed there is a lack of understanding in Victoria of how security of tenure relates to both the commercial value of a mineral tenement and the willingness to invest in mineral exploration. It suggested there is an incorrect perception that there is a high level of demand for exploration tenements and competition among exploration companies. The AusIMM stated that this is not the case in reality as there is 'plenty of vacant ground and opportunities for exploration in Victoria'.⁴⁹³

The Committee also heard concerns from community stakeholders over the uncertainty created by inactive mining projects. Several stakeholders favoured a 'use it or lose it' approach to resource projects, whereby a licensee has a defined period to utilise the mineral licence or EIWA before it forfeits the area to the

⁴⁸⁸ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 14.

⁴⁸⁹ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 6.

⁴⁹⁰ Victorian Government, *submission*, no. 58, 22 October 2011, p. 31.

⁴⁹¹ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Castlemaine Goldfields, *submission*, no. 53, 30 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

⁴⁹² Castlemaine Goldfields, *submission*, no. 53, 30 August 2011, p. 2.

⁴⁹³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 9.

state.⁴⁹⁴ This was addressed by local government and residents of municipalities of the Latrobe Valley. Ms Alison Jones, General Manager, Economic Sustainability at Latrobe City Council, spoke of the difficulties that new entrants have in accessing the Latrobe Valley's coal resource due to land already being locked up.⁴⁹⁵

Dr Jack Hamilton, Chief Executive Officer of Exergen, urged the Victorian Government to play a more proactive role in seeking active development of resources:

... [Victoria should] move proactively to adopt the nature of a resource developer and actively recognise the development of this energy asset for the State. Use leverage, the fact that it holds coal, to actually collaboratively seek private investing cofounding to get through the technical demonstration risk, so that the State can minimise the amount of money it actually has at risk by using the actual promise of the asset in ground with a very strong 'use it or lose it' principle to apply to both any funding support as well as coal support.⁴⁹⁶

The Flynn Creek Coal & Power Consultative Committee (FCC&PCC) expressed frustration over a mining project in the Latrobe Valley that had stalled due to finance issues. Mr Kevin Mealing, Secretary of FCC&PCC, in an exchange with Mr Martin Foley MP, stated that the project progressed to an ML in 2006, but is yet to be developed:

Mr MEALING — ... they actually moved from an exploratory licence because our understanding is that with an exploratory licence if they actually hadn't moved to any production it actually used to reduce so they didn't want it to reduce anymore because they want to maximise the coal resource so they moved to a mining licence.

Mr FOLEY — And they haven't started mining?

Mr MEALING — Haven't walked on property.⁴⁹⁷

Mr Mealing stated that the uncertainty around the future of developments on the 50-year mining licence has significantly impacted on local land values.⁴⁹⁸

Evidence received from resource sector stakeholders favoured the introduction of RLs to address these issues.⁴⁹⁹ Iluka Resources viewed the introduction of RLs

⁴⁹⁴ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011; Peter Colley, National Research Director, Construction, Forestry, Mining & Energy Union, *transcript of evidence*, 7 November 2011; Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011; Allison Jones, General Manager, Economic Sustainability, Latrobe City Council, *transcript of evidence*, 7 November 2011; Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011; Wellington Shire Council, *submission*, no. 42, 26 August 2011.

⁴⁹⁵ Allison Jones, General Manager, Economic Sustainability, Latrobe City Council, *transcript of evidence*, 7 November 2011, p. 4.

⁴⁹⁶ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 8.

⁴⁹⁷ Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 8.

⁴⁹⁸ Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 4.

as a positive move, bringing Victoria into line with other Australian jurisdictions. Iluka believes that RLs will encourage research and development activity to demonstrate the economic viability of a project.⁵⁰⁰ Donald Mineral Sands (DMS) advised that the introduction of RLs will enable licensees to undertake work that does not fit the characteristics of an EL or ML:

When we initially started talking to the Department about the potential for doing a pilot plant and a test pit, they came back to us and said, 'It's a bit too much to do under an exploration licence because it has all of the components of a mine: there is a small plant, there is a small pit and there is a tailings facility', but it is not a fully scaled mine either, so we are in nowhere land. The retention licence will greatly assist with that. We are also in the situation where our mine life is potentially over a hundred years, and to put all that in a mining licence isn't necessarily appropriate and a retention licence will give us a tool to lock up future mining areas.⁵⁰¹

The Committee is interested in whether the introduction of RLs will provide an outcome that addresses the issues above. As such, the Committee recommends the implementation of a mechanism to evaluate the outcomes of the reforms.

Recommendation 12: That the Victorian Government, at an appropriate time, reviews the outcomes of the reforms to mineral licences implemented by the stage one review of the *Mineral Resources (Sustainable Development) Act 1990*.

6.4 Obtaining a minerals licence

Under the MRSDA, applying for a licence is typically an over-the-counter exercise. Priority of licence applications are allocated according to the day the application is received by DPI. If multiple applications over an area are received on the same day, the order of priority is assigned after an assessment is made around the merits of each application and the capacity of applicants to meet certain requirements under the Act.⁵⁰²

Figures 9 and 10 summarise the application and work approvals processes for exploration and mining licences.

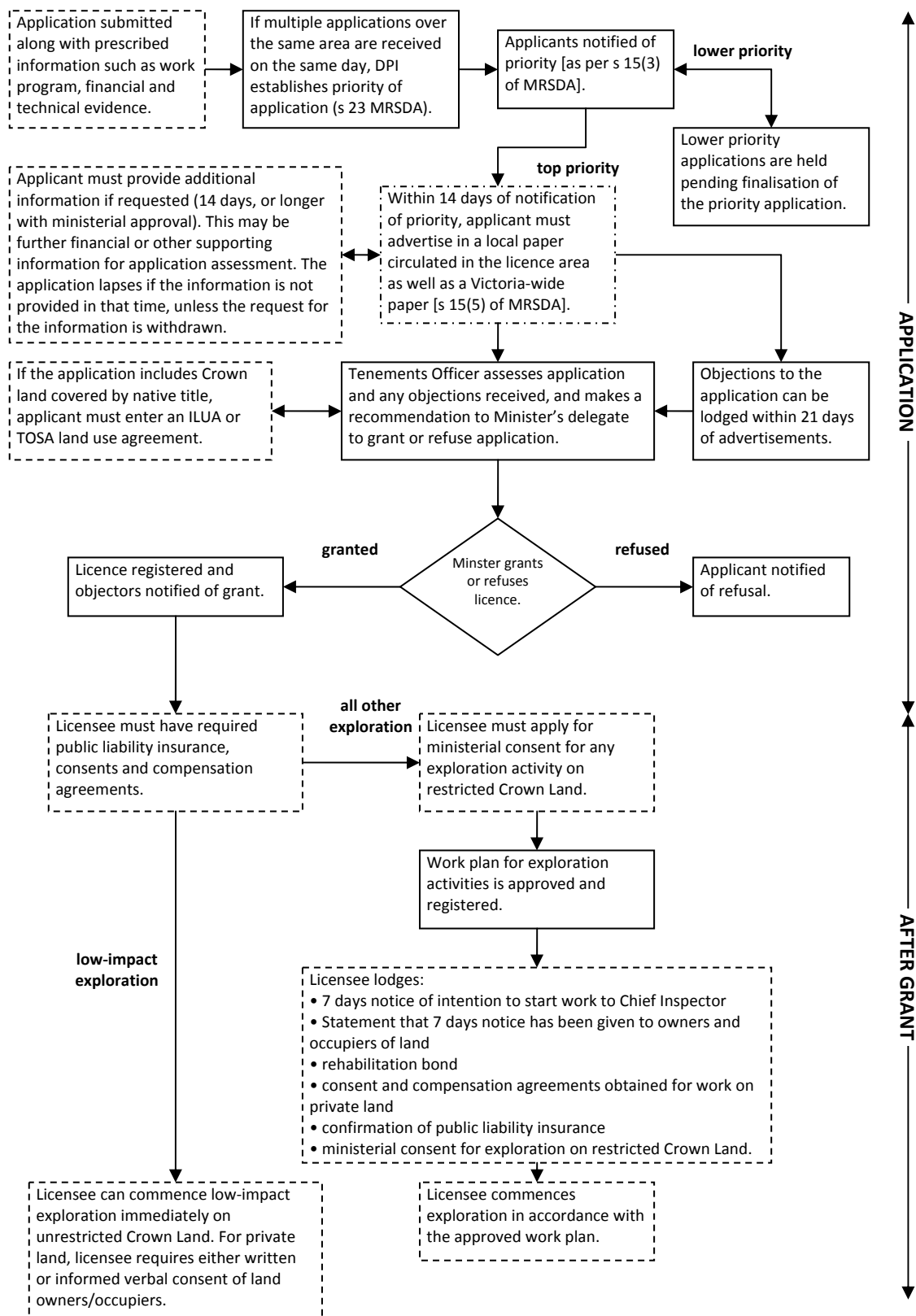
⁴⁹⁹ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011; Castlemaine Goldfields, *submission*, no. 53, 30 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

⁵⁰⁰ Iluka Resources, *submission*, no. 26, 19 August 2011.

⁵⁰¹ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 3.

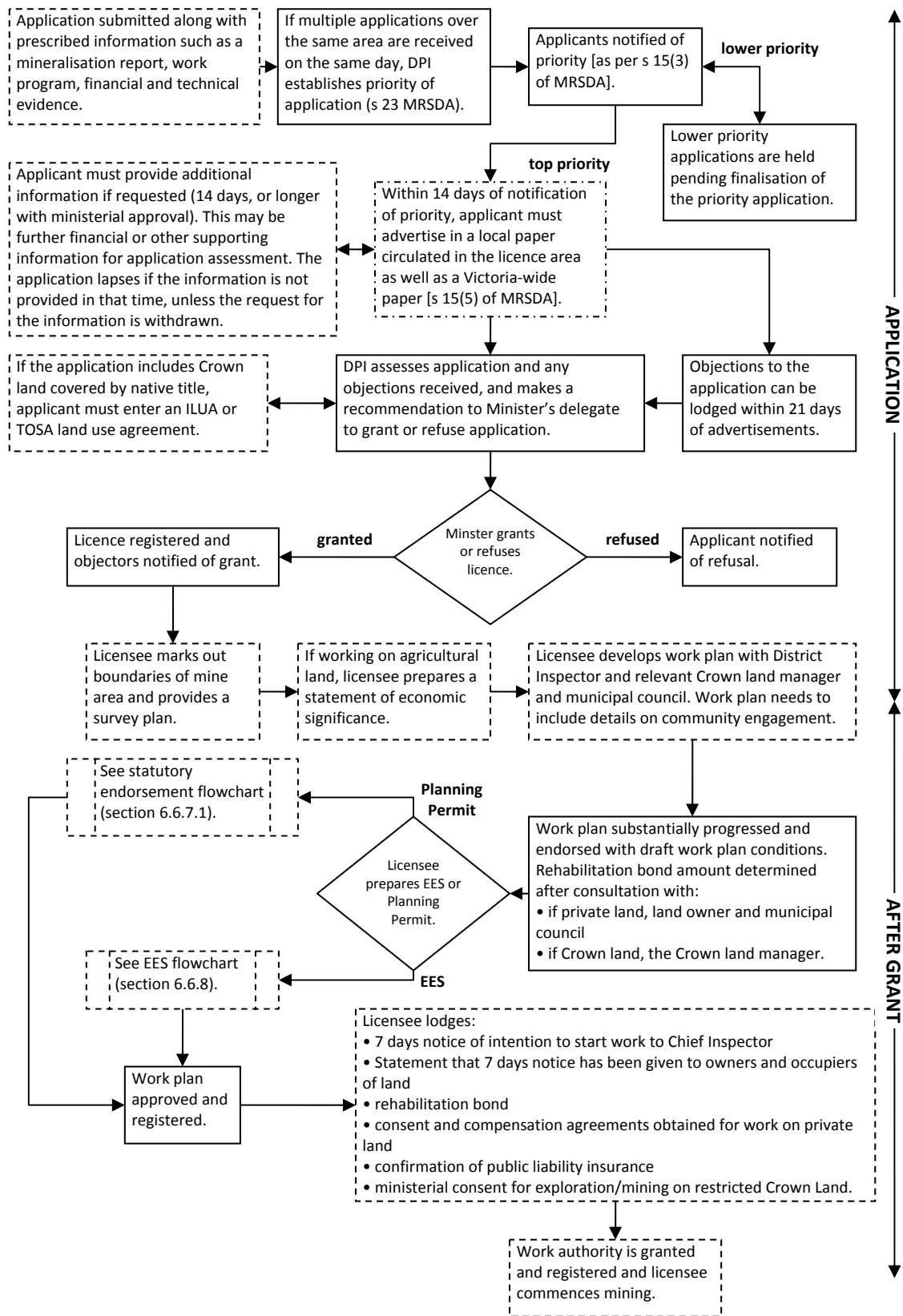
⁵⁰² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 23.

Figure 9: Exploration licence application and work authority approvals process⁵⁰³



⁵⁰³ Department of Primary Industries, 'Exploration licence application kit', viewed 13 March 2012, <<http://www.dpi.vic.gov.au/>>.

Figure 10: Mining licence application and work authority approvals process⁵⁰⁴



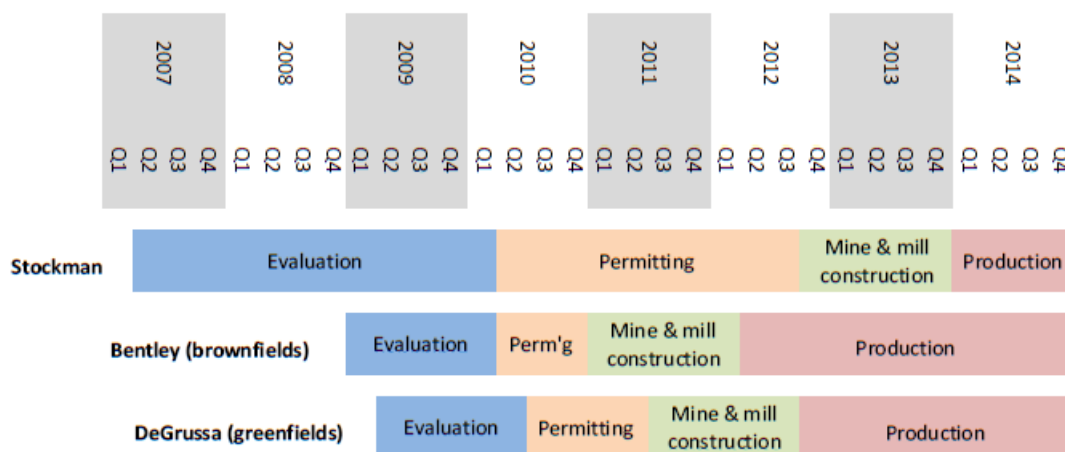
⁵⁰⁴ Department of Primary Industries, 'Mining licence application kit', viewed 13 March 2012, <<http://www.dpi.vic.gov.au/>>.

The licence and work authority application process for retention and prospecting licences are outlined in Appendices four and five.

Concurrent with stage two of the MRSDA review, DPI is developing Gantt charts for use by industry to further detail each step in the minerals and extractives application and approvals processes. At the time this report was tabled, the Committee is unaware of an expected release date for the Gantt charts.

Mining industry stakeholders continually described the work authority approvals process — in particular approval of the work plan — as an unnecessarily lengthy process which limits opportunities for developments. Many referred specifically to issues arising from the referrals process between DPI and other agencies as a major source of delays.⁵⁰⁵ Independence Group’s (IGO) submission compared the lengths of work authority approval processes of its Stockman mining project in near Benambra, Victoria and two projects in Western Australia (Bentley and DeGrussa), as shown in Figure 11 below.

Figure 11: IGO comparison of project development timelines in Victoria vs. two projects in Western Australia⁵⁰⁶



6.4.1 Advertising licence applications

Upon receiving notification from the Minister that a licence application has been accepted, licence applicants are required under the MRSDA to advertise their application and invite objections to the work.⁵⁰⁷ Advertisements must be placed in the Wednesday edition of a newspaper that circulates throughout Victoria and in one or more newspapers that circulate in the area specific to the application.⁵⁰⁸ Objections to applications must be lodged within 21 days of the

⁵⁰⁵ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Victorian Competition & Efficiency Commission, *submission*, no. 4, 25 July 2011.

⁵⁰⁶ Independence Group, *submission*, no. 39, 24 August 2011, p. 24.

⁵⁰⁷ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 15(5).

⁵⁰⁸ *Mineral Resources Development Regulations 2002* (Vic), section 16.

advertisement⁵⁰⁹ and are considered by the Minister in the overall assessment of the granting of a licence.⁵¹⁰

The effectiveness of the current licence advertising process was an issue that was raised repeatedly by stakeholders and is covered previously in chapter five.

6.4.2 Assessment of licence applicant

To be granted a minerals licence (EL; RL; PL; ML) under the MRSDA, the Minister must be satisfied that applicants meet various criteria outlined in section 15(6), including that they:

- are 'fit and proper' (see below)
- intend to comply with the Act
- genuinely intend to do work
- have an appropriate program of work
- are likely to be able to finance the proposed works and rehabilitation of the land.⁵¹¹

Following the stage one review of the MRSDA, amendments to the Act were introduced to clarify what the Minister must consider when determining whether licence applicants are 'fit and proper'. This includes an assessment about whether licence applicants or their associates:

- have previously failed to rehabilitate land, and the Minister has been required to take action to do so
- have had a licence cancelled
- have been convicted of an offence against the Act
- have been convicted of an offence involving fraud or dishonesty
- are an insolvent under administration.⁵¹²

6.4.3 Licence approvals and conditions

On approval of a minerals licence, the Minister may impose conditions on the licence, which may include but are not limited to:

- rehabilitation of the land, including entering into a rehabilitation bond (see section 6.6.4)
- protection of the environment, including protection of groundwater

⁵⁰⁹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 24.

⁵¹⁰ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 25.

⁵¹¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 15(6).

⁵¹² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 16.

- providing and implementing environmental offsets
- expenditure requirements (such as minimum yearly expenditures)
- reporting the discovery of minerals
- payment of fees (including an environmental levy) and royalties
- access to and use of land by the holder of another licence that is limited to a particular section
- protection of community facilities.⁵¹³

Under the MRSDA, there are a number of additional requirements for ML holders that do not apply to other mineral licensees. Firstly, ML holders are required within four weeks of being granted a licence to survey and mark out the boundaries of the licence area. This is to ensure that the area of the licence is identifiable by a person in the area.⁵¹⁴ Before doing so, licensees are required to obtain written consent from the owner or occupier of any land that it is privately owned, or the written consent of occupiers of occupied Crown land. If owners or occupiers object to licensees entering the land, DPI may grant an authority to enter the land if the licensee has made reasonable attempts to obtain the owners or occupiers consent.⁵¹⁵

Secondly, if the area under the licence covers agricultural land that is not held by the licensee, ML holders are required to complete a statement of economic significance regarding the proposed work. Under the MRSDA, the statement must contain:

- (a) an assessment of the benefits to Victoria of the proposed work, including employment and revenue considerations; and
- (b) an assessment of those benefits if it was not possible to do the work on the agricultural land.⁵¹⁶

Mining licensees must provide the statement of economic significance to the owners and occupiers of the agricultural land no later than six months after being granted the licence or when the licensee lodges the work plan with DPI. Owners and occupiers of the land who wish to dispute the statement are required to apply to the Minister for excision of their land from the ML within 30 days of receiving the statement. Under the MRSDA, this application must include:

- (a) an assessment of the benefits to Victoria in continuing the use of the land as agricultural land; and
- (b) if the owner disputes anything contained in the statement of economic significance, details of the matters the owner disputes, including the reasons why the owner disputes those matters.⁵¹⁷

⁵¹³ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 26(2).

⁵¹⁴ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 38AA.

⁵¹⁵ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 38AB.

⁵¹⁶ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 26A(2).

It is then the responsibility of the Minister to decide what land activity is of greater economic benefit to Victoria, and determine whether the land in question should be excised from the ML.⁵¹⁸

According to DPI, no statements of economic significance have been prepared in the last ten years. DPI suggests that this may be a result of successful compensation agreement negotiation between licensees and landowners or licensees purchasing the land for the duration of the development.⁵¹⁹

6.5 Obtaining an extractive industry work authority

According to the DPI website, EIWA approval is a two-step process: approval the work plan and work authority application and grant. The work plan approval process involves the following:

- **Initial contact with DPI.**
- **Site meeting:** proponent meets with a DPI inspector and other relevant agencies to discuss the proposal.
- **Draft work plan:** proponent submits draft work plan to inspector and re-submits if amendments are required.
- **Endorsed work plan:** work plan is endorsed by DPI. EIWAs requiring a planning permit receive statutory endorsement under the MRSDA (see section 6.6.7.1). Proponent also receives notification of rehabilitation bond assessment.
- **DPI assessment of 'information package':** the proponent submits the endorsed work plan, along with other information, including a planning permit or EES) for DPI assessment. The required information is discussed further in section 6.6.2.
- **Approved work plan:** DPI approves the work plan and notifies proponent.

Upon approval of the work plan, the proponent lodges an application for a work authority, along with the required rehabilitation bond (in the form of a bank guarantee) and administrative fees. The proponent can commence work when the EIWA is approved and registered by DPI.⁵²⁰ The work plan process is discussed in detail in section 6.6.2 and the requirements for approval of an EIWA in section 6.7.

Extractives groups considered the EIWA application process to be significantly more complex than indicated on the DPI website. Evidence from these groups

⁵¹⁷ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 26B(3).

⁵¹⁸ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 26B(1b).

⁵¹⁹ Andréé Wheeler, Director, Energy and Earth Resources Strategic Policy, Department of Primary Industries, *personal communication*, 17 April 2012.

⁵²⁰ Department of Primary Industries, 'Extractive industry work plan guideline', viewed 6 March 2012, <<http://www.dpi.vic.gov.au/>>.

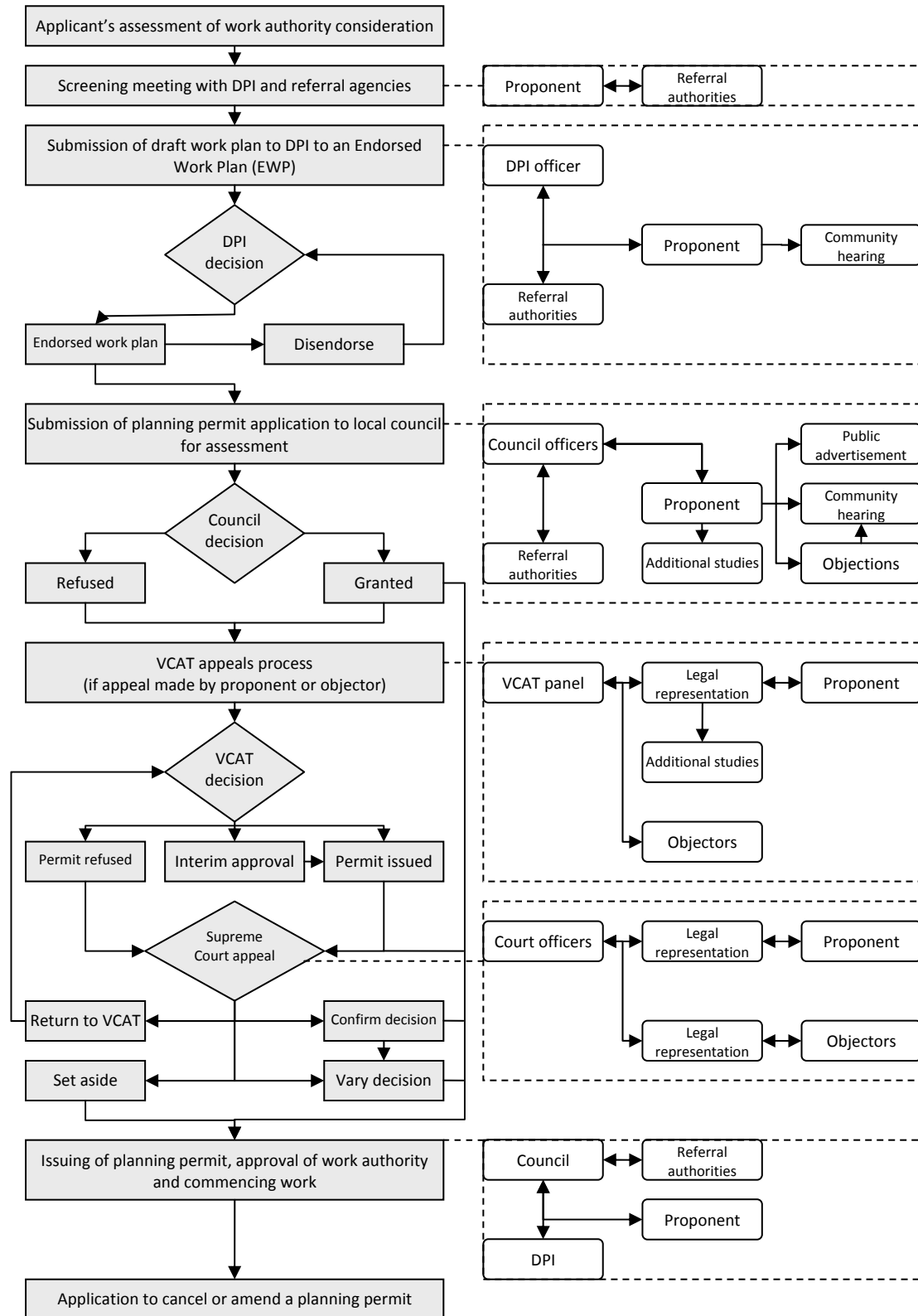
repeatedly spoke of unnecessary duplication of information, and costs and delays required by consents and approvals as issues with the current process.⁵²¹ These are discussed further in section 6.6.3.

The Construction Material Processors Association (CMPA) considered planning permit applications to be another step in the application process due to the requirements of the proponent.⁵²² Along with Cement Concrete and Aggregates Australia (CCAA), the CMPA referred to a flowchart prepared in its report: *An unsustainable future: the prohibitive costs of securing access to construction material resources in Victoria* (2009), which it considers to reflect the true complexity of the application process. This is shown in Figure 12 below.

⁵²¹ Boral Quarries, *submission*, no. 37, 23 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012.

⁵²² Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

Figure 12: Work authority application and referral process for extractive industries, as viewed by the CMPA⁵²³



⁵²³ Construction Material Processors Association, *An unsustainable future: the prohibitive costs of securing access to construction material resources in Victoria*, Construction Material Processors Association, 2009, p. 19.

According to the CMPA, there can be as many as 117 people involved in one EIWA application.⁵²⁴ Section 6.6.7 discusses issues of the planning process in further detail.

6.6 Work plan approval processes

6.6.1 Exploration and mining work plans

The second key step for seeking approval to conduct exploration or mining activity is obtaining approval to undertake work. Under all mineral licence types, licensees are required to complete a work plan, which must be approved by DPI before work can commence. Work plans must contain the following:

- information about the proposed work
- maps detailing the general location of that work
- a description of the proposed rehabilitation of any affected areas
- a description of the proposed arrangements for consultation with landowners, Crown land managers and local councils
- the proposed methods of monitoring, auditing and reporting impacts on the environment.

This is also accompanied by lodgement of a rehabilitation bond and public liability insurance. Appropriate consents and approvals must also be obtained, such as Crown and private landowner/occupier consents, native title, native vegetation, and cultural heritage. These various consents and approvals are detailed further in section 6.6.3.

While work plan requirements are typically similar for all mineral licence types, PL and ML work plans are more involved than those for ELs and RLs and include approval of a work authority. To be approved by DPI, the work authority must contain the work plan as detailed above, a rehabilitation plan (see section 6.6.4), an environmental management plan (see section 6.6.5) and a community engagement plan (see section 6.6.6). Work plans must also either be assessed under the planning permit requirements of the *Planning and Environment Act 1987* (see section 6.6.7), or alternatively include an Environment Effects Statement (EES) under the *Environment Effects Act 1978* (see section 6.6.8). Similarly, work plans submitted under PLs must include a community engagement plan and a rehabilitation plan.

At the other end of the spectrum, work plans are not required for proposed work that is deemed to be 'low impact exploration' under the MRSDA.

6.6.2 Extractive work plans

Approval of the work plan is the first key step to undertake work under an EIWA. A work plan is not required if the project proposed is on an area of less than five

⁵²⁴ Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 17.

hectares and at a depth of less than five metres or does not require blasting or clearance of native vegetation.⁵²⁵ If a work plan is not required, the development must comply with the *Code of Practice for Small Quarries*.⁵²⁶

The requirements for extractive industry work plans are prescribed in the MRSDEIR. These include:

- a general description of the geological information of the area, including estimates of extractive resources
- a general location plan and a regional plan showing the extent of Crown and private land and rivers and streams in the area, and parks and reserves within two kilometres of the site
- a detailed site plan
- a description of processing methods
- quarry stability requirements if the general location plan includes a 'declared quarry'⁵²⁷
- a rehabilitation plan (see section 6.6.4)
- an environmental management program (see section 6.6.5)
- a community engagement plan (see section 6.6.6).⁵²⁸

As per work plans for mineral resources, extractive work plans that require a planning permit under the *Planning and Environment Act 1987* also require statutory endorsement (see section 6.6.7.1). Once the work plan has been endorsed, the proponent receives a notification of rehabilitation bond assessment and is required to apply for either a planning permit (see section 6.6.7) or an EES (see section 6.6.8).

To receive final approval of the work plan, the proponent must submit the following to DPI:

- three copies of the endorsed work plan
- evidence of public liability insurance
- consents/compensation agreements for land access on restricted Crown land or private land (refer sections 6.6.3.1 and 6.6.3.2)

⁵²⁵ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77G.

⁵²⁶ Department of Primary Industries, 'Extractive industry work plan guideline', viewed 6 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁵²⁷ A 'declared quarry' is a quarry that the Minister has identified as posing a significant risk to public safety, the environment or infrastructure by publication in the Government Gazette.

⁵²⁸ *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), schedule 1.

- planning permit or EES
- relevant fees
- other necessary consents and approvals (refer section 6.6.3).⁵²⁹

6.6.3 Consents and approvals for work authority

The appropriate consents and approvals required for work authorities under the MRSDA and other relevant Commonwealth and state legislation differ on a case-by-case basis. This depends on factors such as the type and size of the proposed work, as well as the immediate and surrounding land that will be affected. DPI is responsible for advising proponents of the necessary consents and approvals, which can be sought simultaneously throughout the work plan process. This typically involves mineral licensees and EIWA applicants consulting and working with Victorian Government departments and agencies other than DPI.

To assist the proponents to receive approvals under other state legislation or policy frameworks, DPI has entered into a number of Memoranda of Understanding (MoUs) with relevant departments, including the Department of Sustainability and Environment (DSE), DPCD and WorkSafe Victoria. The purpose of these MoUs is to facilitate streamlined and consistent decision-making regarding actions under the MRSDA across the Victorian Government.

The need to reform the current process for receiving consents and approvals was a common theme in evidence received during the Inquiry. Industry groups called for the Victorian Government to assume a greater role in the facilitation of exploration and mining developments, which is discussed in chapter seven. Specific issues raised for each particular approval are discussed in the following sections.

6.6.3.1 *Crown land*

As discussed in chapter five, there are various restrictions regarding exploration, mining and extractive work on Crown land in Victoria. The determination and management of Crown land is the responsibility of DSE under the *National Parks Act 1975*.

Crown land is defined in the MRSDA as:

... land that is, or that is by any Act deemed to be, unalienated land of the Crown, and includes—

- (a) land of the Crown that is reserved permanently or temporarily by or under any Act; and
- (b) land of the Crown occupied by a person under a lease, licence or other right under this or any other Act.⁵³⁰

⁵²⁹ Department of Primary Industries, 'Extractive industry work plan guideline', viewed 6 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁵³⁰ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 4.

The processes for determining Crown land status, management and access are outlined in the MoU that exists between DPI and DSE regarding consultation for exploration work plans. The MoU requires that when a work plan proposes work on Crown land, a copy be referred to the coordinating officer at DSE, who is a representative of the Crown land manager. Approval of the work plan can only be provided by DPI once the coordinating officer advises that the plan is satisfactory, and where required that consent for work on the Crown land is likely to be granted.⁵³¹

In its presentation to the Committee, DSE clarified the objective of Crown land assessment:

It is probably fair to say that the underlying objective of Crown land management is triple bottom line. It considers environmental, social and economic value. That gets reflected in how land is zoned. That largely flows through to how you see land categorised as unavailable, restricted or unrestricted. It depends on what the underlying purpose and values are. Certainly one approach could be to just say that everything is restricted, but our ultimate policy objective does look at balance ... Even where there are restrictions we look at the triple bottom line and how we can work through it with conditions to ensure that we are getting the best balanced outcome. That tends to be done on a case-by-case basis, looking at the peculiarities of what is being proposed, as opposed to having a rigid framework to step through.⁵³²

The Committee is aware that this issue was also brought to DPI's attention by resource industry stakeholders as part of the consultation process for the Department's stage two review of the MRSDA. In response, DPI stated that the purpose of establishing national and state parks is to protect biodiversity values and for public recreation. Furthermore, successive governments have taken the view that these uses are not compatible with exploration and mining activities, a position that is reflected in both the MRSDA and the *National Parks Act 1975*.⁵³³

While the Committee does not dispute the Department's position, it notes the confusion that exists across the minerals exploration and mining industries regarding the process for determining what Crown land is available for exploration and mining activities. As previously noted in chapter five, this stems from the broader issue of land use priority conflicts, and the Committee anticipates this would be addressed in a review of allocation of land use priorities.

Recommendation 13: That the Victorian Government considers ways of improving access to Crown land for mineral exploration as part of the wider review of land use priorities in Victoria.

⁵³¹ Department of Sustainability and Environment and Department of Primary Industries, *Memorandum of Understanding: exploration work plan consultation*, Victorian Government, Melbourne, 2007.

⁵³² Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 11.

⁵³³ Department of Primary Industries, 'Mineral Resources (Sustainable Development) Act review — stage 2: discussion paper no. 10 — other matters', viewed 5 September 2011, <<http://www.dpi.vic.gov.au/>>.

6.6.3.2 *Private land*

Under the MRSDA, all minerals licence holders are required to either obtain the written consent of or register a compensation agreement with the owners and occupiers of the land covered under a licence prior to entering or commencing work on that land.⁵³⁴ The MRSDA does not include a provision for compensation agreements with landholders in the case of EIWAs. Obtaining the verbal consent of owners and occupiers of land is sufficient in circumstances where the proposed work is defined as low impact exploration under the MRSDA.⁵³⁵

Section 87 of the MRSDA allows mineral licensees to enter compensation agreements with landowners or occupiers of private land. These do not relate to the value of any mineral covered by the licence but rather apply if loss or damage occurs or will be sustained as a consequence of the proposed work outlined in the work plan.⁵³⁶

The 'Guide for private landowners regarding exploration and mining on private land', a joint initiative of the Victorian division of the Minerals Council of Australia (MCA) and the Victorian Farmers Federation (VFF), outlines the specific areas for which compensation to owners and occupiers of private land is payable:

- (a) deprivation of possession of the whole or part of the surface of the land;
- (b) damage to the surface of the land and to any improvement on the land;
- (c) severance of the land from other land of the owner or occupier;
- (d) loss of amenity including recreational and conservation values;
- (e) loss of opportunity to make planned improvements;
- (f) any decrease in market value of the owner's or occupier's interest in the land;
- (g) increase compensation by up to 10% by way of solatium, and
- (h) in addition, taken account of reasonable incidental expenses in obtaining and moving to replacement land (when required).⁵³⁷

In circumstances when compensation cannot be agreed upon, the owner or occupier of the land or the licensee can refer the matter to VCAT or the Supreme Court for determination.⁵³⁸ The Guide states that it is usual practice for VCAT to refer parties to the Victorian Mining Warden. If agreement cannot be reached by the Warden, the matter is then assessed by VCAT. According to the Guide, from 2003 to 2008, no cases have been referred to VCAT or the Supreme Court but rather issues were resolved by mutual agreement either directly between the parties, and/or with assistance from the VFF and the MCA and/or through the

⁵³⁴ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 42(2)(c).

⁵³⁵ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 43(1)(ea).

⁵³⁶ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 85(3).

⁵³⁷ Minerals Council of Australia, Victorian Division and Victorian Farmers Federation, *Guide for private landowners: exploration and mining on private land*, Melbourne, 2008, p. 13.

⁵³⁸ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 88.

state Mining Warden.⁵³⁹ The role of the State Mining Warden is discussed further in section 6.10.

The issue of inadequate compensation to landowners was raised by a number of local community groups to the Committee, particularly in the context of covering costs for decreasing land values. Moorabool Environment Group (MEG) and FCC&PCC both told the Committee how local property values had fallen as a result of the existence of exploration and mining licences on those properties. Ms Deb Porter, Secretary of MEG, advised:

... the property that I have was previously valued, so just as a matter of course I got them out to have a look at it again. It's dropped \$150,000 just with the exploration, that's just with them putting a drill hole in. So if it was to move to mining and they were then to come and say, 'Okay, we'll compensate you now at the value that the property is at'. Well, just the sniff of the exploration actually significantly drops the value of your property so already you're on the back foot if you're getting compensated for your property and you then have to move to another location to actually re-establish yourself.⁵⁴⁰

Mr Jeff Rathjen, President of FCC&PCC, told the Committee how a property in his local area was not sold once the potential purchaser learnt of the exploration licence existing on it:

Another property which suffered the effects of the blight had a cash offer on the table, which was under shire valuation, and the purchaser was told of the exploration licence and just walked away, forget it.⁵⁴¹

FCC&PCC indicated to the Committee that it was aware of the need for the state to develop its mineral resources, however, in doing so it is imperative that landowners be compensated accordingly. This is particularly important for landowners whose farms and properties have been built upon over the years and passed along from generation to generation. These properties act as superannuation for many farmers, whom intend to sell them when they retire.⁵⁴²

Mr Mealing from FCC&PCC proposed as a solution that land values be determined at the time ELs are granted and that these values be adjusted based on the consumer price index. This would provide an objective price with which to negotiate land purchases at a later date, or provide a foundation for compensation negotiations between landowners and industry representatives should a mining project development be proposed on the land in question.⁵⁴³

⁵³⁹ Minerals Council of Australia, Victorian Division and Victorian Farmers Federation, *Guide for private landowners: exploration and mining on private land*, Melbourne, 2008, p. 20.

⁵⁴⁰ Deb Porter, Secretary, Moorabool Environment Group, *transcript of evidence*, 10 October 2011, p. 5.

⁵⁴¹ Jeff Rathjen, President, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 5.

⁵⁴² Jeff Rathjen, President, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 5.

⁵⁴³ Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 5.

The Committee notes that successful mining activities, whether in the exploration, development or production stages, will usually have their foundation in a good relationship between the licensee and the owner of the underlying land. As such, it considers that the current arrangements for compensation agreements for landholders affected by exploration licences are areas that require review.

Recommendation 14: That the Victorian Government conducts a review of compensation agreements under the *Mineral Resources (Sustainable Development) Act 1990* to encourage fair outcomes for those with a specified beneficial interest directly and adversely affected by mineral exploration.

6.6.3.3 Cultural heritage

Under the *Aboriginal Heritage Act 2006* (AHA), mineral licence holders and EIWA applicants are required to prepare a Cultural Heritage Management Plan (CHMP) in consultation with DPCD for work proposed in areas of Aboriginal cultural heritage in Victoria. According to DPCD's website, the purpose of CHMPs is to protect and manage Aboriginal cultural heritage, with the involvement of Registered Aboriginal Parties (RAPs), while allowing development to proceed.⁵⁴⁴ In his presentation to the Committee, Mr Ian Hamm, Executive Director of Aboriginal Affairs Victoria (AAV) at DPCD, explained the types of artefacts typically found in areas of high cultural sensitivity:

You've got an increasing number of skeletal remains because of the extractives industries wanting to use sand ... One of the key things is can we leave those in place? If not, how can we relocate those in a respectful way that leaves them in an area of where they were found, because that's where people were buried, and how can we still provide some access to the natural resource, in this case sand, for those who want to use that?⁵⁴⁵

A CHMP is required in circumstances where there has been no prior significant ground disturbance on the land covered in the licence and where the activity is deemed as 'high impact'. The process for developing a CHMP involves an assessment of the impacts a proposed activity may have on cultural heritage values and recommendations for measures to be taken before, during and after the activity to protect Aboriginal cultural heritage in the area. The cost of preparing a CHMP is paid by proponents.⁵⁴⁶

The CHMP must be approved by the relevant RAP where one exists. Where no RAP exists, the Secretary of DPCD, or in certain circumstances, the Victorian Aboriginal Heritage Council (VAHC), may approve the CHMP. In instances where there is more than one RAP, each has equal powers regarding the CHMP process and outcome for its registered area.

⁵⁴⁴ Department of Planning and Community Development, 'Cultural Heritage Management Plans', viewed 5 January 2012, <<http://www.dpcd.vic.gov.au/>>.

⁵⁴⁵ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 12.

⁵⁴⁶ Department of Planning and Community Development, 'Information sheet: Cultural Heritage Management Plans and planning', viewed 1 March 2012, <<http://www.dpcd.vic.gov.au/>>.

According to Mr Hamm, the CHMP process works towards balancing the protection of cultural heritage and exploration and mining activity:

We are quite committed to preserving it because extractive industries like minerals that is stuff that can't be replaced, you can't remanufacture it, it's like minerals; once it's gone, it's gone. You get one shot at, in our case, protecting it. In the case of minerals you get one shot at using it and really we have to be quite discerning in how we give balance to those two things.⁵⁴⁷

Evidence received by the Committee from the minerals and extractive industries highlighted how the CHMP process can result in significant delays and expenses to project proposals. For example, the CMPA identified in its submission the escalating costs of developing a CHMP. It claimed that costs for a simple 'desktop' cultural heritage study had escalated since the introduction of the AHA from \$4000–\$8000 in 2007 to \$40 000 in 2011. More complex studies are alleged to have escalated from \$120 000 in 2007 to up to \$270 000 in 2011. According to the CMPA, the combination of cost, the length of processing time for a CHMP and the uncertainty regarding outcomes significantly contributes to project risk, providing a disincentive for companies to invest in Victoria.⁵⁴⁸

Conversely, the VAHC stated in its submission that it does not believe the system it administers under the AHA impedes mineral exploration. Rather, it indicated that the AHA provides a clear process that creates certainty for exploration and mining companies through clear decision-making pathways, which allows them to meet their legal obligations in a timely manner. It also indicated that the AHA contains significant concessions that ease the impact of the Act on mineral exploration, such as excluding drilling from the definition of significant ground disturbance.⁵⁴⁹ This claim was supported in the evidence received from Mr Hamm at DPCD who advised the Committee that exploration rarely triggers the need for a CHMP, with only three relating specifically to exploration since the commencement of the Act in 2007.⁵⁵⁰

In response to claims that the CHMP process places a significant burden on the mineral and extractive industries, Mr Hamm indicated that issues around cost and time delays are being examined as part of the Victorian Government's review of the AHA:

One of the issues that has come up ... is the time it takes to develop the plan and the cost, which we're being advised of through the review process ... Do we need to refine the standards for plans more? Do we need to shift it to lower the detail required in plans? Is there an issue around inconsistent pricing throughout the whole heritage assessment industry, particularly given that the registered Aboriginal parties have a regulatory function as a statutory authority, and do we need to look at their pricing in that as well?⁵⁵¹

⁵⁴⁷ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 12.

⁵⁴⁸ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁵⁴⁹ Victorian Aboriginal Heritage Council, *submission*, no. 56, 5 September 2011.

⁵⁵⁰ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 6.

⁵⁵¹ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 6.

Section 193 of the AHA requires the review to be completed by 28 May 2012.⁵⁵² DPCP released a discussion paper on the review in September 2011, which identified the following issues regarding CHMPs:

- cultural heritage management plans — complexity of plans, when a plan is required, and the time and cost involved
- levels of significance applied to certain types of cultural heritage
- the qualifications and experience of cultural heritage advisors, their fees and the quality of their work
- the level of consultation with RAPs, their fees, and timeframes for assessment
- monitoring compliance with cultural heritage management plan recommendations
- when a permit is required and permit decision-making timeframes.⁵⁵³

Although the Committee is not able to comment on the review at the time this report was tabled, it anticipates an outcome that recognises and addresses the costs and inefficiencies of the CHMP process identified in this report.

6.6.3.4 *Native vegetation*

If work under a licence is likely to involve clearance of native vegetation, licensees are required to prepare an assessment of the proposed clearance and an offset management plan in accordance with the *Victorian Native vegetation management: a framework for action* (the Framework). DSE is responsible for administering the Framework.

The Victorian Government established the Framework in 2002 to provide strategic direction for protection, enhancement and revegetation of native vegetation across the state. Its key objective is 'to achieve a reversal, across the entire landscape of the long-term decline in the extent and quality of native vegetation, leading to a net gain'.⁵⁵⁴ Net gain refers to the outcome for native vegetation and habitat where overall gains are greater than overall losses and where individual losses are avoided where possible.⁵⁵⁵

While the Framework is implemented primarily through the planning system, the clearing of native vegetation by the minerals and extractive industries is exempt from this process on the basis that it is subject to an assessment as part of the

⁵⁵² *Aboriginal Heritage Act 2006* (Vic), section 193.

⁵⁵³ Department of Planning and Community Development, 'Discussion paper: review of the *Aboriginal Heritage Act 2006*', viewed 1 March 2012, <<http://www.dpcd.vic.gov.au/>>, p. 16.

⁵⁵⁴ Department of Natural Resources and Environment, *Victoria's native vegetation management: a framework for action — summary*, Victorian Government, Melbourne, 2002, p. 3.

⁵⁵⁵ Department of Natural Resources and Environment, *Victoria's native vegetation management: a framework for action — summary*, Victorian Government, Melbourne, 2002.

MRSDA work plan approval process. In these instances, mineral licensees and EIWA applicants are required to prepare an offset management plan that identifies what is being offset, where it is being offset, how it is being offset and when it will be offset. The purpose of the plan is to document the connection between the native vegetation losses, the net gain requirements, the proposed gains and how they will be maintained on an ongoing basis. Gains must be achieved within 10 years.⁵⁵⁶

Throughout the Inquiry process, various exploration, mining and extractive companies expressed a high level of frustration with the Framework as a consequence of the narrow application of native vegetation offsets and the high cost of purchasing offsetting land. Similarly, the Victorian Competition and Efficiency Commission's (VCEC) report: *A sustainable future for Victoria: Getting environmental regulation right* (2009) estimated that the administration, compliance and delay costs to business arising from the Framework were around \$41 million per year. In particular, VCEC reported that around 60 per cent of the total costs of complying with native vegetation obligations are associated with negotiating and funding offsets. Finding suitable offsets was also reported to be a source of delay for business, imposing further costs.⁵⁵⁷ In its presentation to the Committee, DSE advised of progress that has been made in order to address some of the issues identified in the VCEC report:

I think there has been some progress in that regard ... Where we have been able to focus our attention in a preliminary sense is to deal with the administrative matters that are considered to focus on areas of native vegetation or areas across the State which are low risk — that is, the types of vegetation there are considered in lower categories, or they are in smaller amounts. It is often to deal with local government's ability to, if you like, filter and deal with these large numbers of small, low-risk categories. We have been able to reduce the administrative and time line issues with those by dealing more effectively with local government and not having unnecessary referrals come to DSE. Local government can deal with many more of them in their entirety. That is where we have made the greatest steps most recently.⁵⁵⁸

In her presentation to the Committee, Ms Emma Vogel, the Technical Services Manager from Donald Mineral Sands (DMS) spoke of the difficulties that DMS experienced in its attempt to offset 116 hectares of vegetation, including 13 812 large old trees:

What we have done to date — we have just started the process — is we have driven around the district and found stands of trees and we will then perhaps have to approach those landholders; have to do a title search. We will then have to get the ecologists out and they will go and count the trees and give the trees their type, measure their diameter, give them a ranking of quality — EVC, or the Ecological

⁵⁵⁶ Department of Primary Industries, 'Mineral Resources (Sustainable Development) Act review — stage 2: discussion paper no. 7 — native vegetation', viewed 5 September 2011, <<http://www.dpi.vic.gov.au/>>.

⁵⁵⁷ Victorian Competition & Efficiency Commission, *A sustainable future for Victoria: getting environmental regulation right*, 2009.

⁵⁵⁸ Kylie White, Executive Director, Biodiversity and Ecosystem Services, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 10.

Vegetation Class — then give that area a score. Then we just keep doing that over and over until we have found enough.⁵⁵⁹

As a possible solution, Ms Vogel proposed that access to Crown land be made available for native vegetation offsets. Ms Megan Davison, Executive Director of the Victorian division of the MCA also recommended this, advising that the industry is well placed to preserve native vegetation on Crown land.⁵⁶⁰

6.6.3.5 Water

The MRSDA requires mineral licensees and EIWA applicants to obtain consent from a Water Corporation or CMA if the land covered in the licence or EIWA is owned, managed or controlled by either of these agencies.⁵⁶¹

In circumstances where proposed work under a mineral licence or EIWA requires access to groundwater, proponents must obtain a groundwater licence under the *Water Act 1989*. Under section 51 of the Act, a 'Take and Use' licence is required for all groundwater extraction. The purpose of this licence is to protect the rights of licensees and meet environmental requirements, as well as to ensure water is shared among users. While DSE is responsible for administering the *Water Act 1989*, it delegates responsibility for issuing groundwater licences to Rural Water Corporations.⁵⁶²

Groundwater licences specify the volumes of groundwater that can be pumped and the rate of pumping on an annual basis. The number of licences granted in any given area is limited by the permissible consumptive volume (PCV), and in instances when licences have been allocated to the PCV limit, no new licences can be issued, although they can be traded. The Victorian Government's submission identified the difficulties for exploration and mining project proponents to access groundwater where few licences have been issued because of low volumes of groundwater in an area. On this basis, the opportunity to expand an earth resources industry is more limited when new licences are unavailable and water licence markets are not yet established.⁵⁶³

6.6.4 Rehabilitation plan and bond

Proponents are responsible for rehabilitating any land that is disturbed while undertaking work under mineral licences or EIWAs. Rehabilitation conditions for exploration and retention licensees are contained in the licence. During the work authority application process for PLs, MLs and EIWAs, applicants are required to submit a rehabilitation plan.

Section 79 of the MRSDA requires rehabilitation plans to consider any special characteristics of the land; the surrounding environment; the need to stabilise

⁵⁵⁹ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 11.

⁵⁶⁰ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 5.

⁵⁶¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 44(2). and 77B

⁵⁶² Department of Sustainability and Environment, 'Groundwater licensing and trading in Victoria for earth resource industries: fact sheet', viewed 5 January 2012, <<http://www.water.vic.gov.au/>>.

⁵⁶³ Victorian Government, *submission*, no. 58, 22 October 2011.

the land; the desirability to return agricultural land to its original state; and the potential for any long-term impact on the environment.⁵⁶⁴ Furthermore, section 13(6) of the MRDR and schedule 1(8) of the MRSDEIR require rehabilitation plans to contain the information contained in Table 5.

Table 5: Requirements for mining and extractive rehabilitation plans⁵⁶⁵

Prospecting and mining licenses	Extractive work authorities
<ul style="list-style-type: none"> • concepts for the end utilisation of the site • a proposal for the progressive rehabilitation and stabilisation of extraction areas, road cuttings and waste dumps, including re-vegetation species • proposals for the end rehabilitation of the site, including the final security of the site and removal of plant and equipment. 	<ul style="list-style-type: none"> • concepts for the possible end use of the site • proposals for the progressive rehabilitation to a safe and stable landform of extraction areas including slope batters, road cuttings and dumps • proposals for landscaping to minimise the visual impact of the site • proposals to protect and conserve native vegetation during the production phase of the operation • proposals for the final rehabilitation and vegetation of the site including final security of the site, securing water dams and slimes dams and removal of plant and equipment.

Mineral licensees and EIWA applicants are also required to lodge a rehabilitation bond, which acts as financial security in the form of a bank guarantee. It must be provided prior to work commencing to ensure that rehabilitation can be undertaken if proponents cannot or will not meet their rehabilitation obligations.⁵⁶⁶ The amount of bond payable is estimated using DPI's bond calculator, and it is periodically reviewed (based on risk) and amended to match the current liability of the site. Once mineral licensees or EIWA applicants are deemed to have rehabilitated the land according to the rehabilitation plan or conditions of the licence/EIWA, the bond is returned and proponents are no longer responsible for the land.⁵⁶⁷

A commonly held view in submissions, particularly those from the extractives industry, was that rehabilitation bonds are considered deterrents to investment in mineral and extractive developments in Victoria. The CMPA's submission considered the rehabilitation bond system unjustified and costly, and advised that in the past 20 years, only five operators had bonds 'called in' by the Victorian Government. The CMPA advises that the average rehabilitation bond per EIWA has increased by 67 per cent between 2000 and 2010.⁵⁶⁸ It also claimed that since 2000 rehabilitation bond levels have increased by 217 per cent, a rate above the

⁵⁶⁴ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 79.

⁵⁶⁵ *Mineral Resources Development Regulations 2002* (Vic), section 13(6); *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), schedule 1(8).

⁵⁶⁶ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 80.

⁵⁶⁷ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 82(1).

⁵⁶⁸ Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 32.

rate of inflation (47 per cent), with an aggregate \$515.8 million held in bonds between 2000–2011 (an average of \$46.9 million per annum).⁵⁶⁹

Both the CMPA and Morning Star expressed concern around rehabilitation bond requirements due to their effects on capital costs, access to credit and cash flow, as rehabilitation costs are incurred at the beginning of projects.⁵⁷⁰

Several submissions also suggested that rehabilitation costs for exploration are excessive, as disturbance caused by exploration activities is generally negligible.⁵⁷¹ The MCA's submission stated:

Exploration for minerals using state of the art techniques can be undertaken in ecologically sensitive areas with minimal impact. The impact of any subsequent minerals development would depend on the mining and rehabilitation technologies to be employed and the environmental values in the area.⁵⁷²

Unity Mining expanded on this issue, claiming that stakeholder concerns usually relate to potential mining activities:

The vast majority of exploration activity carried out in Victoria leaves no footprint and is subject to stringent rehabilitation requirements. Therefore, environmental impacts associated with exploration activities are generally negligible or at least temporary. Experience indicates that stakeholder concerns are usually in relation to the potential for a mine to be developed at an exploration site, which may be in conflict with other land uses such as agriculture, residential or environmental values.⁵⁷³

In contrast, Environment Victoria's (EV) submission claimed the current system of rehabilitation bonds for exploration licences does not reflect the true costs of land remediation and rehabilitation, describing bond levels as 'extremely low and inadequate to carry out remediation works'.⁵⁷⁴ EV strongly supported a review of mining and exploration rehabilitation bonds to ensure they accurately reflect rehabilitation costs. Mr Mark Wakeham, Campaigns Director for EV, reiterated this in evidence presented to the Committee:

Rehabilitation bonds appear to us to be wholly inadequate. For instance, the rehabilitation bond on the exploration licence that I showed, EL 4416, which covers 3700 square kilometres, is \$75,000. That is a meaningless amount of money if there are serious issues that need resolution.⁵⁷⁵

Community input to rehabilitation bonds was also an issue raised by stakeholders. In its submission to the Inquiry, MEG provided to the Committee a copy of a submission to DPI's MRSDA stage 1 consultation process by Ms Virginia

⁵⁶⁹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁵⁷⁰ Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 6; Morning Star Gold, *submission*, no. 14, 16 August 2011, p. 4.

⁵⁷¹ John Cahill, *submission*, no. 55, 2 September 2011; Geos Mining, *submission*, no. 15, 17 August 2011, pp. 1–2; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

⁵⁷² Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 33.

⁵⁷³ Unity Mining, *submission*, no. 34, 22 August 2011, p. 7.

⁵⁷⁴ Environment Victoria, *submission*, no. 50, 29 August 2011, p. 4.

⁵⁷⁵ Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 5.

Giles. Ms Giles claimed there was a lack of community consultation during the rehabilitation planning process and stated that landholders, councils and the affect community should have a greater role in setting rehabilitation requirements and approving outcomes on the land concerned. She considered it inappropriate for proponents to be able to leave rehabilitation to the responsibility of the Minister, and suggested in such a case the rehabilitation bond should be forfeited as a fine and the costs of work payable as an addition.⁵⁷⁶

Latrobe City Council also called for a higher level of engagement with local governments during formulation of rehabilitation bonds, giving an example of coal mining in the Latrobe Valley:

The rehabilitation of Latrobe Valley coal mines at the end of their economic life is problematic. The mines are large open cut operations. The very low overburden levels and resultant strip ratios that make them commercially attractive cause major rehabilitation challenges due to the low level of backfill material available from mine operations. Mine rehabilitation is a licence condition between the State Government and the mining company. However, there are implications for Council in the transport of overburden to and from dump sites that may involve trucking or conveyor systems that impact on local transport systems or the community. Council needs to be engaged in the formulation of any mine rehabilitation programs.⁵⁷⁷

As an alternative to the current bond system, the Association of Mining and Exploration Companies (AMEC) recommended that the Victorian Government establish a 'mining rehabilitation fund'. The AMEC claimed it would 'improve early-stage miners [*sic*] cash flow positions and give Victoria a permanent fund to rehabilitate historic, existing and future mine sites, if needed'.⁵⁷⁸ The CMPA suggested a risk-based rehabilitation assessment, stating that a bond should be payable 'when evidence of a risk is shown and this can only occur when the Work Authority commences productive operation'.⁵⁷⁹

Recommendation 15: That the Victorian Government reviews the current rehabilitation bond system in comparison with alternative existing mechanisms, taking into account the end-of-mine-life environmental legacies, whilst honouring obligations for rehabilitation of specific sites.

In South Australia, a rehabilitation fund for the extractive industry is established under the *Mining Act 1971*.⁵⁸⁰ A proportion of the income⁵⁸¹ from extractive royalties is paid into the Extractive Areas Rehabilitation Fund (EARF). Mr Brett Brown, Chief Executive of Southern Quarries and Direct Mix Group, spoke of the benefits of EARF compared to a rehabilitation bond system:

Unlike other jurisdictions around Australia where they have a bond system, we have got a system whereby operators are forced to do progressive rehabilitation throughout the term of their lease, so every seven years, and you must demonstrate

⁵⁷⁶ Virginia Giles, *Submission*, 24 June 2009, Review of the *Mineral Resources (Sustainable Development) Act 1990*: stage 1, Department of Primary Industries, p. 13.

⁵⁷⁷ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 9.

⁵⁷⁸ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 5.

⁵⁷⁹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 6.

⁵⁸⁰ *Mining Act 1971 (SA)*, section 63.

⁵⁸¹ 25¢ per tonne, as per section 63(5) of the *Mining Act 1971*.

that progressive rehabilitation back to PIRSA but we contribute funding to EARF. Funding can be used to rehabilitate that site and that can be used to fund progressive rehabilitation for sites as well ... What that does from my perspective, if you were to have a bond system and someone was to look at starting up a new quarry, the capital costs of starting a new quarry are huge, let alone them trying to go and find a \$1 million bond up-front. I think it removes some of the barriers to entry which creates more competition, which creates lower priced products and more value for the consumers.⁵⁸²

The Committee notes that industry recognises rehabilitation of land as a requirement of mining and extractive projects. According to the AusIMM, Australia is a world leader in mine-site rehabilitation and environmentally-sustainable mining.⁵⁸³ The MCA stated that 'Australian mining companies will be recognised as responsible stewards of the land by delivering long-term balanced economic, social and environmental outcomes'.⁵⁸⁴

The MCA advocates the principle that mining activities should 'minimise disturbance and provide for ongoing progressive rehabilitation directed at achieving an agreed final land use'.⁵⁸⁵ The Committee saw evidence of industry operating under this vision during a site visit to Iluka Resources' mineral sands mine and mineral separation plant. Iluka undertakes progressive rehabilitation according to a program based on the mining schedule, land ownership, method of backfill and plant availability. Rehabilitated land will return to use for sheep grazing and cropping. Pits that were able to be directly backfilled with overburden were targeted early in the schedule. Other pits were used for tailings disposal and are planned for rehabilitation beginning March 2012 as the tailings need to drain and dry out.

Rehabilitation occurring on privately owned land is given priority to enable it to be returned to landowners as soon as possible after mining is completed. Iluka also attempts to undertake rehabilitation to a design that resembles the original landform as much as possible. At the conclusion of the program, Iluka will have rehabilitated over 274 hectares of mining land back to pasture.⁵⁸⁶

Mr Paul Hillyer, Regional Manager, Victoria for Boral Quarries, told the Committee of several former quarries that Boral has successfully rehabilitated:

Quarries are generally progressively rehabilitated as we work through them, and at the end of the extraction period the land can be developed into useful community assets. We have some great examples of this in Sydney, where what was Boral's largest quarry in Australia has since been developed into a housing and industrial development area and some parklands. We have some good examples at our Lysterfield quarry in Victoria, where we have rehabilitated parts of the site to match in

⁵⁸² Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011.

⁵⁸³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 4.

⁵⁸⁴ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 33.

⁵⁸⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 34.

⁵⁸⁶ Steve Wickham, General Manager, Australian Operations, Iluka Resources, *briefing*, Hamilton, 20 October 2011.

with the natural land form. We have a great example of a site at Heatherton, which was an old joint venture sand quarry between Boral and Readymix, which has been turned into Karkarook Park and which is now available for public use.⁵⁸⁷

The Committee is also aware that the current rehabilitation bond process is being examined under stage 2 of the MRSDA review. DPI has released a draft discussion paper which echoes the views of industry stakeholders stated above, with particular emphasis on the capital costs of bonds to exploration and mining projects. Under the stage 2 review, a working group comprised of the MCA, CCAA, the CMPA, Environment Protection Authority (EPA) Victoria, DSE and DPI identified 10 guiding principles that rehabilitation bond models should consider:

- (1) The system should reflect the fact that a rehabilitation failure rate of 100% is unlikely;
- (2) The system should avoid creating moral hazard [i.e. the licensee avoiding discharging rehabilitation obligations without penalty]
- (3) The system should reward past good behaviour;
- (4) The system should also encourage future good behaviour and discourage future bad behaviour;
- (5) The system should be based on risk management principles
- (6) The system should avoid cross subsidies;
- (7) The system should attempt to avoid large and uncertain increases in the amount of financial assurance
- (8) The Government will seek to manage its financial risks to minimise any budgetary impact;
- (9) Any new model should, where possible, not materially increase the administrative burden;
- (10) Financial assurance should be readily converted into cash.

6.6.5 Environmental management plan/program

During the work plan approvals process, mining licensees and EIWA applicants must complete an environmental management plan (ML) or program (EIWA). These define measures to be taken to mitigate effects of the proposal on the environment. The environmental management plan/program (EMP) must contain the information specified in Table 6.

⁵⁸⁷ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, p. 5.

Table 6: Information required in environmental management plans/programs⁵⁸⁸

Mining licences	Extractive industry work authorities
<ul style="list-style-type: none"> • Key environmental issues for the proposal, including details of background data, baseline studies or existing environmental conditions. • Proposals for management of environmental impacts including targets and proposals for mitigation, control or reduction of impacts. • Proposals for waste management including consideration of waste minimisation. • Includes a proposed monitoring program addressing the key environmental issues. • A proposal for reporting outcomes of the plan to the local community. 	<ul style="list-style-type: none"> • Proposals for the disposal of any effluents, groundwater protections and drainage and erosion control. • Proposals for suppression of noise, dust and vibrations from blasting operations. • Proposals for effective monitoring of the operation.

6.6.6 Community engagement plan

The MRSDA requires that mineral licensees and EIWA holders have a duty to consult with the community throughout the period of the development by:

- sharing with the community information about any activities authorised by the mineral licence or EIWA that may affect the community
- giving members of the community a reasonable opportunity to express their views about those activities.⁵⁸⁹

Furthermore, ML and EIWA holders are required to submit a community engagement (CE) plan as part of the work plan approvals process. The minimum requirements of CE plans are outlined in section 13(9) of the MRDR:

- identifies any community likely to be affected by activities authorised by the mineral licence or EIWA
- includes proposals for:
 - o identifying community attitudes and expectations
 - o providing information to the community
 - o receiving feedback from the community
 - o analysing community feedback and considering community concerns or expectations
- includes a proposal for registering, documenting and responding to complaints and other communications from members of the

⁵⁸⁸ *Mineral Resources Development Regulations 2002* (Vic), schedule 13(7); *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), schedule 1(7).

⁵⁸⁹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 39A. and 77K

community in relation to activities authorised by the mineral licence or EIWA.⁵⁹⁰

In 2008, DPI released CE guidelines for mining and mineral exploration in Victoria to assist the resources sector to comply with legislative requirements. The guidelines reflect the Victorian Government's position that community engagement is an important component in the planning and decision-making processes of the resources sector, and that establishing engagement opportunities with the community provides a useful way for exploration and mining companies to achieve and maintain their social licence to operate.⁵⁹¹ In this context, the guidelines also advise of the benefits of developing CE plans in circumstances not required under the MRSDA, such as for exploration work. Such benefits include reducing project risk and enhancing relationships with local communities. The benefits of community engagement to the sector were also reiterated by the Victorian division of the MCA in its presentation to the Committee:

We often refer to our social licence to operate. Obviously the industry requires a regulatory licence to operate, but the social licence can certainly set up a company's future as well. Consultation early and often is the key, and we were instrumental in encouraging the former Government in legislation reform to enshrine that concept of community consultation. The industry has been doing it for quite a long time, and bringing laggards up from various industries can only benefit us all.⁵⁹²

Over the years, the MCA has been particularly proactive in developing booklets and guidance material to assist the sector conduct effective community consultation. In 2006, it released the *Community consultation toolkit: a good practice guide for Victorian explorers and miners*,⁵⁹³ in 2008, it worked with the VFF to develop the *Guide for private landowners regarding exploration and mining on private land*, a booklet for private landowners whose land is of interest to exploration and mining companies.⁵⁹⁴ According to the VFF, the agriculture and mining sectors have worked cooperatively over time to achieve positive outcomes for both sectors. As stated in chapter five, Mr Alex Arbuthnot, a member of the Land Management Committee at the VFF, stated that the VFF has worked in collaboration with the mining industry to achieve 'win-win' outcomes for farmers and miners.⁵⁹⁵

The Department of Primary Industries is currently updating its community engagement strategy, which is scheduled for release in 2012.

⁵⁹⁰ *Mineral Resources Development Regulations 2002* (Vic), section 13(9); *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), schedule 1(10).

⁵⁹¹ Department of Primary Industries, *Community engagement — guidelines for mineral exploration in Victoria*, Victorian Government, Melbourne, 2008.

⁵⁹² Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 4.

⁵⁹³ Minerals Council of Australia, Victorian Division, *Community consultation toolkit: a good practice guide for Victorian explorers and miners*, Ballarat, 2006.

⁵⁹⁴ Minerals Council of Australia, Victorian Division and Victorian Farmers Federation, *Guide for private landowners: exploration and mining on private land*, Melbourne, 2008.

⁵⁹⁵ Alex Arbuthnot, Land Management Committee Member, Victorian Farmers Federation, *transcript of evidence*, 19 September 2011, p. 2.

Issues identified with the current community consultation process required by mineral licensees and EIWA applicants is discussed previously in chapter five.

6.6.7 Planning approval

Another key component of the work plan approval process for mining and extractive activities is obtaining a planning permit under the *Planning and Environment Act 1987* (P&E Act) from the relevant local municipal council. This is not required however, if it is determined that an Environment Effects Statement (EES) must be prepared under the *Environment Effects Act 1978* (see section 6.6.8). Under the MRSDA, a work plan for mining or extractive projects cannot be approved until either a planning permit has been obtained or an EES has been conducted. DPCD is responsible for administering these two Acts.⁵⁹⁶

Under the P&E Act, local government plays a statutory role in land use planning, with local councils responsible for establishing planning schemes for their municipal districts. Local councils' planning schemes must apply the zoning and overlay controls in the Victorian Planning Provisions (VPP) to guide the use and development of land. Under section 42(6) of the MRSDA, planning schemes cannot prohibit mining. A planning permit is not required for proposed exploration activity.

In the Inquiry evidence, extractive groups considered the costs and time required for approval of a planning permit to be excessive. Along with EES processes, the CMPA considered planning permit approval to be a separate step in the EIWA application process in itself. In its report, *An Unsustainable Future*, the CMPA indicated the cost of approvals under a planning permit ranged from \$10 000 to \$1.25 million for extractive proposals in Victoria, and took an average of 8.5 months to receive approval from council. The report also claimed that the cost of planning approvals has increased by 300 per cent (adjusted for inflation) over the past 17 years.⁵⁹⁷ CCAA supported the findings of the report, and called for the process to be reviewed.⁵⁹⁸

6.6.7.1 Statutory endorsement of work plan

As of February 2012, the MRSDA requires work plans or variations to work plans that require a planning permit to receive statutory endorsement by DPI.⁵⁹⁹ The process for statutory endorsement of work plans is outlined in Figure 13 below.

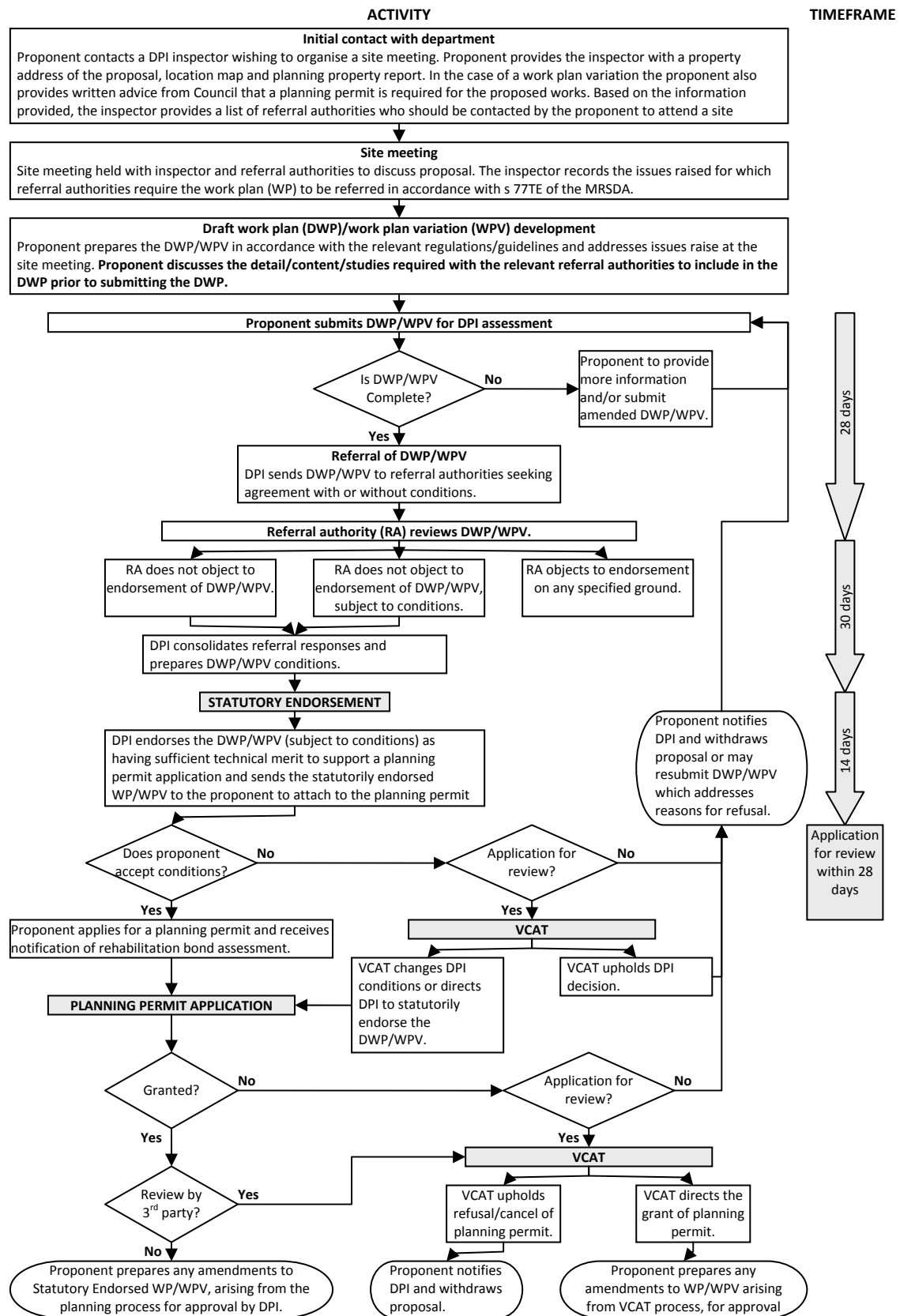
⁵⁹⁶ Department of Primary Industries, 'Mineral Resources (Sustainable Development) Act review — stage 2: discussion paper no. 3 — planning', viewed 5 September 2011, <<http://www.dpi.vic.gov.au/>>.

⁵⁹⁷ Construction Material Processors Association, *An unsustainable future: the prohibitive costs of securing access to construction material resources in Victoria*, Construction Material Processors Association, 2009.

⁵⁹⁸ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011.

⁵⁹⁹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77TC.

Figure 13: Process for statutory endorsement of work plans⁶⁰⁰



⁶⁰⁰ Department of Primary Industries, 'Statutory endorsement flowchart', viewed 28 March 2012, <<http://www.dpi.vic.gov.au/>>.

The provisions of the MRSDA establish DPI as the lead agency for statutory approval and require it to refer work plans or work plan variations to referral authorities for review of any issues. This replaces the statutory referral process under the P&E Act. Referral authorities must respond to DPI with any comments or objections within 30 days, otherwise they are considered to have no objections to the work plan or variation.⁶⁰¹ DPI is required to inform the mineral licensee or EIWA applicant of the decision to endorse or refuse the work plan in writing, along with a statement of reasons as to why the decision was made.

The MRSDA also allows licensees to appeal to VCAT to dispute decisions of DPI to refuse to statutorily endorse work plans or work plan variations, or to impose conditions on the work plan. Applications for review are required to be made after 28 days of the later of the day the decision was made or the day the licensee received the statement of reasons for the decision.⁶⁰²

DPI considered the introduction of a statutory endorsement of work plans was a step towards the lead agency approach that has been strongly advocated by industry.⁶⁰³ The Committee notes, however, the limited application of the statutory endorsement process in practice for mineral licensees and EIWA applicants, as exploration activities do not require a planning permit and mining and larger extractive developments often require an EES rather than a planning permit.

6.6.8 Environment Effects Statement

Under the MRSDA, a proposed mining project is referred to the Minister for Planning for determination about whether an assessment of the potential environmental impacts of a project may be required under the *Environment Effects Act 1978* (EE Act). The process under this Act is not an approval process itself but rather it enables statutory decision-makers to make decisions about whether a project with potentially significant environment effects should proceed. The Minister may decide that an EES is necessary in the following circumstances:

- there is a likelihood of regionally or state significant adverse effects on the environment
- there is a need for integrated assessment of potential environmental effects (including economic and social effects) of a project and relevant alternatives

⁶⁰¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77TF.

⁶⁰² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 77TH.

⁶⁰³ Doug Sceney, Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011.

- normal statutory processes would not provide a sufficiently comprehensive, integrated and transparent assessment.⁶⁰⁴

An EES typically comprises:

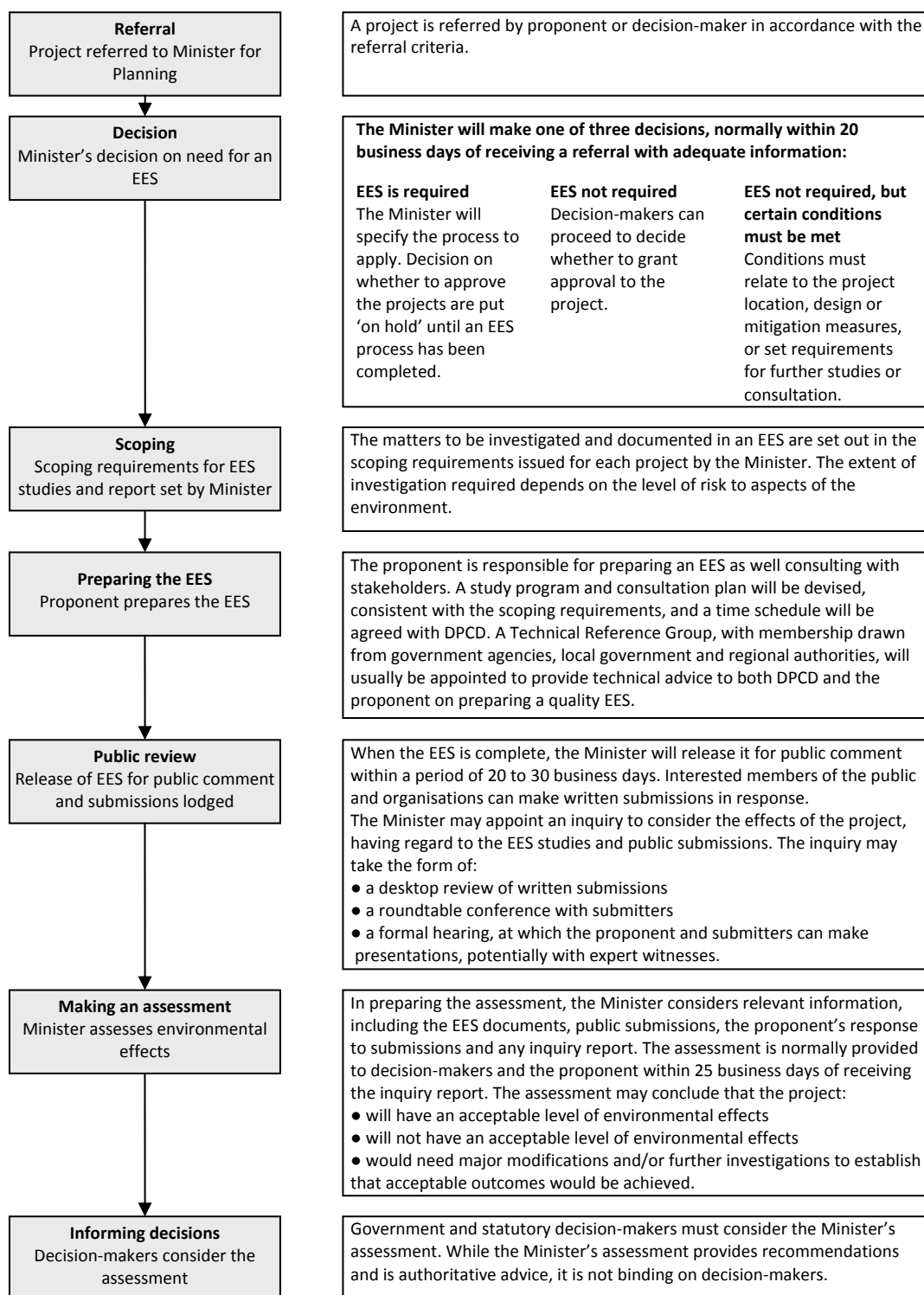
- a description of the proposed development
- an outline of public and stakeholder consultation
- a description of the existing environment that may be affected
- predictions of significant environmental effects of the proposal and relevant alternatives
- proposed measures to avoid, minimise or manage adverse environmental effects
- a proposed program for monitoring and managing environmental effects.⁶⁰⁵

The current EES process is summarised in Figure 14 below.

⁶⁰⁴ Department of Sustainability and Environment, *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978*, Victorian Government, Melbourne, 2006, p. 2.

⁶⁰⁵ Department of Planning and Community Development, 'What is the EES process in Victoria?', viewed 20 February 2012, <<http://www.dpcd.vic.gov.au/>>.

Figure 14: Summary of the Environment Effects Statement process in Victoria⁶⁰⁶



⁶⁰⁶ Department of Planning and Community Development, 'How does the EES process work?', viewed 1 March 2012, <<http://www.dpcd.vic.gov.au/>>.

Evidence from several stakeholders identified a need to reform the EES process, which is discussed in detail in chapter seven.

6.6.8.1 *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*

At the Commonwealth level, mining or extractive work proposals that are deemed to have a significant impact on the environment are required to seek approval from the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities under the *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)* (EPBC Act). Approval is required if the proposed work is likely to have a significant impact on matters of national environmental significance, or the environment in general when the work is proposed on Commonwealth land.⁶⁰⁷

The Australian and Victorian Governments have a bilateral agreement where proposals that require approval under the EPBC Act do not require assessment if the work has been 'assessed in a specified manner'. An ESS satisfies this requirement. Mr Trevor Blake, Chief Environmental Assessment Officer at DPCD explained this process in his presentation to the Committee:

If the project is determined to be controlled action under the EPBC Act and an EES is required, we simply notify the Commonwealth of the use of the accredited EES process, they confirm that and await the outcome, except that we do get Commonwealth officers' input along the way on matters that are relevant to them. Then as with the Victorian decisions at the end of the process, the Commonwealth Minister will consider the Victorian Minister for Planning's assessment prior to making his or her decision under the EPBC Act.⁶⁰⁸

The bilateral agreement was part of the Council of Australian Governments' (COAG) regulatory reform agenda, which aims to lower costs for business and improve competition and productivity.⁶⁰⁹ This is discussed further in chapters seven and eight.

6.7 Final approval of work authority

In order to receive approval for exploration or mining works, mineral licensees are required to submit the following information to DPI:

⁶⁰⁷ Department of Sustainability, Environment, Water, Population and Communities, 'EPBC Act — environment assessment process', viewed 21 July 2011, <<http://www.environment.gov.au/>>; Department of Sustainability, Environment, Water, Population and Communities, *An agreement between the Commonwealth and the State of Victoria relating to environmental impact assessment*, Melbourne, 2009, p. 13.

⁶⁰⁸ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 4.

⁶⁰⁹ Council of Australian Governments, 'Council of Australian Governments meeting — Canberra, 13 April 2012 — Communiqué', viewed 16 April 2012, <<http://www.coag.gov.au/>>.

Table 7: Licensee submissions to DPI for final approval to undertake mineral exploration or mining work

Exploration and retention licences ⁶¹⁰	Prospecting and mining licences ⁶¹¹
<ul style="list-style-type: none"> • approved work plan • rehabilitation bond • evidence of public liability insurance • consents/compensation agreements for land access on private land or restricted Crown land (see sections 6.6.3.1 and 6.6.3.2) • other necessary consents and approvals (see section 6.6.3) 	<ul style="list-style-type: none"> • approved work plan including rehabilitation plan and community engagement plan • rehabilitation bond • evidence of public liability insurance • planning permit or EES • consents/compensation agreements for land access on private land or restricted Crown land (see sections 6.6.3.1 and 6.6.3.2) • other necessary consents and approvals (see section 6.6.3)

In the case of EIWAs, proponents can seek approval for grant of a work authority after DPI has approved the work plan and rehabilitation bond assessment based on the information received (see section 6.6.2). The proponent then completes a work authority application form and submits the rehabilitation bond as required by section 80 of the MRSDA.⁶¹² The Minister can then grant the EIWA and will specify the length of time for which it is valid, along with conditions to be followed by the proponent.

6.8 Compliance with the *Native Title Act 1993* (Cwlth)

Section 5A of the MRSDA requires that any action taken under the Act, including the granting of a mineral licence or EIWA, or undertaking any exploration, mining or quarrying, must be conducted in a way that is not inconsistent with the *Native Title Act 1993* (Cwlth) (NTA). In this context, no action can be undertaken unless the relevant requirements of the Act have been satisfied. According to the NTA, native title may exist in an area where, in accordance with their laws and customs, Indigenous people have maintained their connection with the area, and their native title over the land has not been extinguished by Acts of government.⁶¹³

Under section 233 of the NTA, exploration, mining and extractive activity conducted on Crown land is deemed to be a 'Future Act', which refers to any activity on Crown land that may affect native title rights and interests.⁶¹⁴ Under the MRSDA, DPI is responsible for conducting Future Act assessments to determine what native title requirements must be addressed prior to granting licences. If it is determined that native title applies to an area in question, the Future Act provisions of the NTA must be met before a mineral licence or EIWA in

⁶¹⁰ Department of Primary Industries, 'Exploration licence application kit', viewed 13 March 2012, <<http://www.dpi.vic.gov.au/>>; Department of Primary Industries, 'Retention licence application kit', viewed 23 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁶¹¹ Department of Primary Industries, 'Mining licence application kit', viewed 13 March 2012, <<http://www.dpi.vic.gov.au/>>; Department of Primary Industries, 'Prospecting licence application kit', viewed 23 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁶¹² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 80.

⁶¹³ *Native Title Act 1993* (Cwlth).

⁶¹⁴ *Native Title Act 1993* (Cwlth), section 233.

that area can be granted. This includes the adoption of one of the following three options:

- undertake the Right to Negotiate (RTN) with native title claimants
- reach an agreement by Indigenous Land Use Agreement (ILUA) with native title claimants
- excise all Crown land from the licence application and have it processed in the normal manner.⁶¹⁵

The RTN process allows registered native title claimants to negotiate conditions or an agreement regarding the proposed activity over land where native claim has been registered. The process involves notification, negotiation, and if no agreement can be reached, arbitration. Negotiations resulting from this process may involve addressing issues around cultural heritage protection, environmental matters, compensation, and employment and training opportunities.⁶¹⁶

The second option involves entering into an ILUA, which is a voluntary agreement between native title holders or claimants over a particular area and other people/organisations about the use of the land and waters in the native title claim area. According to DPI, ILUAs are the preferred method of negotiation as 'they are flexible, cater for local or regional needs, offer legal certainty and they are usually quick and convenient alternatives to the negotiation or consultation processes required for the validity of Future Acts'.⁶¹⁷

As of 14 May 2012, there were 593 registered ILUAs in Australia, 40 of which are based in Victoria.⁶¹⁸ The Victorian division of the MCA has negotiated two ILUAs with native title parties that cover specific areas of north-west Victoria, one with the Dja Dja Wurrung people and another with the Wamba Wamba, Barapa Barapa and Wadi Wadi people. The ILUAs outline the licence type to be issued; characteristics of the licence; compensation arrangements; and requirements from both parties in circumstances where impacts on cultural heritage may arise, such as the discovery of artefacts or human remains on the area outlined in the licence. For exploration companies with interest in these areas, they have the opportunity to contract into the ILUA without having to undergo any negotiations.⁶¹⁹ In evidence provided to the Committee, Mr Paul Simmons, a solicitor with Native Title Services Victoria (NTSV) referred to the benefits of the ILUAs:

⁶¹⁵ Department of Primary Industries, 'Mineral tenements and the *Native Title Act 1993*', viewed 1 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁶¹⁶ Department of Primary Industries, *Information regarding the processing of mineral tenements under the Native Title Act 1993*, Victorian Government, Melbourne, 2011, p. 7.

⁶¹⁷ Department of Primary Industries, *Information regarding the processing of mineral tenements under the Native Title Act 1993*, Victorian Government, Melbourne, 2011, p. 10.

⁶¹⁸ National Native Title Tribunal, 'Search the register of Indigenous Land Use Agreements', viewed 14 May 2012, <<http://www.nntt.gov.au/>>.

⁶¹⁹ Minerals Council of Australia, Victorian Division, *Explorer's guide to Victoria's regional exploration ILUAs*, Minerals Council of Australia, Melbourne, 2006.

Essentially, those agreements allow for the streamlining of negotiations. They are not binding. Essentially what they do is they allow an exploration proponent who has a licence including Crown land to look at that agreement with the particular native title group and the Minerals Council and say, 'I am pretty happy with those sorts of benefits. I'll sign a deed of assumption, I'll opt into that'. Then they get their licences granted in a very expeditious way, without doing a one-on-one negotiation. It's not mandatory; it is an OE and opt in process, but we have found that to be taken up fairly readily by the industry.⁶²⁰

6.8.1 Traditional Owner Settlement Act 2010

Another option for resolving native title in Victoria is through the *Traditional Owner Settlement Act 2010* (TOSA), which came into operation in July 2011. The purpose of the Act is to enact the Victorian *Native Title Settlement Framework*, which was jointly developed by the Victorian Traditional Owners Land Justice Group (LJG) and the Victorian Government. The Framework aims to provide a more streamlined approach to settling native title claims, and allows traditional owners to negotiate directly with the Victorian Government rather than pursue claims through the Federal Court.⁶²¹

Under the TOSA, the Victorian Government can enter into recognition and settlement agreements with a traditional owner group regarding an area of public land for specific purposes detailed in the Act, one key purpose being 'land use activity agreements'.⁶²² Part 4 of the Act outlines the various land use activities that can be negotiated in the recognition and settlement agreements, one of which includes an 'earth resource or infrastructure authorisation', which refers to a mineral licence or EIWA granted under the MRSDA.⁶²³ In his presentation to the Committee, Mr David Yarrow, Legal Adviser to the LJG, explained how Part 4 may apply to the minerals and extractives industries:

... there is an arrangement for what is called the land use activity agreement and that land use activity agreement would set out the responsibilities of explorers and producers, the whole mining or petroleum tenements. That kind of agreement-based clarity offers significantly more risk management for industry than the present state of affairs in Victoria, where we have a patchwork of native title claim, native title determination and no activity.⁶²⁴

According to Mr Bryon Powell, a Wadawurrung traditional owner and member of the LJG, the Act reflects an agreement-based approach, which is an important and effective way for the mining industry and traditional land owners to work together:

... for thousands of years we have agreed on certain ways of doing things and to us an agreement-based process for the mining industry and tradition owners, through

⁶²⁰ Paul Simmons, Senior Solicitor; Future Acts Coordinator, Native Title Services Victoria, *transcript of evidence*, 7 November 2011, p. 3.

⁶²¹ Victorian Traditional Owner Land Justice Group, 'Settlement framework', viewed 1 March 2012, <<http://www.landjustice.com.au/>>.

⁶²² *Traditional Owner Settlement Act 2010* (Vic), section 4.

⁶²³ *Traditional Owner Settlement Act 2010* (Vic), section 28.

⁶²⁴ David Yarrow, Legal Advisor, Victorian Traditional Owners Land Justice Group, *transcript of evidence*, 7 November 2011, p. 4.

both native title and the Traditional Owner Settlement Act, is an important aspect. We continue to do it and we see it as the best opportunity for us.⁶²⁵

The Committee strongly supports the use of agreement-based approaches in negotiating land use agreements between native title parties and traditional owners with the resources sector. However, it is also aware of the problems that can arise, and in particular the delays in project approvals, because of uncertainties around the appropriate native title group to negotiate with, or when more than one claimant group exists.⁶²⁶ According to Mr Hamm of AAV, 44 per cent of Victoria is yet to be resolved regarding whom the traditional owners are.⁶²⁷ In this context, he advised the Committee about what the Government is working to achieve under the TOSA regarding resolution of these disputes:

Where we ultimately want to get to is under the work we're doing with the Aboriginal Heritage Council and the Traditional Owners [*sic*] Settlement Act is have all of Victoria covered by the traditional owners with a single interface for each area of land in Victoria so that mining licence proponents, housing developers, whoever it may be, has one entity to deal with for whatever land they're in, and then that entity takes care of who should be consulted with. One of the ways we're doing that is helping the Aboriginal community resolve those competing claims, trying to fine areas of commonality.⁶²⁸

The Committee understands that the Victorian Government is currently working with representatives from the Land Justice Group, NTSV, the Department of Justice (DoJ), AAV and VAHC in the Right People for Country Project. The aims of the projects are to support the resolution of intra- and inter-indigenous disputes over group composition and boundaries in order to pursue native title settlements under the *Native Title Settlement Framework*. The project provides mediation where there are overlaps and implements agreement-making protocols between traditional owner groups.

The Committee also notes that the Victorian Environment and Natural Resources Committee is currently conducting an Inquiry into the establishment and effectiveness of Registered Aboriginal Parties, which is reviewing the process by which RAPs are appointed. The ENRC is required to table its final report in Parliament by 28 September 2012.

6.9 Royalties and charges

Holders of PLs, MLs and EIWAs are required to pay royalties on resources they extract under section 12 of the MRSDA. Mineral royalty rates are prescribed in the MRDR and extractives in the MRSDEIR. The rates differ according to the resource, and are discussed in detail in sections 6.9.1 and 6.9.2.

⁶²⁵ Bryon Powell, Member, Victorian Traditional Owners Land Justice Group, *transcript of evidence*, 7 November 2011, pp. 2–3.

⁶²⁶ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. 11; David Yarrow, Legal Advisor, Victorian Traditional Owners Land Justice Group, *transcript of evidence*, 7 November 2011, p. 6.

⁶²⁷ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 7.

⁶²⁸ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 7.

Evidence received from minerals industry groups indicated a satisfaction with the current minerals royalty system in Victoria.⁶²⁹ The costs associated with royalties were not considered burdensome or a disincentive for incoming explorers or miners.⁶³⁰ However the MCA considered an income-based royalty rather than the current royalty rates a more appropriate reflection of the value of the resources.⁶³¹ In contrast, the extractive industry considered royalties on overburden material as excessive and a disincentive to investment.⁶³²

A number of submissions outlined the benefits of a 'royalty holiday' for new mining projects, whereby royalties are waived during the initial years of the mine. The AMEC favoured a royalty holiday as part of a broader incentives package (including an attractive regulatory regime and co-funded drilling grants) to help exploit the copper/porphyry systems in western Victoria.⁶³³ The MCA advocated a royalty holiday for emerging resource projects due to the technical risks involved around extraction:

In addition, emerging resource industries such as coal seam methane, underground coal gasification, and engineered biogenic methane generation all require large capital outlays and significant technology risk. These too should be encouraged through a similar royalty holiday.⁶³⁴

Lakes Oil's submission supported this view, stating that Victoria should replicate royalty holidays such as those in Western Australia in order to encourage production from high-cost tight gas in Gippsland.⁶³⁵

Several stakeholders also referred to Western Australia's *Royalties for Regions* program, which distributes a percentage of mineral and extractive royalties to the state's regional areas.

Whilst the Committee's terms of reference also required an examination of the fees and charges relating to the resources sector, these were not discussed sufficiently in the Inquiry evidence to comment on.

6.9.1 Mineral royalty rates

Mineral royalty rates in Victoria are specified under section 7 of the MRDR. Royalties are payable at an *ad valorem* rate of 2.75 per cent of the net market value of the mineral, excluding gold and brown coal, which are discussed in

⁶²⁹ Iluka Resources, *submission*, no. 26, 19 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

⁶³⁰ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011.

⁶³¹ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 21.

⁶³² Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 8.

⁶³³ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

⁶³⁴ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 20.

⁶³⁵ Lakes Oil, *submission*, no. 11, 15 August 2011.

sections 6.9.1.1 and 6.9.1.2 respectively. Additionally, tailings disposed of from Crown land have a specific royalty rate of \$1.43 per cubic metre.⁶³⁶

6.9.1.1 Gold royalty rates

There is currently no royalty imposed on gold mined in Victoria. This is unique in Australia, with the Northern Territory (NT) prescribing an income-based royalty and the remaining states at varying *ad valorem* rates. Mr Richard Schodde, Managing Director of MinEx Consulting, supported the exclusion of gold from a royalty, stating that gold producers in Victoria have historically struggled to make a profit:

Victoria's track record for gold production here is actually not that good. Most of the new mines that have started up in the last decade in Victoria have been gold mines. In almost every case they have failed. They really have not had the profitability there. They really struggle as a business, so to lay another layer of tax on top of those would actually kill them even more. They really are struggling. The challenges are how are they going to change that story and how are they going to change and develop new strategies or new mining methods into the future.⁶³⁷

The MCA attributed this to the complex geology of the Victorian goldfields coupled with the high-risk, capital intensive and long-term nature of mining.⁶³⁸ Along with Castlemaine Goldfields and the PMAV, it supported the exemption of gold from a royalty levy.⁶³⁹

6.9.1.2 Brown coal royalty rates

Amendments to the MRSDA by the *Mineral Resources Development (Brown Coal Royalties) Act 2005* implemented a specific royalty rate to be applied to brown coal based on its energy content (gigajoule units). The MRSDA prescribes the following formula for calculation of royalties payable per gigajoule unit:

$$\$0.0588 \times \left(\frac{A}{B}\right)$$

Where:

- A is the consumer price index number for the quarter ending on 30 June immediately preceding the financial year for which the determined amount is being calculated
- B is the consumer price index number for the financial year ending on 30 June 2005.⁶⁴⁰

Victoria is the only jurisdiction in Australia to impose a royalty rate on brown coal based on energy content. The NT prescribes an income-based royalty on brown

⁶³⁶ *Mineral Resources Development Regulations 2002* (Vic), section 7.

⁶³⁷ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, pp. 7–8.

⁶³⁸ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 20.

⁶³⁹ Castlemaine Goldfields, *submission*, no. 53, 30 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁶⁴⁰ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 12A.

coal and the remaining states levy royalties at varying *ad valorem* rates. EV was critical of this system, claiming it to be half the royalty rate imposed on coal mined in NSW and QLD.⁶⁴¹ EV expanded on this in its presentation to the Committee:

The coal royalties for brown coal in Victoria are around half of what they are in New South Wales and Queensland. The argument in the past has always been that black coal can be exported, so it is of a higher value. However, many of these issued exploration licences are to companies that want to export brown coal. We are indeed exporting some brown coal at the moment in the form of briquettes from the HRL factory in Morwell. The companies are getting access to large quantities of coal for very small amounts of money.⁶⁴²

6.9.2 Extractive royalty rates

Extractive royalties are prescribed in the MRSDEIR are payable at a specific rate upon the resource being sold or otherwise removed from the land or, if it is intended for use on the same site, upon extraction.⁶⁴³ As mentioned previously, royalties are only payable for extractive sites on Crown land. The rate is calculated by volume (m³) or weight (tonnes) and is specified in the project's work authority. The value of each rate is as follows:

- marble and dimension stone: \$8.07 per m³ or \$3.23 per tonne
- all other stone: \$1.43 per m³ or 87¢ per tonne.⁶⁴⁴

Other states generally prescribe a specific royalty rate to extractives,⁶⁴⁵ with the value of the rates differing depending on the type and use of the resource. The exception is the NT, which does not impose a royalty on soil, sand, gravel, clay or stone that is suitable for use in construction. Royalties for all other extractives are levied based on income from the sale of the resource. Evidence from industry groups considered royalties on overburden excessive and a disincentive to investment.⁶⁴⁶ Currently, the royalty for overburden is levied at the same rate as extractive resources. CCAA noted that at times royalty charges on overburden exceeded the market value of the resource, and recommended that royalties be waived in this case:

For example, many extractive operations have a high volume of overburden which needs to be removed before access is gained to quality stone and sand resources. In many cases there is not sufficient room for this material to be stored on site and it must be removed or sold off-site. The market value for some of these overburden products is often less than the royalty cost. In essence, the State royalty can be as much as 75% of the sale price of the material. CCAA recommends that overburden

⁶⁴¹ Environment Victoria, *submission*, no. 50, 29 August 2011, p. 5.

⁶⁴² Mark Wakeham, Campaigns Director, Environment Victoria, *transcript of evidence*, 19 September 2011, p. 5.

⁶⁴³ *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), section 17.

⁶⁴⁴ *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2010* (Vic), schedule 3.

⁶⁴⁵ NSW prescribes an *ad valorem* royalty to 'high value to volume' extractives.

⁶⁴⁶ Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011.

products with a market price less than the current royalty rate, should not be subject to a royalty.⁶⁴⁷

According to Mr Brown of Southern Quarries and Direct Mix Group, royalty is not payable on overburden in SA. He considered Victoria's royalty on overburden to be a disincentive to investment:

... if you were setting up a new greenfields site ... often you can have metres of overburden before you actually get down to the source rock, that can be a huge impact on a business having to start up if you had to pay a royalty and you had to set up that product and there is no revenue coming in.⁶⁴⁸

Recommendation 16: That the Victorian Government examines the feasibility of reducing or removing royalty charges on overburden material for extractive developments.

6.10 The Mining Warden

The Mining Warden is a statutory position specified under section 96 of the MRSDA. Mining disputes⁶⁴⁹ can be referred to the Mining Warden, who will then make a recommendation to the Minister concerning the matters.⁶⁵⁰ Additionally, the Minister can refer matters to the Mining Warden for investigation, report and recommendations.⁶⁵¹

The MRSDA specifies the powers given to the Mining Warden:

- (1) In investigating a dispute or other matter referred to him or her, a mining warden has power to do all or any of the following—
 - (a) conduct a hearing;
 - (b) enter and inspect any relevant land;
 - (c) make an order for the inspection, detention, custody or preservation of any relevant minerals, whether or not in the possession, custody or power of a party to the dispute or other matter;
 - (d) make an order restraining a person from removing from Victoria or otherwise dealing with any minerals specified in the order, whether or not that person is domiciled, resident or present within Victoria;
 - (e) require an employee of the Department to produce any record or other document kept by, or in the custody, possession or control of, the Department and give any other information or assistance that the mining warden requests and the employee is able to give.⁶⁵²

⁶⁴⁷ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 8.

⁶⁴⁸ Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011, p. 6.

⁶⁴⁹ Under section 4 of the MRSDA, 'disputes' are matters arising under the Act between licensees/applicants and affected parties of the licence; a member of the public and an employee of DPI; or disputes regarding the existence or boundaries of a licence.

⁶⁵⁰ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 97.

⁶⁵¹ *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 98.

⁶⁵² *Mineral Resources (Sustainable Development) Act 1990* (Vic), section 99.

Industry groups and stakeholders expressed frustration at the current operating state of the Office of the Mining Warden. The AusIMM claimed there was a general respect within the industry for the Mining Warden's office, however, there were concerns over the Victorian Government's overall commitment to the Mining Warden role:

Threats to the existence of the Mining Warden's court are of grave concern in Victoria, and the lack of annual report for the Office for the 2009 and 2010 reporting periods appears to support the lack of Government support for this essential function.⁶⁵³

The Committee also received concerns over the independence of the Mining Warden. Mr Mealing of FCC&PCC, questioned the independence of the role stating 'we've got a legislative structure where the funding of the Office of the Mining Warden comes out of the budget of DPI, so the policing of DPI's work actually gets funded by DPI'.⁶⁵⁴

This was consistent with the Mining Warden review conducted by the State Services Authority in 2009, which found the Mining Warden's proximity to the industry and involvement in regulatory decision-making processes to be problematic.⁶⁵⁵ FCC&PCC, Mount Rommel Mining, and Mr William J Kyte saw erosion of the Mining Warden's independence as part of a wider governance issue concerning delegated powers from the Minister to DPI officers under the MRSDA.⁶⁵⁶

In regard to the future of the Mining Warden, there were calls by stakeholders to reform and strengthen the Office of the Mining Warden.⁶⁵⁷ The PMAV favoured retaining the Mining Warden, as the Warden understands the peculiarities of the industry.⁶⁵⁸ The MCA's submission indicated its support for merging the Mining Warden's office into the Office of the Small Business Commissioner within the Department of Justice.⁶⁵⁹ Mr Chris Fraser, Executive Director of the MCA's Victorian division, outlined the model sought by industry:

⁶⁵³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

⁶⁵⁴ Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011, p. 10.

⁶⁵⁵ State Services Authority, *Review of the Mining Warden*, Victorian Government, Melbourne, 2009.

⁶⁵⁶ William J Kyte, *submission*, no. 6, 27 July 2011; Kevin Mealing, Secretary, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011; Mount Rommel Mining, *submission*, no. 30, 19 August 2011; Jeff Rathjen, President, Flynn Creek Coal & Power Consultative Committee, *transcript of evidence*, 14 December 2011.

⁶⁵⁷ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011.

⁶⁵⁸ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁶⁵⁹ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

We have been working with the VFF, and we have come to the view that if we could introduce this very professional, transparent mediation service, we could alleviate a lot, if not all of those sorts of [miner/landholder] issues. The Small Business Commissioner is set up for small businesses to deal with large corporations ... It fits in nicely with the farmer/miner-type environment. A case setting out the complaint from either party is set out by the Warden, clearly identifying the issues; then the parties come together with an independent, professional mediator. They try to find a solution, and if they find a solution, that solution is documented and is enforceable under law. The parties then go away. If they cannot find a solution and they have a certificate of failed mediation, they can then go to VCAT and the law comes in.⁶⁶⁰

This echoes the recommendations of the Mining Warden review, which proposed that the functions of the Mining Warden be relocated, with the exception of the investigation function, to existing mechanisms. These are summarised in Table 8 below.

Table 8: Re-direction of the Mining Warden's functions under the State Services Authority Review's recommendations⁶⁶¹

Mining Warden's functions	Location of functions under recommendations
Dispute resolution	<ul style="list-style-type: none"> • Small Business Commissioner • VCAT
Administrative Review	<ul style="list-style-type: none"> • DPI internal complaint handling and review • Ombudsman Victoria • VCAT
Regulatory	DPI performs all tasks relating to licensing
Investigation and advice	<ul style="list-style-type: none"> • 'Special Investigator' under MRSDA • Advisory panel under MRSDA

The rationale behind the recommendations was as follows:

The decisive factor in the Review's assessment and recommendations is the low level of mining warden activity over recent years. Long term decline in the number of matters dealt with, despite rising minerals sector expenditure and production, calls into question the rationale for a dedicated, industry-specific body to perform the functions. This is not to say there is no need for dispute resolution or review mechanisms accessible by the mining industry; rather that the demonstrated demand for those services does not justify an exclusive, ongoing jurisdiction.⁶⁶²

At the time this report was tabled, the Government was yet to respond to the recommendations of the Review.⁶⁶³ This further indicates to the Committee that the future direction of the Office of the Mining Warden is in need of clarification.

Recommendation 17: That the Victorian Government develop a clear policy position on the future role of the Mining Warden.

⁶⁶⁰ Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 9.

⁶⁶¹ State Services Authority, *Review of the Mining Warden*, Victorian Government, Melbourne, 2009, p. 44.

⁶⁶² State Services Authority, *Review of the Mining Warden*, Victorian Government, Melbourne, 2009, p. vii.

⁶⁶³ Helen Gair, Customer Service Officer, Customer Service Centre, Department of Sustainability and Environment, *personal communication*, 16 April 2012.

CHAPTER SEVEN:**STREAMLINING VICTORIA'S REGULATORY ENVIRONMENT**

An important theme established from a range of submissions received by the Inquiry was the need for reform to the regulatory environment governing exploration and mining in Victoria. Over half (34) of the 60 submissions to the Inquiry expressed a need for Victoria to undertake substantial regulatory change.⁶⁶⁴

As previously stated in chapter six, the principal piece of legislation regulating Victoria's mineral and extractive resources is the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA). Other legislation incorporated into the broader regulatory framework includes environmental, urban planning, Aboriginal heritage and native title, and occupational health and safety legislation.⁶⁶⁵

Proposals for regulatory reform depended on the value stakeholders placed on exploration and mining activity in Victoria. Most of the 34 submissions recommended reform to the state's regulatory framework to improve the business environment for the resources sector. Others however, called for increased regulation on social and environmental grounds.

⁶⁶⁴ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Australian Uranium Association, *submission*, no. 29, 19 August 2011; Boral Quarries, *submission*, no. 37, 23 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; City of Greater Bendigo, *submission*, no. 23, 19 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Exergen, *submission*, no. 22, 19 August 2011; Friends of the Earth, *submission*, no. 41, 26 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Gippsland Coastal Board, *submission*, no. 43, 26 August 2011; Hg Recoveries, *submission*, no. 10, 15 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Minelab Electronics, *submission*, no. 13, 16 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Moorabool Environment Group, *submission*, no. 47, 26 August 2011; Mordialloc Beaumaris Conservation League, *submission*, no. 5, 25 July 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Mount Rommel Mining, *submission*, no. 30, 19 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Ovens Landcare Network, *submission*, no. 45, 26 August 2011; Prospecting Supplies Australia, *submission*, no. 18, 18 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011; Resource Futures, *submission*, no. 25, 19 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Victorian Competition & Efficiency Commission, *submission*, no. 4, 25 July 2011; Victorian Farmers Federation, *submission*, no. 20, 19 August 2011; Wellington Shire Council, *submission*, no. 42, 26 August 2011.

⁶⁶⁵ Victorian Government, *submission*, no. 58, 22 October 2011, p. 25.

The key issues regarding Victoria's regulatory environment for minerals exploration and mining drawn from the submissions fall into the following broad categories:

- complex regulatory environment and approvals processes
- planning permits
- the Environment Effects Statement process
- native title and cultural heritage
- native vegetation.

These issues, identified as important areas for regulatory reform will be examined in greater depth throughout this chapter.

7.1 Complex regulatory environment for exploration and mining

Many submissions to the Inquiry claimed that the approvals system for mineral exploration, mining and extractives projects in Victoria is over-regulated and convoluted.⁶⁶⁶ Submissions identified various barriers encountered by mining and exploration companies in gaining permits and regulatory approvals across various government departments in order to operate in Victoria.

Evidence on the negative impacts of Victoria's regulatory environment on mineral exploration, mining and extractives was provided to the Committee through both submissions and hearings. This evidence was provided by a range of stakeholders, including peak bodies from the mining and extractives industries and the peak body representing prospectors and small miners.

In outlining what the mining industry saw as the most important issues, Ms Megan Davison, Assistant Director of the Victorian Division of the Minerals Council of Australia (MCA) told the Committee that streamlining regulations and removing the regulatory overlap between levels of government would create the right environment of regulatory certainty and procedural clarity to increase investment in mineral exploration in Victoria:

The regulatory and policy environment are obviously key to any business operating in any jurisdiction. With regard to the mining regulatory environments and policy making, it is considered that there are quite a few obstructive laws, regulations and guidelines and a lot of overlap and duplication both within Victorian Government

⁶⁶⁶ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Hg Recoveries, *submission*, no. 10, 15 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

policy and regulation, but also there are laws here that are duplicative of national laws.⁶⁶⁷

In her evidence to the Committee, Ms Sarah Gafforini of the Australasian Institute of Mining and Metallurgy (AusIMM) outlined the organisation's vision for an ideal regulatory environment for exploration and mining in Victoria based on a streamlined regulatory system. The AusIMM claims that regulatory reform would help to reduce compliance costs and delays in permit approvals for exploration and mining projects in the state:

It is about the Victorian regulatory process and the need to minimise the negative aspects of regulatory restrictions. For us that does not mean no regulations. It simply means removing unnecessary duplication of it. It is similar to what the MCA said before: it is not about removing; it is just about streamlining. As we have already talked about, Victoria is nationally and globally viewed less favourably than any other Australian state or territory, as an exploration destination, and most of that is due to those duplications and silos within departments and their reporting processes.

Our members believe if processes were reviewed and streamlined this would be highly beneficial to explorers in Victoria, and that the current regulatory framework is the major reason other operating costs are skewed towards paperwork and compliance costs other than actual exploration activity and ensuring better success rates.

... It is widely viewed by industry that compliance costs, corporate overheads and delays in permits are taking a proportionately larger slice of exploration investment in Victoria, and economies of scale definitely favour Western Australia and South Australia and will not change without immediate action by the Government.⁶⁶⁸

South Australia's experience of growth in mineral exploration and mining sector investment since 2004 (referred to previously in chapter four) shows the effects of a conscious decision by the South Australian (SA) Government to make their regulatory environment more efficient and effective as part of a package of investment incentives. Mr Jonathan Forbes, Director of Industry Development at the South Australian Chamber of Mines and Energy (SACOME) argued that effective regulation is the best form of promotion for mineral exploration by reducing risk and improving regulatory certainty:

Government believes that effective regulation is the best form of promotion both in terms of instilling confidence in the community that the regulator will accede to projects and risks and providing companies with a clear and consistent regulation. Further, MITRE — you may know MITRE, the Department for Manufacturing, Innovation, Trade, Resources and Energy — is the lead mining approvals regulation agency. They have adopted a performance-based approach, or regulatory approach, and moved away from proscriptive regulation.⁶⁶⁹

⁶⁶⁷ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 3.

⁶⁶⁸ Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011, p. 4.

⁶⁶⁹ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 3.

7.1.1 Victoria's complex regulatory environment

The mining and extractives industry gave extensive written and oral evidence on the complex regulatory environment in Victoria that governs mineral exploration, mining and extractives operations. Much of this evidence was based on the direct experience of working on mineral exploration, mining and extractives projects in Victoria.

Ms Emma Vogel, Technical Services Manager from Donald Mineral Sands (DMS) spoke of the burdens of time, money and people Victoria's regulatory environment places on junior mining companies. She claims the state's regulatory environment act as a disincentive to mineral exploration in the state, while the costs of regulatory compliance diverts the limited cash flow and other resources of a junior miner from exploration to compliance:

The major issues: some broad headings on specific problems: small cap exploration companies, which the majority of people in Victoria would be classified as, will have difficulty raising money for approvals. I'm sure most people have shares in the room. If I come to you and say, 'I would like you to give me a dollar to go and find some gold and I'm going to spend over half of it doing surveys', it's not quite as exciting as, 'I am going to spend my dollar looking for gold'. To raise \$3 million for an EES that might be get knocked back, you have to find your resource perhaps and then do that and then to have it knocked back, could be the end of the company. We were in the position where we did have enough money to do ours earlier.

Understanding and negotiating approvals processes just takes significant manpower and resources, and we can't stress that enough. Given that these companies are small, they may have three or four employees working on it and you are probably looking at maybe one and a half, if not two of those, just working on approvals. Coupled with that is the widespread expertise that you require to go through the approvals process, so you're looking at botanists, ecologists, archaeologists, groundwater experts, surface water experts, dust experts, noise experts and obviously if you are not a multinational, you don't have those at your disposal and so the money you then have to spend on consultants and to manage those consultants is burdensome.⁶⁷⁰

A view from the prospecting and small mining area of the resources sector was provided by Ms Rita Bentley, President of the Prospectors and Miners Association of Victoria (PMAV). She argued her organisation's members are effectively small business operators engaged in a sector of the economy that she claims is among the most highly regulated:

Basically people who operate small mines are wanting to start a small business. I think it is often overlooked that the mining industry is so regulated. I do not know of another industry that has to jump through so many hoops to get into business and to continue in business as the mining industry does, through no justification. The environmental record of miners now is world class; there is nothing wrong with what miners do environmentally, and yet it is so hard to get on the ground that people, in Victoria particularly, and in Australia generally, go overseas. We have a world-class goldfield here. It should be buzzing with mines, and it is simply not. It is the over-bureaucratic approach and being answerable to everybody twice that has just made it impossible; people throw up their hands and walk away. Small miners, particularly, are finding it very difficult. Larger operations will have office staff who

⁶⁷⁰ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 6.

can do the paperwork and jump through the hoops, but even they are struggling to comply with the requirements.⁶⁷¹

A perspective from the extractives industry on Victoria's regulatory complexity was provided by Mr Brian Hauser and Mr Rod Buckley of the Cement, Concrete and Aggregates Australia (CCAA). Their evidence spoke of the regulatory approvals process for extractives projects as a disincentive for investment in Victoria, particularly for international companies investing in Australia:

Mr HAUSER — ... It is something we are very keen on: making sure that we have a balanced level of regulation and that it is well applied. I suppose we are arguing that the situation at the moment is one of length and complexity of process.

Mr BUCKLEY — It is the approvals process.

Mr HAUSER — It is particularly the approvals process. If you are looking at greenfields and at prospectivity and attracting new business into Victoria, you would have to say that this is not the place to be doing business. Certainly global companies, for example, Hanson and Holcim, are based in Germany and are looking at capital around the world. They will make a decision as to where that capital will be invested, and Victoria is not top of their list at the moment, which in the end imposes a cost burden on Victorians.⁶⁷²

Evidence from Mr Paul Hillyer, Regional Manager, Victoria of Boral Quarries spoke of the volume and repetitive nature of regulations required to develop new or existing extractives operations as a real cost of doing business. Mr Hillyer's evidence was based on Boral's experience attempting to extend existing sites and develop new extractive sites in Victoria:

On that point if I can talk a little bit about the cost of regulation and doing business in Victoria. Our experience here in recent years has been that regulation, particularly when it comes to planning decisions, completion of work authorities, work authority applications, planning permits, EES documentation and works approval applications, is lengthy, expensive and time consuming, and often in cases very repetitious.⁶⁷³

Ultimately, the MCA believes that one of the most important ways the Victorian Government can support increased investment in mineral exploration and mining is through regulatory reform that provides clear and fair regulations for the industry that supports, rather than impedes new projects:

Everyone says this, and I guess I will say it too: there is no question that we need a rule book and we need a clear requirement for that and for proper project planning. But if we get caught in the tangle of intergovernmental departments with three different departments all arguing the toss, and in particular poorly resourced ones that may not understand and do not want to make a decision and put their necks out,

⁶⁷¹ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, pp. 2–3.

⁶⁷² Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 7.

⁶⁷³ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, p. 2.

many months can go past. We would lose that opportunity then. Victoria does have a poor reputation in the minerals game.⁶⁷⁴

As mentioned previously in chapter six of this report, the Victorian Government is undertaking a review of the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA). The review is a two-stage process, with stage one commencing in 2009 with the stage one reforms implemented in February 2012.⁶⁷⁵ Stage two of the review process was still under consideration by the Victorian Government at the time this report was written.

In giving evidence to the Committee during its investigations, Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group at the Department of Primary Industries (DPI) provided a short summary of Victoria's regulatory environment and its complexity:

Without wanting to get lost in this, and I certainly won't, this is a quick summary of Victoria's regulatory framework. You can see that there are 15 legislative frameworks in addition to regulatory instruments having impact on mining approvals. It is a mature jurisdiction with a mature legislative framework looking at balancing the rights of everyone in mining and also in land use across the board. There are certainly opportunities for reform to remove red tape. Any mature environment having this, should I say, number of inputs there's always going to be the opportunity to do something there.⁶⁷⁶

Dr Hollitt then provided a summary of the MRSDA and an overview of the reform process. He also outlined the key outcome of the stage one review and outlined the policy direction for the stage two review:

There is a reform agenda in relation to the MRSDA review and there are actually two main aspects of that. There was a phase one of the review that resulted in the MRSDA Amendment Act 2010, and this focused primarily on the modernisation of licensing to aligning with industry practices, so we added a whole new type of licence: a retention licence that gives people security providing they're meeting their obligations to develop. This made up for a hole which was that people would have to stand on an exploration licence in which they perhaps were not doing exploration, or stand on their mining licence in which they were not doing mining, in order do to the evaluation stage of that pipeline I was talking about before, so we've managed to fix that. Phase two is targeting a further set of amendments in 2012 to streamline the approvals processes, improve the planning process and address inefficiencies. That works in progress. The policy position for that hasn't been finalised yet, it's in late stage development and the target is the end of 2012 ...

Phase two: some of the important areas of discussion that we're looking at ... are a lead agency approach with a whole-of-government advocacy and navigation; work plan requirements ... and work approvals processes across government ... Planning matters and resource stewardship: how can we be sure that in future there's the right balance between access to land for mining purposes and the need to provide for access in other areas? Rehabilitation bonds ... and low impact exploration, just

⁶⁷⁴ Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 7.

⁶⁷⁵ Department of Primary Industries, 'Review of the *Mineral Resources (Sustainable Development) Act 1990: Stage 1*', viewed 26 April 2012.

⁶⁷⁶ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 10.

making sure that that's well understood as having low impact and therefore needing fewer controls than would potentially be there if it was under a more high activity area.⁶⁷⁷

Dr Hollitt gave evidence regarding gaps in Victoria's regulatory system that had been identified as part of the review process. In particular, the ability to enter Victoria's regulatory system at multiple points and the need for a clear 'road map' of Victoria's regulatory processes for potential investment in exploration:

The big gaps at the moment that we've seen are that if you were, for example, a Canadian explorer thinking about coming to Victoria for the first time, the big gap that's sitting out there is understanding our systems and how to come into Victoria in a sensible and timely way given the legislative framework that I showed you before, the regulatory framework that I showed you before. You can see that there are multiple entry points, there are multiple things to be taken into account, and by yourself you don't get much of a feel for how to go about even providing that. One of the things that we want to do with the lead agency is to make it perfectly clear for somebody who comes in in that way that here's how all of government works, and that's a good role for that in relation to mining because there's no other part of the Government that would do that work.⁶⁷⁸

7.1.1.1 *Other Australian jurisdictions*

The complexity of the regulatory environment for mineral exploration and mining is not a wholly Victorian issue. Complex regulatory environments are found across all Australian states and territories. Evidence provided by mining industry witnesses to the Inquiry, particularly those with experience working on mineral exploration and mining projects in other Australian states and territories spoke of the issues encountered in operating in and across jurisdictions.

Ms Vogel of DMS gave anecdotal evidence that the regulatory burden does not differ greatly across Australian jurisdictions. In her evidence, she made reference to the Australian Government's Policy Transition Group's report⁶⁷⁹ into mineral and petroleum exploration regarding the amount of each exploration dollar spent on regulatory compliance:

Ms VOGEL — Regulatory burden: there are current estimates, and this comes from a report that is available on the web, that up to 60¢ of every exploration dollar is spent on regulatory requirements, and when you have a scarcity of funds ... for exploration, it can be very difficult to raise funding from the market for exploration.

Mr NOONAN — Is that a national figure?

⁶⁷⁷ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 11.

⁶⁷⁸ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 19.

⁶⁷⁹ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010, p. 17.

Ms VOGEL — That is a national figure, yes. That is obviously a lot, that is 60¢ that is not being spent on drilling processing and design.⁶⁸⁰

Based on anecdotal evidence from within the resource sector, Ms Vogel claims levels of regulation are similar across Australian jurisdictions. However, Victoria's point of differentiation is the cost of working across multiple government departments responsible for regulating the sector:

I'm hearing from other people, and this is just hearsay, that Victoria, with the exception perhaps of native vegetation — and there are some specific issues with the new cultural heritage legislation, it's not that different state to state. The nuances are different and you can go into a state and it's a completely different process, but your regulatory burden from state to state is not that different, people are coming across the same issues in each state. They may be a little amplified here because of the population and the land size. So whereas in Western Australia you have one landholder to deal with, here you may have 30 and that is perhaps what amplifies it.

One big difference is the multi-departmental liaison you have in Victoria. I understand there are reasons for that. For example, if you hop over the border, which we are very close to, you just deal with the South Australian Department of Mines. In Victoria, you deal with everyone.⁶⁸¹

Mr Antonio Belperio, Exploration Director of Minotaur Exploration, told the Committee of his company's previous exploration activity in Victoria in the previous decade and his reluctance to go to Victoria based on past experience with the regulatory environment:

Mr BELPERIO — Regulatory environment, though, we do not think that has improved since our experience in 1999 to 2002. Just in the last year what we have had to deal with is probably not much different. Back then our experience was that we were allocated case managers — I am just thinking from memory — in the Department. Those case managers, however, were not geologists, they were basic clerks, so they did not understand what we were doing and they just resorted to basically notifying every time they had a very slight infringement like you were a day late in sending in your financial report or we had not said exactly, we had not done exactly what we said we were going to do.

The CHAIR — Working against you more than for you.

Mr BELPERIO — Yes. It was very off-putting. They were basically as policeman to whack you around the head rather than someone there to encourage and assist.⁶⁸²

Mr Belperio's evidence also told of how for exploration companies weigh the relative values of Victoria's regulatory environment against the state's perceived mineral prospectivity when making decisions around investing in mineral exploration:

Mr BELPERIO — Then the last of those three I have got is the regulatory and land access environment that we have to work under and that has got a significant impact

⁶⁸⁰ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 3.

⁶⁸¹ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 4.

⁶⁸² Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, p. 6.

on — it is not the major decision, but it is certainly an important decision and Victoria has actually scored quite poorly in the past. That is why we have always been hesitant to go there.

The CHAIR — And that was the reason?

Mr BELPERIO — Yes. The geological argument is now starting to outweigh that, so we say, 'Okay, let's grit our teeth and go in'.⁶⁸³

Mr Tim Goldsmith, Global Leader, Mining of PricewaterhouseCoopers (PwC) gave evidence on the lack of a unified national regulatory environment for the resources sector. Effectively, this means that many companies with a range of mineral exploration and mining projects in Australia cannot operate smoothly across borders:

I remember a conversation I had with a CEO of a major North American miner who does not have much in Australia — you can probably narrow that down as to who that would be. He had stated to me that they had sent someone to South Australia. They spent two years in South Australia and thought it was very good. The State had done a lot of good work, and it tried to encourage exploration and obviously development in due course.

They liked it a lot. Then they decided that they should also have a good look at Western Australia and went across there. It was like moving to a different country in terms of how you went around regulations and how you went about doing business, which was something that surprised them dramatically.

The ACTING CHAIR — So WA was more difficult?

Mr GOLDSMITH — No, I would not say that necessarily. It was different. What they learnt in South Australia did not automatically hold them in good stead in going to Western Australia. They had to relearn. The state borders were seen almost like country borders in that regard.⁶⁸⁴

7.1.2 Overlapping regulations and levels of government

Another contributing factor to the complexity of Victoria's regulatory environment is the regulatory overlap between Victorian Government agencies. An additional layer of complexity is added by the overlay of the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on top of state and territory environmental legislation.

The MCA identified the volume of legislation and regulatory overlap between agencies and levels of government is an issue that seriously impacts on mineral exploration in Victoria. Ms Megan Davison and Mr Andrew Mattiske gave evidence to the Committee that while the goals of the regulatory system were sound and reasonable, the duplication of reporting requirements and formats was an issue for the industry in complying with its duties under the regulations:

Mr MATTISKE — It is the machinery, the volume. Certainly the Federal Government's EPBC Act is almost exactly duplicated by DSE's requirements for

⁶⁸³ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, pp. 4–5.

⁶⁸⁴ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 3.

native vegetation offsets. In some instances we are able to satisfy both obligations by implementing one measure, but again it is reporting to both the state regulator and the federal regulator; it should be regulated as one.

Ms DAVISON — ... If you have a condition to monitor dust, you will be monitoring dust under three separate pieces of legislation and providing that information to those agencies in different forms at different times. But it is the same piece of information. The same would occur for noise. The same would occur for — —

Mr MATTISKE — Greenhouse gases.

Ms DAVISON — For greenhouse gases. There will probably be four or five different forms and times and methodology for the same piece of information. For water you would be providing that information to three or four different agencies and some catchment authorities as the statutory authorities as well. They overlap. But also there are a number of conditions that are placed on the development of a project that you still have to continue to monitor when you are operating even if those issues no longer exist. So the conditions do not have a fixed period on them either. If you are required to monitor noise to be under a certain level, after five years the noise never reaches the level so why are you still then required to monitor it weekly? It could go back to monthly — —⁶⁸⁵

Lack of regulatory certainty and increased project risk caused by the overlapping legislation and regulations between tiers of government are also an issue for the extractives industry. Mr David Pallot and Mr Roger Buckley of CCAA both spoke of the impacts of regulatory overlap had on the extractives industry and the need to harmonise regulatory compliance across all tiers of government in Australia:

Mr PALLOT — There are a number of projects that are out there where there is no certainty, work authorities have been granted and Planning Permits may have been granted, so the investors have an expectation of a return within a time frame. The EPBC Act then comes into play in terms of offsets, and there is a supply-and-demand issue. Then there is a cost and uncertainty as to a timeline. That is a massive impact.

...

Mr BUCKLEY — ... there needs to be harmonisation in that, and the one set of documents and one set of approvals dealing with all three layers of government. You have got local, State as well as Commonwealth requirements, and when it comes to biodiversity and native vegetation, people get trapped between those three layers of government. Some degree of harmonisation is needed.⁶⁸⁶

⁶⁸⁵ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Andrew Mattiske, Chair, Environment and Communities Working Group, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 11.

⁶⁸⁶ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 9; David Pallot, Chairman, Victorian State Committee, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 9.

As part of a broader program of reforms to national environmental legislation, the Australian Government announced its response to the independent review of the EPBC Act (the Hawke review) in August 2011.⁶⁸⁷

As an extension of the national reform program, the Council of Australian Governments (COAG) agreed on the need for major reform of environmental regulation across all levels of government to reduce regulatory burden and duplication for business and to deliver better environmental outcomes. On 13 April 2012, the first ministers reaffirmed COAG's commitment to high environmental standards, while reducing duplication and double-handling of assessment and approval processes.⁶⁸⁸ The COAG reform processes are discussed further in chapter eight.

7.1.3 Lengthy approval times

The Inquiry received evidence from the resourcesector criticising the lengthy timeframes of the application process for exploration and mining licences in Victoria.⁶⁸⁹ Specific mention was made of the referrals process between DPI and other Victorian Government departments such as the Department of Sustainability and Environment (DSE), WorkCover, Environment Protection Authority (EPA) Victoria, Department of Planning and Community Development (DPCD), other Victorian Government authorities and local councils.

From the viewpoint of a mining company engaged in mineral exploration in Victoria, Unity Mining's submission discussed its recent (2010) experience in gaining approval for an exploratory drilling program in Central Victoria. It stated that individual approvals and consents were required from at least five key parties (DPI, DSE, the Registered Aboriginal Party, Parks Victoria and local councils), with each of these stakeholders requiring:

... separate applications, consultation and follow up in order to authorise the commencement of work and each authority typically issues applicants with a unique set of conditions under which consents/approval is provided.⁶⁹⁰

At a project development level, Independence Group's (IGO) submission compared the time taken to bring mining projects of a similar scale from evaluation into production in Western Australia (approximately three years) and Victoria (approximately six years). It claimed two and a half years of IGO's projected six-year development timeline for its Victorian gold mining operation was spent seeking regulatory approvals.⁶⁹¹ IGO stated significant costs (\$2 million a year directly plus foregone cash flow) accrue for each additional year taken to

⁶⁸⁷ Department of Sustainability, Environment, Water, Population and Communities, 'Reform of the EPBC Act', viewed 10 April 2012, <<http://www.environment.gov.au/>>.

⁶⁸⁸ Department of Sustainability, Environment, Water, Population and Communities, 'Reform of the EPBC Act', viewed 10 April 2012, <<http://www.environment.gov.au/>>.

⁶⁸⁹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Victorian Competition & Efficiency Commission, *submission*, no. 4, 25 July 2011.

⁶⁹⁰ Unity Mining, *submission*, no. 34, 22 August 2011.

⁶⁹¹ Independence Group, *submission*, no. 39, 24 August 2011, p. 21.

negotiate the approvals process in Victoria. This cost occurs while the operation has limited or negative cash flow.⁶⁹²

Mr Rod Jacobs, Development Manager for IGO gave further evidence of the financial impact on the company of lengthy approval processes and the uncertain outcomes they engender and the effect this can have on investment decisions:

Any delays there have a dramatic effect on our discounted cash flow. When you have worked out, 'I have this project, and it's going to run for eight years', and you start discounting it out, the years at the end get discounted very heavily, and they do not contribute much to the net present value of the project. The more you delay it and the more you are pushing out into the never-never the harder it is to make your project look financially attractive and to put it on the table to the board, who have other choices, and convince them that they should be going with this one.⁶⁹³

IGO's submission argues that ultimately, there is no evidence to suggest Victoria's current regulatory approval process delivers better social, economic or environmental outcomes:

In fact, the opposite can be argued; the extra time required to navigate the bureaucratic processes only results in increased project compromise to focus groups ... and increased desperation from an exasperated proponent to pragmatically salvage some return on the investment and get operating.⁶⁹⁴

Ms Alison Currie, Principal Exploration Geologist at Iluka Resources, gave evidence of the real impact delays by DPI in processing the company's application for exploration licences adjacent to its existing mine site at Douglas in western Victoria had on Iluka's investment decisions:

We usually don't have much of an issue with getting tenements approved; however we've had one issue that has caused us some problems and they are when we have tenements that are subject to advertising under section 29 of the Native Title Act. That requires that the application is advertised for a four month period. In August 2008 Iluka applied for two exploration licences adjacent to the Douglas mining licence. The DPI took until April 2009, a period of seven months, to begin the four month advertising period for the tenements. The time taken to process the application meant that any deposits that we may have identified could not be developed before the mining operations would have ceased at Douglas. The tenement applications were withdrawn before any on-ground exploration was undertaken.

...

If we had have found something we wouldn't have been able to get all our permits approved quick enough before Douglas, which ceases in April next year; it was just too short a timeline.⁶⁹⁵

In its submission, Orion Gold referred to the heavily regulated access to its exploration tenements in state forest areas on Crown land. The company claims a

⁶⁹² Independence Group, *submission*, no. 39, 24 August 2011, p. 21.

⁶⁹³ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 5.

⁶⁹⁴ Independence Group, *submission*, no. 39, 24 August 2011.

⁶⁹⁵ Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 3.

work plan for two relatively low-impact drill pads in a historic reserve took five months to be approved by DPI, including referral to another agency (the Department of Sustainability and Environment) and Ministerial approval. Orion claim Victoria's approval processes severely constrains its exploration program when all other factors are taken into account, including loss of access to their exploration tenements for seven months of the year from seasonal road closures.⁶⁹⁶

Of particular concern to the peak bodies representing exploration and mining companies was the diminishing economic viability of projects as approval times increased. The MCA's submission stated, for example, that project finance often depends on successful negotiation of regulatory approvals processes and that ultimately the ability to raise capital to finance exploration and project development 'determines whether or not a mine is developed'.⁶⁹⁷

Mr Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania of the Association of Mineral Exploration Companies (AMEC) gave evidence that streamlining and reducing regulatory approval times would increase certainty and reduce risk for explorers. He claimed this was particularly important at the later stages of exploration and the transition from exploration to mining operations:

We are talking more about what is being done in South Australia ... It is 12 months for development approval to go from late-stage exploring with a feasibility study through to actually upgrading. In New South Wales at the moment it is taking two years. Disaster! It is awful. If you can get Victoria to a stage where you have a case officer who walks a late-stage explorer or junior producer through 12 months, that is a huge selling point to the exploration sector.

...

It is about timing. If you are ordering plant and equipment, often it comes from China or the States. You have debt covenants. You have to get approvals or your debt falls away. Commodity prices can go from \$50 an ounce to \$39 an ounce, as silver did recently, in the blink of an eye. It is all tied to stages. If you know that you have a 12-month period and a case officer is going to walk you through, you can go to bankers, investors and material suppliers with confidence.⁶⁹⁸

From a South Australian perspective, Mr Forbes of SACOME gave evidence of the support given at the highest levels of the SA Government to reduce approval timeframes for exploration and mining development, particularly moving late stage explorers into production:

The total budget for PACE was 22 and a half million which included, out of that funding, about 10 million dollars for 168 drilling projects. In 2010 the State Government announced a \$10.2 million expansion of the PACE initiative aimed at advancing resource exploration and mining developments in the state, and I will quote the Premier:

⁶⁹⁶ Orion Gold, *submission*, no. 35, 22 August 2011.

⁶⁹⁷ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

⁶⁹⁸ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 5.

'Our plan to expand PACE isn't just about opening more areas of the state to drilling. We want to expand our PACE scheme to help mining companies get from exploration to mine development in record time. We are planning on help companies that want to develop the mine, to have their applications processed within six months.'

That is a really good target. We applaud that and generally — I have got a number of examples here — for major mine approvals, Olympic Dam aside, they do stick to their six to seven-month timeframe which is pretty good.⁶⁹⁹

Recommendation 18: That the Victorian Government establishes statutory timeframes under the *Mineral Resources (Sustainable Development) Act 1990*. These timeframes must be binding upon the Department of Primary Industries and its referral agencies, incorporated into annual reporting requirements and be equivalent to Australian best practice.

In line with recommendations made by the Victorian Competition and Efficiency Commission (VCEC) in its 2005 and 2009 reports,⁷⁰⁰ the Committee finds that there is a clear need for statutory processing timeframes for exploration, mining and extractives approvals processes. To this end, it is recommended that DPI and other Victorian Government agencies involved in providing approvals should be subject to statutory timeframes and with publicly available performance monitoring of agencies' ability to meet these timeframes. The statutory timeframe and performance monitoring framework should also apply to interagency referrals. The framework and its performance standards should also be incorporated into DPI and other agencies' annual reporting requirements.

At a minimum, this framework should manage and monitor (but not solely be limited to) exploration, mining and extractive work plan applications and exploration, retention, prospecting and mining licence applications. The Committee believes the introduction of this framework would greatly assist in providing greater regulatory and procedural certainty for mineral and extractive exploration and project development in Victoria.

7.1.3.1 Inter-agency referrals

Contributing to the lengthy timeframes found in Victoria's regulatory framework is the requirement for inter-agency referrals between DPI and other Victorian Government departments. This is a particular issue for exploration; mining and extractive work plans applications. As with the issue of approval times, the subject of inter-agency referrals was raised in a number of submissions to the Inquiry.⁷⁰¹ The most common referral under the MRSDA is under section 44

⁶⁹⁹ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 5.

⁷⁰⁰ Victorian Competition & Efficiency Commission, *Regulation and regional Victoria: challenges and opportunities*, 2005; Victorian Competition & Efficiency Commission, *A sustainable future for Victoria: getting environmental regulation right*, 2009.

⁷⁰¹ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Iluka Resources, *submission*, no. 26, 19 August 2011; Independence Group, *submission*, no. 39, 24 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Unity Mining, *submission*, no. 34, 22

where a licence holder must seek consent to operate on Restricted Crown land, land owned by a water authority under the *Water Act 1989* or on land containing a public roadway.

Some view the issue of inter-agency referrals as an historical issue, stemming from the dilution of power of the former Victorian 'Department of Mines' through various reorganisations over time. This dilution of the powers of a 'Department of Mines', is claimed to have taken place both within DPI and externally, from other departments of the Victorian Government.

A historical context of this dilution was offered in evidence from Mr Noel Laidlaw, a consultant mining engineer who appeared on behalf of the Prospectors and Miners Association of Victoria (PMAV):

I think the 1980s saw a major swing away from the mines department, as it was known, to a whole series of different departments taking, effectively, some of their legislative jurisdiction. Classically that would be planning, environmental and in more recent years the OH&S. In 1979 when I was involved first with the industry the Mines Department was the one-stop-shop if you like. They basically issued all the permits for using explosives, the permits for driving machinery, the permits for occupying the land. Now that is spread across probably 10 different agencies at least, major agencies, and there are probably more if you care to dig a bit deeper. That is part of the problem.⁷⁰²

Morning Star Gold (MCO) in their submission also made reference to the transfer of power over time from a single department administering mining in Victoria. It claims this had led to the current regulatory environment where multiple agencies and legislation now have some impact on the operation of the resource sector in the state:

Over the past thirty years, there has been a major shift away from the overall industry focused position of the 'Mines Department' to the very narrow role played by the Department of Primary Industry ('DPIV'), which is the agency administering the MR(SD)A today.

Many other agencies in areas such as planning, land administration, water, occupational health and safety to name just a few have taken power and statutory responsibility from what was the old Mines Department. They have added additional layers of regulation to the process.

The result of this shift of power has been a multitude of enactments which the mining and exploration industry has been required to comply with. There are well over fifty Acts which may have a direct bearing on any mining or exploration activity in Victoria. This regulatory framework is confusing, cumbersome and in some cases contradictory. It imposes a heavy burden of companies and individuals which wish to operate in Victoria and we believe a primary cause of companies like MCO choosing to operate in other states or territories or indeed countries.⁷⁰³

August 2011; Victorian Competition & Efficiency Commission, *submission*, no. 4, 25 July 2011.

⁷⁰² Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 4.

⁷⁰³ Morning Star Gold, *submission*, no. 14, 16 August 2011, pp. 2–3.

The most recent transfer of powers took place in 2008, when the regulation of health and safety in the mineral exploration, mining and extractives industries was transferred from DPI to WorkSafe Victoria.⁷⁰⁴

There is also a perception in the resources sector that the earth resources division of DPI has been 'captured' by the agricultural and other divisions of the department. When questioned by the Chair as to the most important recommendation the Committee could make in its report, Mr Edwards of the AMEC replied that DPI should be reorganised to 'make earth resources, old minerals and petroleum a separate organisation that has full control, not captive to agriculture or primary industries or environmental'.⁷⁰⁵

A number of organisations and individuals involved in mineral exploration, mining and extractives gave evidence of the added complications and relatively few benefits of the referrals process. Two peak bodies spoke of project proponents being caught in a tangle of departments as they try to negotiate Victoria's regulatory system. Mr Tom Burrowes, a Director of Providence Gold gave evidence on behalf of the MCA that Victoria's reputation as a difficult place to explore and mine has much to do with its regulatory environment:

Everyone says this, and I guess I will say it too: there is no question that we need a rule book and we need a clear requirement for that and for proper project planning. But if we get caught in the tangle of intergovernmental departments with three different departments all arguing the toss, and in particular poorly resourced ones that may not understand and do not want to make a decision and put their necks out, many months can go past. We would lose that opportunity then. Victoria does have a poor reputation in the minerals game.⁷⁰⁶

Mr Hauser of CCAA also gave evidence on the way the current process of approvals and referrals adds complexity to the system for new entrants. The need to reset a regulatory system that lacks a clearly defined path through the system from exploration to production with consistent timeframes is of particular concern:

If you turned up to Victoria today having no idea, there is still no one that can really map through that process and say, 'This is what you need to have at this stage; these things can be done in parallel; that does not have to be done before this; this is the quality information you have; and this is a reasonable time you would expect, say, DSE to respond on a certain issue'.

At the moment it is a requirement that perhaps that is really well mapped out and understood for the proponent, and there is some rigour around the transparency in that and accountability for those times, particularly with issues around referral agencies. It can go out to a referral agency. They may look at it. They will not necessarily have the skills and knowledge to make a decision around the particular issue that they are looking at, so they will simply just send it back requesting more information. It just becomes a continuous loop that the industry cannot get out of.

⁷⁰⁴ Victorian WorkCover Authority, *submission*, no. 59, 8 November 2011, p. 1.

⁷⁰⁵ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 5.

⁷⁰⁶ Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 7.

There have got to be ways of breaking those bottlenecks and facilitating a pathway through when those situations occur.⁷⁰⁷

The Committee heard evidence that Memoranda of Understanding (MoUs) are in place between DPI and other government departments, including DSE; DPCD; the EPA Victoria; and WorkSafe Victoria to manage referrals for regulatory approvals between these agencies.⁷⁰⁸

The most critical MoU for mineral exploration and mining in Victoria is that between DPI and DSE, signed in March 2012.⁷⁰⁹ It sets out performance standards, including triggers for referral to DSE, timelines for decision making on referrals (DSE can approve, approve with conditions, request more information, seek an extension of time or reject) of new or amended exploration work plans within 21 days, along with processes for notifying applicants.⁷¹⁰ Other clauses in the MoU for area work plans for exploration on Crown land are included, but with performance standards apply only for notification from DSE to DPI that more information on environmental impacts is required, or that exploration cannot take place on Crown land.⁷¹¹

While MoUs imply formal arrangements between government departments to work together with agreed protocols and timelines for action, evidence was received that the reality for proponents of mineral exploration projects was altogether different.

The Committee found that at a formal level the evidence showed that coordination existed between departments. At a practical level, the departmental management of mineral exploration and mining in Victoria was uncoordinated. This created possibility for significant delay to proponents moving their exploration and mining projects through the system. A major source of contention is despite formal MoUs being in place, existing 'silos' within government remain unchanged, with departments holding on to their decision making powers, rather than delegating their powers to the agency responsible for regulating mineral exploration and mining (in this case DPI). Evidence around 'silos' within and between government departments was gathered from industry peak bodies, mining companies and local government.⁷¹²

⁷⁰⁷ Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 8.

⁷⁰⁸ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Victorian Government, *submission*, no. 58, 22 October 2011; Kylie White, Executive Director, Biodiversity and Ecosystem Services, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012.

⁷⁰⁹ Department of Primary Industries and Department of Sustainability and Environment, *Memorandum of Understanding for earth resources industries approvals*, 2011.

⁷¹⁰ Department of Primary Industries and Department of Sustainability and Environment, *Memorandum of Understanding for earth resources industries approvals*, 2011, pp. 2–3.

⁷¹¹ Department of Primary Industries and Department of Sustainability and Environment, *Memorandum of Understanding for earth resources industries approvals*, 2011, p. 4.

⁷¹² Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 3; Chris Fraser, Executive Director, Victorian

Three key Victorian Government departments (DPI, DSE and DPCD) appeared before the Committee during the course of the Inquiry. Each department gave evidence during the course of the Inquiry regarding the efficacy of the approvals and referrals processes in Victoria and their role in its management.

Mr Doug Sceney, Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group at DPI spoke to the Committee on the department's view of the importance of MoUs. He saw them as holding signatories to the terms of the memorandum, developing stronger co-operation and engendering cultural change within departments. These actions would, he claimed, work together to improve regulatory processes for mineral exploration and mining in Victoria:

One of the benefits of the MoU approach with other agencies is that establishes an agreement on top of the Department so you establish a policy position which you can then drive down into the operation of that organisation. What's been missing sometimes in the past is a cultural understanding in other organisations, other parts of government, that they had a responsibility to deal with these things in accordance with the policy of the government of the day, to be quite frank.

...

If you go back far enough, there's ample evidence in the past of people within agencies operating to disparate policies, if you like, and this is what industry have said to you, so by establishing agreements at the top level, having some understanding of how we drive that out into the organisation and getting that change happening, we get our system working.⁷¹³

Mr Lee Miezis, Executive Director, Forests and Parks at DSE gave evidence outlining the role DSE plays in the regulation of the mineral exploration, mining and extractives industries:

From a whole-of-government perspective ... DSE's role is both simple and straightforward. As a regulator DSE responds to referrals made to it, and DSE, because of its technical expertise and legislative responsibilities, also responds to administrative requests for advice on land use, natural resources, flora and fauna and environmental issues. In some instances approval decisions may also be required by DSE or its portfolio agencies.

Focusing on the MRSD Act, the Department of Primary Industries is the lead agency. Its role therefore includes coordinating the input from other relevant agencies like DSE in assessing and issuing approvals. If access to Crown land is required, if native

Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 9; Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011, p. 4; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 6; Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 7.

⁷¹³ Doug Sceney, Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, pp. 20–21.

vegetation is a consideration or if any decision is required from the relevant Crown land minister, DSE will be involved.⁷¹⁴

In reply to a question from Mr Martin Foley MP regarding processes involving referrals to DSE once a work plan application was in place for exploration, Ms Kylie White, Executive Director Biodiversity and Ecosystem Services and Mr Miezis described how DSE undertakes the approval process. They stated that DSE works through both the established referral system, as well as talking directly to project proponents about fulfilling conditions for native vegetation offsets and access to Crown land and respectively:

Ms WHITE — When we have a formal works plan, under the referral arrangements then you provide the advice back to DPI, but before that time the proponent is free to speak to the agencies around what are they thinking about doing, and then they can have those preliminary discussions and then the formal process around the work plan, and then that is provided to DSE ...

Mr MIEZIS — Just building on that, we have a similar approach in terms of access to public land. We work through DPI but do have discussions directly with proponents, particularly when it comes to working through conditions that may apply to a consent. It is generally a conversation that we will have early on in the piece so they can understand our thinking.⁷¹⁵

Mr Trevor Blake, Chief Environmental Assessment Officer at DPCD gave evidence of the MoUs signed with DPI, DSE, EPA and the Department of Transport (DoT) to coordinate the assessment, approval and delivery of major projects in Victoria, particularly in regards to the Environment Effects Statement (EES) and cultural heritage management processes and the interaction between state and federal environmental legislation. Mr Blake told the Committee that:

These agreements are about obtaining a timely alignment of processes and engagement, from the pre-referral or project planning stage, through the statutory assessment and approvals processes, and then through the implementation process with facilitation support, particularly at the front end project planning stage and the back end delivery stage. The MoUs have a common text to underpin a consistent, integrated approach and there is an array of schedules to underpin aligned business processes. I have a copy of one of the MoU schedules with me. It essentially provides a road map of processes under the different heads of power under legislation and how they link. Not all these processes might apply but some subset might apply, so depending on which applicable laws there are, this is a road map that can be tailored to a particular case.⁷¹⁶

In response to a question from the Committee's Chair addressing which agency took the regulatory lead under the MoUs, Mr Blake replied:

It's a dual agency relationship. On the one hand DPCD will lead the co-ordination of the assessment process, which we manage, with relevant approval processes in

⁷¹⁴ Lee Miezis, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, pp. 2–3.

⁷¹⁵ Lee Miezis, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012; Kylie White, Executive Director, Biodiversity and Ecosystem Services, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 10.

⁷¹⁶ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 4.

terms of primary approval decisions, and there will ordinarily also be a need for a facilitation agency that has particular responsibility to help shepherd whole-of-government issues such that there might be, so you see there that we have formal agency agreements to coordinate these processes.⁷¹⁷

At the time Mr Blake gave evidence to the Committee in December 2011, the response times and other business processes in the major project MoUs between DPCD and other departments had yet to be finalised.⁷¹⁸

Companies involved in mineral exploration and mining in Victoria gave evidence to the Committee of their experiences dealing with the inter-agency referrals system. The two key companies were IGO and Iluka Resources.

IGO gave both written and oral evidence of the ineffectiveness of these MoUs when dealing with approvals of work plans for its exploration program on Crown land. The company's submission cites the consistent failure of DPI and DSE to adhere to the MoU regarding prompt processing of work plan applications within 28 days of receipt.⁷¹⁹ Mr Jacobs from IGO gave evidence to the Inquiry on the problems in the day to day working of the MoU system between DPI and DSE, and a possible solution involving a giving up of power by DSE through delegating authority on approvals to DPI:

On the exploration side of things the DPI and the DSE have memorandums of understanding. They do not always work. It is quite common for them not to adhere to their own time lines. I would much prefer it if the DPI, for instance, had the delegated authority and the skills to assess those parts that they need to from the DSE.⁷²⁰

Iluka Resources' submission also made reference to the difficulties it encountered in the inter-departmental referral process. It claimed the need to satisfy many government departments individually rather than a whole-of-government response results in 'delays, duplication and inconsistencies and potentially a delay in commencing exploration', citing its experience in recent applications to mine on Crown Land and subsequent decision not to extend its existing Douglas mine site. The latter was referred to previously in this chapter.⁷²¹

Another shortcoming of the referrals process raised in evidence from the resource sector is the perceived lack of understanding of mineral exploration and mining practices by government regulators and the commercial environment in which the sector operates. This lack of understanding has created delays in approval processes and the imposition of what the sector claims are onerous conditions on mineral exploration.

⁷¹⁷ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 4.

⁷¹⁸ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, pp. 12–13.

⁷¹⁹ Independence Group, *submission*, no. 39, 24 August 2011, pp. 10–11.

⁷²⁰ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, pp. 4–5.

⁷²¹ Iluka Resources, *submission*, no. 26, 19 August 2011.

Mr Geoff Turner, an exploration geologist appearing on behalf of the Australian Institute of Geoscientists (AIG) gave evidence on the lack of exposure to and understanding of the exploration and mining sector by field officers at DSE:

I submitted a work plan for drilling in a state forest early last year, it was in the alpine region in the eastern part of the State. It was identical in most aspects to a work plan which I had submitted the year before but it covered a different area of the same exploration licence, it was on the south side of the Great Divide instead of the north, which meant a different DSE office, so different officer. The work plan was returned with nine comments and requirements. Six of those were already met in the document, so the officer had not read the document. The officer also demonstrated his lack of experience and knowledge of exploration in Victoria by not realising that exploration licences are granted for a limited time.⁷²²

Ms Currie of Iluka Resources gave evidence on the unfamiliarity with mineral exploration and mining of staff in some Victorian Government departments and the need for the company to build rapport with and educate field officers in DPI and DSE:

... I do find that in dealing with government departments, many of the officers are unfamiliar with mining and exploration practices, which can result in inconsistencies and delays due to the time required to educate them on our low impact exploration. For example, we conduct exploration in three operating districts being south-west, the north-west and Gippsland. We have established relationships with the mines inspectors from the south-west and the north-west, who are familiar with our low impact techniques and our good rehabilitation record. We recently commenced exploration in Gippsland, and our relationship with the mines inspectors and DSE staff from the district had to be established from scratch.⁷²³

Mr Jacobs of IGO gave evidence claiming Victorian Government agencies found mineral exploration and mining a 'tough fit', based on poor knowledge of the industry and the proscriptive nature of regulations not coping well with the changing scale of projects or future uncertainty:

The mining industry in general seems to be a bit of a tough fit for regulators in that there is not a lot of knowledge amongst the regulatory agencies even within the DPI. I guess that is due to the fact there may not be a lot of mining projects going on, so they are not exposed to it a lot, but it makes life difficult. Mining projects have a lot of uncertainty compared to civil projects, and we are finding the regulators have difficulty with this concept.

...

The regulators have big trouble with that. They want you to permit an exact project. If you say, 'I want to permit some extra tailings dam space because we expect that exploration will find more', they really cannot handle it. They do not want to go there, and they say, 'You come back in eight years and do another EES, thanks'.⁷²⁴

⁷²² Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 5.

⁷²³ Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 3.

⁷²⁴ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 6.

Mr Ian Blucher, IGO's Approvals Manager, added his perception of the poor levels of communication between DPI and DSE officers and the lack of experience in the EES process as part of taking an exploration project through to a mining operation:

I doubt there was a huge amount of discussion between DPI and other agencies, because the sorts of questions we get from other agencies highlight the issue that Rod talked about: a lack of understanding about exploration as a general concept in Gippsland, because most of the explorers there have generally been small, and, as you progress further and further through the EES, an understanding of what mining activities actually are and the issues that surround them.⁷²⁵

Ms Vogel from DMS gave evidence of the low (but improving) levels of understanding of the commercial environment and the mining industry she encountered as part of her work negotiating the approvals process for her employer's mineral sands project in western Victoria:

There are commercial realities, such as access to capital, that do not appear to be widely understood throughout bureaucracy, and I'm not just specifically talking about DPI. We have seen a substantial cultural shift, I think, in the last year or so from DPI — or we personally have — and their understandings perhaps of the commercial realities of what we are trying to do have increased.

Throughout the EES, we were told many times by people in various departments, 'But it's only an extra million dollars, you're a mining company, you've got plenty', and there seems to be perhaps a confusion between exploration and mining. So when a multi-national announces a \$9 billion profit, that figure gets applied to everybody, like everybody has that much money in the bank. But most of these small exploration companies don't have an income coming in, they are raising money from capital markets.⁷²⁶

7.1.3.2 *Streamlining the approvals process*

The Committee received a number of recommendations in submissions and hearings as to how Victoria's regulatory environment could be improved. From the evidence, particular importance was placed on streamlining the approvals processes for exploration and mining work plans to give greater certainty of fulfilment within defined timeframes.

The resources sector peak bodies took great efforts to underline their commitment to maintaining environmental protection standards under a streamlined regulatory process. It is viewed as an important part of the industry's social licence to operate in mature regulatory environments such as Victoria. Statements supporting this commitment were made by CCAA, the MCA and the AusIMM during the course of the Inquiry.⁷²⁷

⁷²⁵ Ian Blucher, Approvals Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 7.

⁷²⁶ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 4.

⁷²⁷ Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 9; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 5; Bruce Edwards, Regional Manager, New South Wales, Victoria and

As mentioned previously in chapter six of this report, the Victorian Government enacted the stage one reforms of the MRSDA in February 2012. These reforms, particularly the introduction of the retention licence were, according to Dr Hollitt of DPI designed to more closely align industry processes with government processes.⁷²⁸

The MCA expressed some apprehension on the direction of the MRSDA stage two reforms. They are aimed at streamlining permitting and approval processes, particularly around work plans and environmental approvals. Ms Davison stated that the MCA's concerns around the possible benefits to the industry that may come out of the stage two reforms, which are due to be finalised during 2012:

With the stage 2 reforms, as I mentioned, we were given the commitment that there would be a lot of efficiencies to be gained and there was a lot of overlap to be reduced. We are in discussions at the moment with the Department of Primary Industries on this, but unfortunately they are not leading to the outcomes on which we thought we had an agreement, around reducing those regulatory burdens without reducing the environmental and social commitments and sustainable practices but with a lot of that red-tape reduction and reform. Without those benefits in stage 2 we consider it necessary to revisit those decisions and amendments made in stage 1.⁷²⁹

As part of recommending ways to streamline the regulatory environment governing mineral exploration and mining projects in Victoria, mention was made of assisting late stage mineral explorers to transition to a mining project. A number of references were made to the opportunity to declare such projects as 'major projects' or 'projects of state significance' to attract specialised facilitation through the approvals process.⁷³⁰

At present, Victoria does not have dedicated legislation for major project facilitation, although it does have legislation specifically aimed at major road and rail infrastructure projects (*Major Transport Projects Facilitation Act 2009*). Nor does it have an agency that facilitates major private sector projects through Victoria's regulatory environment. While Major Projects Victoria (MPV), part of the Department of Business and Innovation (DBI) is the organisation managing the design and delivery of some major public sector construction projects in

Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 5; Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 11.

⁷²⁸ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 18.

⁷²⁹ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 3.

⁷³⁰ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 4; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 10; East Gippsland Shire Council, *submission*, no. 44, 26 August 2011; Rob Spence, Chief Executive Officer, Municipal Association of Victoria, *transcript of evidence*, 19 September 2011, p. 2; Fiona Weigall, Manager, Major Projects & Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 7.

Victoria, its role is largely to advise other Victorian Government departments and agencies.⁷³¹

Mr Blake gave evidence to the Committee that DPCD, through a series of MoUs with other Victorian government departments and agencies, it was coordinating the impact assessment process for projects such as mining and extractive projects that interact with the MRSDA, the *Environment Effects Act 1978* and the *Planning and Environment Act 1987*:

... DPCD has established memoranda of understanding with the Department of Primary Industries, the Department of Sustainability and Environment, the Environment Protection Authority and the Department of Transport and transport agencies to coordinate our respective roles and responsibilities for assessment, approval and delivery of major projects that might require impact assessment processes under one of those three acts listed there. These agreements are about obtaining a timely alignment of processes and engagement, from the pre-referral or project planning stage, through the statutory assessment and approvals processes, and then through the implementation process with facilitation support, particularly at the front end project planning stage and the back end delivery stage.⁷³²

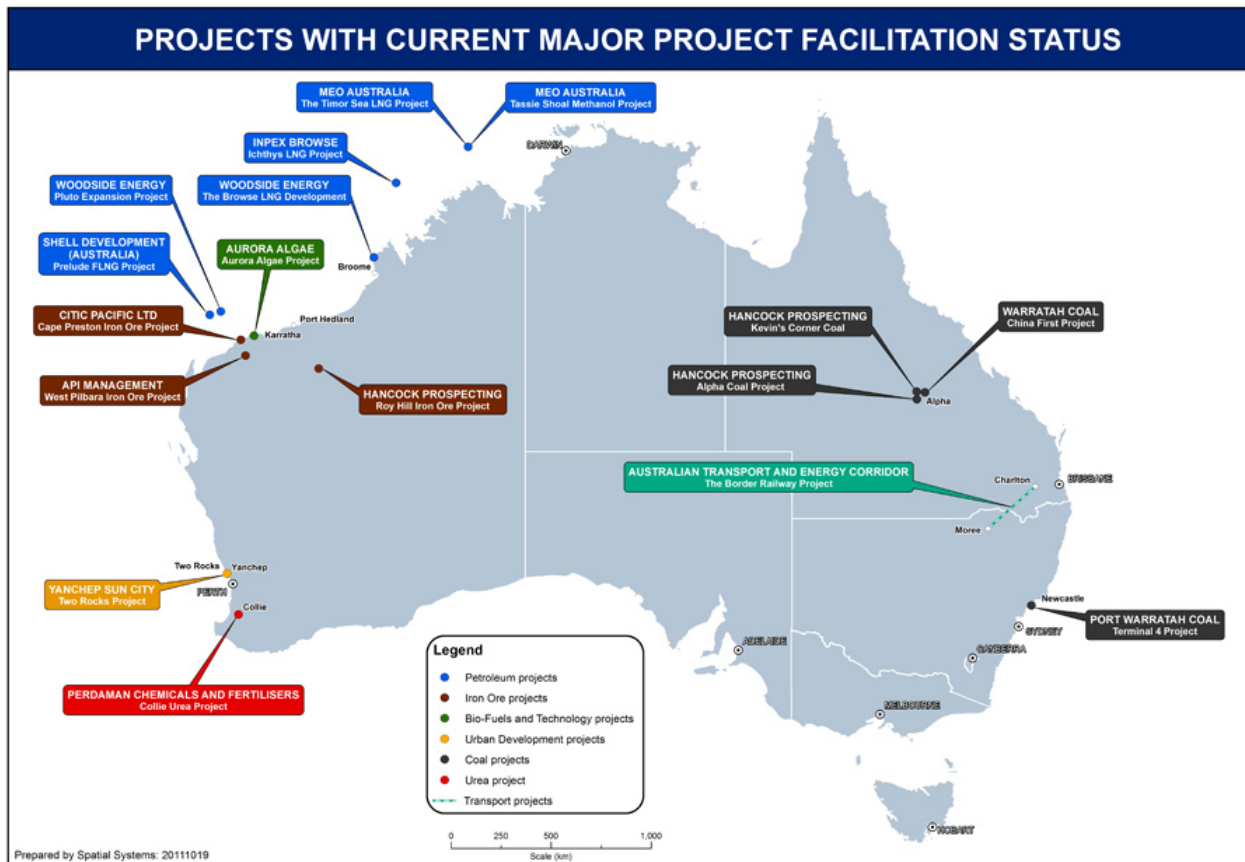
Other jurisdictions in Australia engage with major projects in different ways to Victoria. Within the Australian Government's Department of Infrastructure and Transport, a Major Projects Facilitation (MPF) Unit administers a facilitation program for projects of national importance. Projects currently holding Australian Government MPF status include: oil, gas and minerals projects, agri-business, transport and advanced manufacturing.⁷³³ A map showing projects with MPF status is shown in Figure 15 below:

⁷³¹ Major Projects Victoria, 'About us', viewed 14 April 2012, <<http://www.majorprojects.vic.gov.au/>>.

⁷³² Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 4.

⁷³³ Department of Infrastructure and Transport, 'Major project facilitation', viewed 16 April 2012, <<http://www.majorprojectfacilitation.gov.au/>>.

Figure 15: Projects with Australian Government Major Project Facilitation status as at October 2011⁷³⁴



Ms Davison of the MCA also highlighted that other Australian jurisdictions have the ability either legally or administratively to facilitate the passage of major resource projects through the respective regulatory frameworks:

There has been major project facilitation in various jurisdictions, even a federal major project facilitation responsibility. Also there is the Coordinator-General in Queensland. The head of department in South Australia is given a mandate essentially, not enshrined in law. There is commitment and also a single decision-making body ... for the hundreds and hundreds of approvals that are required.⁷³⁵

In addressing this gap in Victoria, East Gippsland Shire Council's (EGSC) submission recommended developing a major projects process for mining projects in Victoria. This would see a senior state public servant allocated to a project as its 'champion' who works across government agencies with the project proponent to facilitate positive outcomes for both the project and the state.⁷³⁶

⁷³⁴ Department of Infrastructure and Transport, 'Major project facilitation', viewed 16 April 2012, <<http://www.majorprojectfacilitation.gov.au/>>; Department of Infrastructure and Transport, 'Projects with current major project facilitation status', viewed 14 April 2012, <<http://www.majorprojectfacilitation.gov.au/>>.

⁷³⁵ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 10.

⁷³⁶ East Gippsland Shire Council, *submission*, no. 44, 26 August 2011, p. 12.

This recommendation had also formed part of EGSC's submission to the VCEC's 2009 inquiry *A Sustainable Future For Victoria: Getting Environmental Regulation Right*.

EGSC's recommendation was based on its experience with the Stockman project in their area, of which IGO is the proponent. In its submission, the Shire found out there was no major project facilitation process in Victoria, saying that:

... the Shire was surprised to learn that the Stockman Mine project was not considered a major project by the State and there had been no allocation of high level cross department project management expertise to the project. EGSC therefore found itself in the position of making introductions for the company with a range of State agencies and advocating for the project to have a 'go-to' person allocated to the project that could work across departments to remove any barriers and interpret requirements for the project proponents.⁷³⁷

Ms Fiona Weigall, Manager Major Projects and Economic Development at EGSC told of the gap existing in the Victorian Government's regulatory system for a coordinated whole of government response to proposals for major economic development projects in the state such as a mine:

I think it also comes back to this issue of having a coordination role within government, and we were suggesting in the submission that it may even be some sort of major project assessment, and if a mine is significant enough to be considered a major project, there is a way of escalating its needs through the process so that the resources are there to support it and the structure is there, whether it be physical or social infrastructure.⁷³⁸

Despite IGO claiming the Stockman project will create over 300 new jobs and increase East Gippsland's gross regional product by over \$680 million over the 8-year life of the project, Mr Jacobs of IGO spoke of Victoria's lack of major project facilitation processes, saying:

There is no common major project status that I can see in Victoria. I have been told by a couple of different agencies that we are now a significant project or a major project. That does not seem to come with any benefits or different or streamlined process, and it does not seem to be the same notion from one department to another.⁷³⁹

Another major area identified in the evidence for streamlining approvals processes for exploration and mining was dealing with the many prescriptive conditions placed on exploration and mining work plans by Victorian Government agencies. While the industry understood the need for government agencies to protect the state's social, economic and environmental infrastructure, it did question the need for the volume of often conflicting conditions in work plans that rigidly prescribed the kind of work explorers could perform. This often leaves little room for even minor changes to work plans without extensive renegotiation of conditions.

⁷³⁷ East Gippsland Shire Council, *submission*, no. 44, 26 August 2011, p. 9.

⁷³⁸ Fiona Weigall, Manager, Major Projects & Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 7.

⁷³⁹ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 7.

The MCA argued the work plan process as written in the MRSDA is straightforward. However, it was the approval of work plans with numerous, wide ranging and often contradictory conditions that posed the biggest issues for the exploration and mining industries. Ms Davison of the MCA explained the situation by saying:

Work plans in the legislation are really quite streamlined and basic. How they are applied means they have become monsters, absolute monsters; there are shelves of what is in there. You will see the work plan variation and get conditions. They will be added onto a document that has conditions that may be in conflict, but the Department does not review those, so you have conflict. You have condition upon condition that are in conflict. Which one are you complying with? How are you proceeding? It should be based on outcomes. You would not tell a factory how to do its process line, but essentially this is telling the industry how to do its business, how to suck eggs.⁷⁴⁰

In its submission, the AIG also drew attention to the delays in work plan approvals caused by regulators 'placing of prescriptive conditions on work which also restrict the flexibility of the explorer in carrying out the work'.⁷⁴¹

Mr Mattiske of Unity Mining, appearing on behalf of the MCA also made reference to the large number of conditions applied to an application for an exploration work plan, when he gave evidence before the Committee:

I brought along a consent from DSE to work in the regional park to do some exploration drilling. I have the consent here with 45 conditions, and that is just one of the types of consents that we are requiring on a regular basis to carry out activities.

It is difficult for organisations carrying out activities to know exactly what all the consents contain and to comply with all the individual requirements, as it is difficult for the regulators trying to track exactly what we are required to comply with. Certainly the multiple and overlapping regulatory requirements of the State are really quite difficult to manage, and it is an impediment for people operating in the State.⁷⁴²

Mr Belperio from Minotaur Exploration told the Committee of the extremely prescriptive work plan regime in Victoria, in comparison to South Australia's more outcomes-based regulations. He cited DPI's inability to be flexible over work plans in response to a changed exploration environment as one major difference between the two jurisdictions:

We put in a two-year work plan for our tenements in central Victoria, Rochester, and there a lot of flooding a bit over a year ago so you could not get on the ground from January to March, so that was delayed. So our year 1 program is effectively going to start now and we are being asked: 'You said you were going to drill in year 2, why aren't you drilling? You better put in a drill work plan otherwise you are going to be cited for breach of your work plan'. We are saying: 'What?'

...

⁷⁴⁰ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 10.

⁷⁴¹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 2.

⁷⁴² Andrew Mattiske, Chair, Environment and Communities Working Group, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 8.

We are basically being dictated how we can explore and that is not how exploration happens. By all means every company accepts that when you are granted a licence you have a minimum expenditure obligation, and we all accept that if you do not spend that, say, minimum \$200,000 than per annum, then you lose part of your licence. Everyone accepts that, but if you are spending \$200,000 per annum, what you actually do as long as it is bona fide exploration is no concern of the Department. The fact that we suddenly change from doing ground EM to proposing airborne again because the landowners want too much compensation and you cannot sign off, we should not be held to ransom by the Department who said you said: 'You are going to do this. Why aren't you doing it?' ... So that is a fundamental problem that just emerged in the last few months.⁷⁴³

Recommendation 19: That the Victorian Government considers redirecting the regulatory focus of exploration, mining and extractive work plans towards outcomes and away from prescriptive conditions, in order to better manage risk and achieve socially, economically and environmentally sound outcomes.

A number of submissions presented to the Inquiry called for a shift of the regulatory focus in the drafting of work plans for mineral exploration and mining away from prescriptive conditions to outcomes-based conditions that better manage risk.⁷⁴⁴ In its submission to the Inquiry, the AIG recommended that the approvals system be improved and delays reduced through:

Emphasis on the "outcomes", particularly with the environment of the area after the work is completed should be regarded as more important than the prescribing of methods in which the work is carried out.⁷⁴⁵

Mr Chris Fraser, Executive Director of the MCA's Victorian Division spoke of the industry's desire to seek more efficient ways of achieving their outcomes:

What we are saying is we do not seek a reduction of the standards ... We seek a more efficient way of getting the outcomes. That is the issue. It is the application that we see ... examples of taking 18 months to release some water from the dam. That

⁷⁴³ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, p. 7.

⁷⁴⁴ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011; Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Jim Fraser, Vice President, Moorabool Environment Group, *transcript of evidence*, 10 October 2011; Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011; Hg Recoveries, *submission*, no. 10, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Mitchell Shire Council, *submission*, no. 7, 29 July 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Prospecting Supplies Australia, *submission*, no. 18, 18 August 2011; Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011; Unity Mining, *submission*, no. 34, 22 August 2011.

⁷⁴⁵ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 2.

is 18 months of complex approvals and arguments between two departments and of one not talking to the other. It is just nonsense stuff.⁷⁴⁶

Mr Chris Roberts, Director of Orion Gold told of the need for flexibility in designing an exploration program, and how a more outcomes-based system of work plan development might better accommodate this flexibility:

Exploration is a developmental process. It is not something where we know what we are going to be doing where from the start. Every time we take a step we have to assess that and that then dictates where we go, so we need flexibility ...

Work plans need to be able to be amended with rational discussion about how we cope with these things. A lot of the changes we have to make are relatively minor. In fact a lot of the work we do is relatively minor in its impact, so I think this can be managed fairly simply.⁷⁴⁷

Mr Forbes of SACOME spoke to the Committee of how the regulatory environment for minerals exploration and mining in SA had moved towards an outcomes-based system. He stated that the SA Government took the position that:

... effective regulation is the best form of promotion both in terms of instilling confidence in the community that the regulator will accede to projects and risks and providing companies with a clear and consistent regulation. Further, MITRE — you may know MITRE, the Department for Manufacturing, Innovation, Trade, Resources and Energy — is the lead mining approvals regulation agency. They have adopted a performance-based approach, or regulatory approach, and moved away from proscriptive regulation.⁷⁴⁸

7.1.4 Improving regulator quality

The lack of technical competency and industry-specific skills of DPI officers overseeing mineral exploration and mining projects was also identified as an issue by the exploration and mining industries. The MCA claimed that decisions were often made in an 'ad hoc and unpredictable way' by junior DPI officers.⁷⁴⁹ The AusIMM claimed the lack of relevant skills and field experience among DPI officers was problematic in the assessment of exploration and mining projects:

... the majority of those employed to support regulatory functions do not have exploration experience and often no formal qualifications in mining or geology. In dealings with the Department, our members report that there is an underlying current ... among some staff that they know how to explore better and know more about exploration than highly qualified, highly skilled and highly experienced exploration professionals. In stark contrast is the actual experience of explorers who report that the naivety of some staff and decisions makers about general aspects of exploration

⁷⁴⁶ Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 11.

⁷⁴⁷ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. 6.

⁷⁴⁸ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 3.

⁷⁴⁹ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 3.

is apparent, especially when compared with other States or Territories, and does not instil confidence in the Department or the regulatory environment in Victoria.⁷⁵⁰

The AIG concurred with the AusIMM's comments, stating that 'Improving the professional skills, staff numbers and retention rates at DPI and other regulators would assist the regulatory process'.⁷⁵¹ In its submission, the PMAV claimed that DPI regularly required assistance from its volunteer staff, and that it had recently engaged an external consultant to alleviate the workload from these volunteers.⁷⁵²

This issue was not purely a problem for DPI. The relative lack of skill and experience in other government departments (such as DSE and DPCD) in dealing with exploration and mining matters was also noted. This shortfall was seen as a particularly critical factor in an agency's ability to quickly and fairly assess referred exploration and mining work plan applications from DPI.⁷⁵³

Ms Currie of Iluka Resources concurred with the assessments of the MCA, the AIG and the AusIMM, advising the Committee of inconsistencies and delays that arose as a result of the need to educate officers of government departments who were unfamiliar with exploration techniques and principles.⁷⁵⁴ Ms Vogel of DMS gave evidence of the questions that arise from:

The majority of big approvals and the referrals sit with DPCD and you are really perhaps relying on somebody in DPCD to understand what is significant with a mining project and what is not significant with a mining project. Single-department approvals would greatly assist.

The Technical Reference Group, and we did say this at both the other inquiries, they really need to be briefed on how the EES sits in the regulatory process and their specific role, given that you have sometimes quite junior people. We had a DSE member and his concern throughout the whole process, his one thing, was what was going to happen if a kangaroo got in the pit.⁷⁵⁵

Mr Turner of the AIG gave evidence of the uneven levels of skills and knowledge among government regulators and their contributions to complexity and delay in Victoria's regulatory system. Of particular concern from Mr Turner's experience were the levels of knowledge of the mining industry and mining practices among

⁷⁵⁰ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

⁷⁵¹ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011.

⁷⁵² Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011, p. 7.

⁷⁵³ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 6; Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 6; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 8; Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 4; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 9.

⁷⁵⁴ Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 3.

⁷⁵⁵ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 9.

regional DSE field officers that make 'on the ground' assessments for exploration and mining work plan applications.⁷⁵⁶

In its submission, the Municipal Association of Victoria (MAV) also referred to a shortfall in the skills of council planning teams when assessing resource sector planning permit applications. It also recommended that DPCD establish a technical assistance program providing specialised support for councils with permit applications for extractive projects in particular.⁷⁵⁷

7.2 The planning process

Although mineral exploration and mining is regulated by the MRSDA, there is interaction with Victoria's planning system, which is regulated under the *Planning and Environment Act 1987* (P&E Act). Mr Blake from DPCD told the Committee of the significant levels of interaction between the MRSDA and P&E Act, particularly for mining projects:

There's a significant interaction between the MRSD Act and the planning permit process. Importantly, under s42(6) of the MRSD Act, planning schemes cannot prohibit mining, so it's a permissible use. One of the important links between the MRSD Act and the Environment Effects Act is under s42(7), which provides that if an EES assessment has been made and is then considered by the head of the Department of Primary Industries, a planning permit is not required: so there's an alternative pathway via an EES to that of requiring a planning permit.⁷⁵⁸

At a strategic level, the planning system has impact on the resource sector, with Victoria's State Planning Policy Framework (SPPF) encouraging

... exploration and extraction of natural resources in accordance with acceptable environmental standards and to provide a planning approval process that is consistent with the relevant legislation.⁷⁵⁹

Evidence to the Inquiry from the extractives industry suggests the strategic intent of the SPPF is not seen in practice. Boral Australia's submission highlighted the failure to consider extractive resource sites as part of the land use planning process, offering two illustrative examples: its existing Montrose quarry, the expansion of which is likely to be severely constrained as urban development encroaches the site; and its 'greenfields' site at Donnybrook, now unlikely to be developed as the site is within an expanded Urban Growth Boundary and rezoned as an Urban Growth Zone.⁷⁶⁰

The Construction Material Processors Association (CMPA) held similar views, arguing that not considering extractives sites as part of the urban development process would ensure existing sites would be overtaken by urban development,

⁷⁵⁶ Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 5.

⁷⁵⁷ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011, p. 2.

⁷⁵⁸ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 2.

⁷⁵⁹ Department of Planning and Community Development, 'State Planning Policy Framework - SPPF 14 Natural Resource Management', viewed 28 April 2012.

⁷⁶⁰ Boral Quarries, *submission*, no. 37, 23 August 2011.

and potential sites sterilised by urban encroachment.⁷⁶¹ In its submission, it reported that for the proponents of new quarry proposals, the process of obtaining a planning permit added a significant cost in time and money. The CMPA claimed this process can range in cost from \$10 000 to \$1.15 million and take an average of two to four years to complete, depending on whether the permit application is referred to the Victorian Civil and Administrative Tribunal (VCAT).⁷⁶²

At an operational level, the planning system operates in different ways for mining and extractive operations. For mining purposes, holders of an exploration licence (EL) do not require a planning permit to explore for minerals once their work plan is approved, although usually, conditions for granting an EL requires notification of relevant councils responsible for the area covered by the EL. Once a mining licence (ML) is issued, a planning permit may be required once a work plan is approved. The holder of an ML has two options after receiving an approved work authority prior to commencing mining operations: obtaining a planning permit under the P&E Act; or undertaking an EES under the *Environment Effects Act 1978*.⁷⁶³ If a proponent applies for a planning permit, there may be referrals to various government departments and agencies as defined under section 55 of the P&E Act.⁷⁶⁴

Extractive projects follow a different process. After a proponent submits its draft work plan to DPI as required under the MRSDA, but prior to its approval, the proponent must apply to the responsible local government authority for a planning permit.⁷⁶⁵ Planning permit applications may be referred to various government departments and agencies as defined under section 55 of the P&E Act. Only once a planning permit has been issued can the proponent obtain an Extractives Industry Work Authority (EIWA) as described in chapter six. Attention must be drawn to the DPCD fact sheet used above refers to extractives being governed under the *Extractives Industry Development Act 1995* (the EIDA). Since 1 January 2010, the EIDA has merged with the MRSDA to provide a unified legislative framework for mining and extractives in Victoria.

At an operational level, Mr Robert Spence, Chief Executive Officer of the MAV spoke of the need for increased technical support of statutory planners at local councils by the Victorian Government when councils assess planning permit applications for mining and extractives operations. This is largely due to the relative rarity of permit applications for mines and extractive operations in Victoria:

There is also pretty clearly a need for support to be provided to councils when they actually get these complex permits before them. I would use the analogy of the wind

⁷⁶¹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁷⁶² Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 22.

⁷⁶³ Department of Sustainability and Environment, 'Assessing mining proposals', viewed 17 April 2012, <<http://www.dpcd.vic.gov.au/>>, p. 4.

⁷⁶⁴ Department of Sustainability and Environment, 'Assessing mining proposals', viewed 17 April 2012, <<http://www.dpcd.vic.gov.au/>>, p. 6.

⁷⁶⁵ Department of Sustainability and Environment, 'Extractive industry proposals', viewed 17 April 2012, <<http://www.dpcd.vic.gov.au/>>, p. 2.

farm space, because it is similar. In the case of wind farms, the technical competence in the councils, particularly in rural councils, is not strong in dealing with wind farms or, for example, mining activities or extractive industries. Technical support from government to the councils would be a useful step in the process to allow the councils to properly consider what is before them, particularly if they end up with a Planning Permit application before them.⁷⁶⁶

In attempting to streamline and minimise the resource sector's interaction with the planning system, the stage one reforms to the MRSDA have introduced statutory endorsement of work plans requiring planning permits. DPI claims this will improve processing times for work plans, as only a single set of referrals is required during the work plan approval process.⁷⁶⁷

Mr Sceney of DPI explained the advantages of the statutory endorsement process by saying that:

What that means is rather than an informal process of engagement between departments whilst a work plan for a miner quarry is developed followed by a formal process in the planning arena where agencies have another go at those proposals, it will only happen once. We will do the referral and that will replace the statutory referral process under the Planning and Environment Act. These are real improvements in the way the processes operate that we've been able to negotiate with other arms of government without having to create a vastly bigger infrastructure to support what most people think of as a one-stop-shop.⁷⁶⁸

The perspective of the small mine operators was provided by Mr Laidlaw from the PMAV. His evidence saw the process of seeking a planning permit as an additional regulatory barrier to small operators entering the industry:

A classic case is planning. We have small miner members, often on their own land. Let us say in this case it is his own land and he wants to do some alluvial mining on his own land. He gets the title from the DPI. He gets the conditions from DSE, the Water Authority and whoever else is involved, such as the catchment management authority and the flora and fauna people. He works through that whole process. At the end of that he then has to go to the local council to obtain a Planning Permit for the process.

The reality is that councils do not knock back these little mining operations. They charge them the \$500. They get the approved conditions that everybody else has agreed to, stamp them with a rubber stamp and say, 'Thanks very much. You can start work'. It probably adds another six months to the time of the process, but in terms of what it achieves for the local community, for the regulator or for the miner himself, it is absolutely zero. It is just a rubber-stamp process.⁷⁶⁹

Others see the planning system as an example of how to improve public oversight of the resource sector. In its submission, the Victorian Environmental Defender's

⁷⁶⁶ Rob Spence, Chief Executive Officer, Municipal Association of Victoria, *transcript of evidence*, 19 September 2011, p. 2.

⁷⁶⁷ Department of Primary Industries, 'Statutory endorsement of work plans — fact sheet', viewed 18 April 2012, <<http://www.dpi.vic.gov.au/>>.

⁷⁶⁸ Doug Sceney, Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 20.

⁷⁶⁹ Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 5.

Office recommends that the third party objection rights contained in the P&E Act (including the right of appeal to VCAT) be extended to applications to grant exploration or mining licences under the MRSDA and that any person be able to bring enforcement action for breaches of the MRSDA.⁷⁷⁰

7.3 The Environment Effects Statement process

A number of submissions to the Inquiry referred to the need to reform the EES process for mining and extractives projects. There are a range of triggers for the EES process in regard to a mining or extractives project moving from exploration to production. A detailed description and outline diagram of the EES process is contained in section 6.6.8 of chapter six of this report.

The need to reform the EES process was a common theme in evidence provided by both the mining and extractives sector, with a strong consensus that the process was complex and the outcomes uncertain.

Mr Blake from DPCD summarised for the Committee in his evidence the administrative workings of the EES process and the various activities, processes and linkages that occur in the assessment of a mining project in Victoria:

In terms of the Environment Effects Act, which is quite commonly triggered for greenfields mineral projects — not exploration but mineral project development — the Minister for Planning has three options in response to a referral by a proponent or a decision-maker. One is to require an EES; another is not to require an EES subject to conditions; and a third is simply not to require an EES. Both of the pathways of requiring an EES, or not requiring an EES subject to conditions, have been applied to mining projects in recent years.

... What normally happens if an EES is required is that the Minister for Planning will release draft scoping requirements for what needs to be assessed for public comment, and then confirms the final scope that needs to be addressed. The proponent prepares that EES, with the assistance and advice from an agency-based technical reference group. This has representatives from the State Government, local government, the Commonwealth, and other bodies with statutory responsibilities that may be involved to provide technical advice with respect to the EES as well as in relation to related approval processes, to assist the coordination and streamline the relationship those between requirements. Once prepared, the EES and relevant approvals documentation is exhibited together for public comment and normally an inquiry panel will be appointed by the Minister for Planning to consider the EES and public submissions and provide a report to the Minister.

The final key step is that the Minister for Planning provides an assessment to decision-makers, which will advise whether the environmental effects of the project are acceptable or not, and on what basis the project might be delivered including with modifications or particular requirements. The relevant decision-makers under Victorian law are obliged to consider that assessment before they make a decision under those rules.⁷⁷¹

⁷⁷⁰ Environmental Defenders Office, *submission*, no. 54, 2 September 2011.

⁷⁷¹ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 3.

7.3.1 The mining industry's view

A range of mining project proponents provided views in submissions and evidence on the Victorian EES process based on their experience in negotiating the system as a key stage of bringing a mining project into production. Mining industry evidence came from DMS and IGO. The prospecting and small scale mining sector's views were represented by the PMAV.

As part of its evidence to the Committee, DMS provided a copy of the EES assessment that was prepared by the then Minister for Planning for its mineral sands mining proposal in western Victoria. The assessment outlined the EES process undertaken by DMS, which was initiated in November 2005 and received ministerial approval in November 2008. The EES assessment identified that statutory approvals were required under the following legislation for the reasons stated below:

- *Water Act 1989*: The project required a groundwater extraction licence (GEL) in order to pump water from an aquifer to allow mining to take place below the level of the water table. A GEL was also required to supply water to the mining site from a local deep lead. Additionally, the assessment indicated that an entitlement to surface water would also require an application under the Water Act, to be assessed by the relevant Catchment Management Authority (CMA) in consultation with DSE.
- *Planning and Environment Act 1987*: Although a planning permit under the Act for the mining project was superseded by the initiation of the EES process, a planning permit was required for the pipeline and works associated with the project's water supply.
- *Aboriginal Heritage Act 2006*: Under section 49 of the AHA, a Cultural Heritage Management Plan (CHMP) was required for the project as part of the EES process.
- *Radiation Act 2005*: Due to the radioactivity of thorium contained in the mineral sands to be mined, the assessment found DMS likely to require a Management Licence under that Act to process, mine and transport the mineral sands.
- *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*: The assessment considered there to be potential for the project to cause significant impacts on matters of natural environmental significance, which requires assessment under the Act. As an EES is accredited under the EPBC Act, the assessment would be provided to the Australian Government Minister to inform a decision whether or not to approve the project under the Act.

The assessment process focused on the effects of the project on the following:

- efficient mining of mineral resources
- economic and social effects

- terrestrial ecology, flora and fauna
- water resources and aquatic environments
- cultural heritage
- surrounding land uses and site rehabilitation
- public health, amenity and safety
- greenhouse gas emissions
- environmental management framework
- ecologically sustainable development.

The assessment also contained the Minister's responses to recommendations to the inquiry into the effects of the DMS project which was undertaken during the EES process. This included the overall recommendation to approve the project, which was accepted by the Minister.⁷⁷²

In her presentation to the Committee, Ms Vogel from DMS advised of several issues that arose during the EES process. Among others, these included changes to cultural heritage legislation; the lack of a Registered Aboriginal Party in the Area; the Technical Reference Group (TRG) established for the EES; and issues from constituents that were raised in an untimely manner. Her criticism of the TRG related to the attendance of agency representatives and the decision-making capability of agency staff attending TRG meetings:

The EPA were notoriously difficult to deal with. They very rarely turned up to TRG meetings. They were always late in providing us with feedback on our drafts. They were, and I quote from somebody in another department, 'serial offenders'. DSE sent a local person who didn't necessarily have the knowledge to deal with such a big project, nor the position in the department to make decisions.⁷⁷³

She also advised that issues in the EES process were raised when the document was being finalised, causing further delays:

We did have some problems with the Melbourne-based specialists, in that we went to them several times and said, 'Do you have any issues?' and they said 'No'. We wanted to hash those out before the document was finalised. When it came to the panel hearing, they turned up with a whole host of problems we hadn't even heard about it and we gave them plenty of opportunity to raise them in what I would have thought was a more appropriate time than when the document was being finalised.⁷⁷⁴

⁷⁷² Department of Planning and Community Development, *Donald Mineral Sands: assessment under Environment Effects Act 1978*, Department of Planning and Community Development, Melbourne, 2008.

⁷⁷³ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 6.

⁷⁷⁴ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 6.

In its submission, IGO also raised a number of issues with the EES process, based on its experience in developing the Stockman project, including:

- the number of agencies (17) it was required to either negotiate with or contact as part of the EES, many of which also sat on the TRG;
- failure of Victorian Government agencies to adhere to agreed decision-making timeframes, and;
- failure of Victorian Government agencies to assess the project against triple-bottom-line (economic, social and environmental) outcomes.⁷⁷⁵

Mr Jacobs from IGO, expressed the company's frustration over the EES process. He claimed there is a lack of consistency between DPCD's assessment guidelines for an EES⁷⁷⁶ and what takes place in practice during the EES process:

I think triple bottom line should be fundamental to the EES process. It is stated in many of the Acts, but we are finding it is given little credence in the management of the EES process ... We came in to hear Martin [Richardson, of East Gippsland Shire Council] mention that of those agencies there was only one interested in the social and economic outcomes. Even though the EES definition of environment is broad, covers all those things and it is written on about page 2 of the guidelines that this is how you do an EES, it is not managed that way. The various agencies honestly could not care less.⁷⁷⁷

Mr Laidlaw from the PMAV gave evidence that while the EES was appropriate for larger scale mining operations, it was less appropriate for smaller scale mining operations, such as those whose proponents were PMAV members:

... if you are looking to regulate the larger operations, I suspect the EES process that we have got now is effectively a pretty good one-stop-shop. That is what it effectively does. It overrides planning and environment and so forth ... If you are going to build a \$50 million mine or something larger, it is not unreasonable ... What we are trying to say is, 'Let's down-scale it for either the medium-sized companies like Morning Star or for the prospectors on their 5-hectare mining licences'.⁷⁷⁸

7.3.2 The extractives industry's view

Mr Hillyer from Boral Quarries spoke of the company's experience with the EES system in Victoria in reference to its proposal to extend their existing operation at Montrose in Melbourne's outer east:

Our experience here in recent years has been that regulation, particularly when it comes to planning decisions, completion of work authorities, work authority applications, planning permits, EES documentation and works approval applications,

⁷⁷⁵ Independence Group, *submission*, no. 39, 24 August 2011.

⁷⁷⁶ Department of Sustainability and Environment, *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978*, Victorian Government, Melbourne, 2006.

⁷⁷⁷ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, pp. 5–6.

⁷⁷⁸ Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 6.

is lengthy, expensive and time consuming, and often in cases very repetitious. Probably the best example I can give is our Montrose quarry in Melbourne's eastern suburbs. We commenced an extension process for the quarry in 2004 on the back of an unsuccessful extension application in the late 1990s. It was determined that an EES was appropriate for this application. The scope of the EES studies was extremely broad, and it included things which were largely irrelevant to the process. In one particular example we had to do a health study on the basis of claims from some local residents that there were increased asthma rates in children around the quarry. That study in itself cost us about \$150 000 and proved inconclusive.⁷⁷⁹

Mr Hillyer continued by relating Boral's frustration with the operation of the TRG and actions of its members during the EES process for the Montrose extension. Boral's issues were similar to those experienced by IGO with the EES on its Stockman project in eastern Victoria:

All the regulatory bodies that were party to the EES process — the DPI, EPA, DSE, the local council, DHS and community representatives — were party to the technical reference group. They sat on the group that was designed to look at the 13 or so technical papers that were put together and signed off on those. Despite that, all the regulatory bodies still wanted to sign off outside the TRG. That raised more questions, increased the time frame, involved document changes and increased the cost of the process.⁷⁸⁰

He also advised of the additional cost to the company due to the duplication of information in different phases of Boral's EES assessment:

There was significant overlap in the documentation. The EES document itself contained everything that had been put together on the study. The EPA works approval required that information be put into a different format. It was exactly the same information. Again that came at a considerable cost and delay. The total cost of the process was just over \$5 million.⁷⁸¹

Mr Hillyer informed the Committee that after beginning the process in 2004, Boral is yet to receive approval for the extension of its Montrose site.

Extractive industry peak bodies also referred to the EES process as a further time and cost impediment to moving projects from development into production. A CMPA report estimated that an EES adds at least an extra year to work plan approval processes and increases the cost of gaining approval to between \$1.9 million and \$5 million, without any increased certainty of the likely outcome. As a result of these delays, the report estimated the opportunity cost from lost production in excess of \$54.6 million for a hard rock operation⁷⁸² or

⁷⁷⁹ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, pp. 2–3.

⁷⁸⁰ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, p. 3.

⁷⁸¹ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, p. 3.

⁷⁸² Note: the figures in the CMPA report are based averages of extractive developments that required either a planning permit or EES. As the cost of a planning permit is typically lower than that of an EES, the average cost of lost production for an extractives project requiring an EES would be higher than the figures quoted.

\$13.65 million for a sand operation.⁷⁸³ CCAA endorsed the findings of the CMPA report in its submission.⁷⁸⁴

7.3.3 Other stakeholder views

Other organisations also expressed opinions on the EES process as it currently operates in Victoria. Organisations that tendered submissions or gave evidence ranged from local councils to environmental groups to the VCEC.

Evidence received from EGSC, which is the local government had been working with IGO on its Stockman project, indicated how the EES process is used by agency representatives to protect individual interests rather than working together to form a common view and a coordinated position across the Victorian Government:

We believe that agencies have tended to take the opportunity to use the EES process simply to air the independent or statutory views of that agency and to use the process as a way of feeding the statutory requirements of the agency rather than forming a common view. It therefore is not providing a consistent or coordinated position, and it seems more about meeting the needs of the individual departments.⁷⁸⁵

Both Ms Vogel and Mr Hillyer raised concerns about the ability for smaller companies to conduct an EES, given the cost of the process and the uncertainty that projects will receive approval.⁷⁸⁶

EGSC and IGO both spoke of the triple-bottom-line assessment for the EES process, arguing that too much emphasis is placed on environmental outcomes, at the expense of economic and social outcomes. Both parties were involved in IGO's Stockman project, and cited problems stemming from this issue. EGSC's submission spoke of the need to consider not only the negative impacts of mining projects, but also the benefits.⁷⁸⁷ EGSC reiterated this view in its presentation to the Committee:

The focus of the EES process is quite rightly around mitigating the negative impacts of proposed activities, but it does not seem to pay much attention to maximising the positive benefits, and we believe the legislation does provide that opportunity. However, when you consider that the environment is defined as the three elements of social, economic and natural and that the fundamental purpose of the process is to manage risk, one of the main risks seems to be that of not achieving the potential social and economic benefits. The EES process should provide the mechanisms to maximise these benefits, or there need to be additional processes outside of

⁷⁸³ Construction Material Processors Association, *An unsustainable future: the prohibitive costs of securing access to construction material resources in Victoria*, Construction Material Processors Association, 2009.

⁷⁸⁴ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 7.

⁷⁸⁵ Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 3.

⁷⁸⁶ Paul Hillyer, Regional Manager, Victoria, Boral Quarries, *transcript of evidence*, 30 January 2012, p. 3; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

⁷⁸⁷ East Gippsland Shire Council, *submission*, no. 44, 26 August 2011, p. 11.

regulation to ensure that the social and economic benefits of mining activity can be pursued and maximised.⁷⁸⁸

Environment Victoria (EV) argues that the environmental assessment processes for mineral exploration and mining in Victoria is inadequate:

There is no requirement that exploration activities are preceded by a thorough environmental impact assessment carried out by environmental experts. Similarly there is no requirement that mining projects be subject to a rigorous Environment Effects Statement (EES). Given that mining activities generally have irreversible environmental impacts there should be a requirement that all proposed mines are subject to a full EES.⁷⁸⁹

Recommendation 20: That the Victorian Government considers the recommendations of the Victorian Competition and Efficiency Commission's report *A sustainable future for Victoria: getting environmental regulation right* (2009) to improve the transparency and efficiency of the Environmental Effects Statement process in Victoria.

The EES process has undergone several reviews over the last seven years, with the VCEC in particular examining it in its two reports, *Regulation and regional Victoria: challenges and opportunities* (2005) and *A sustainable future for Victoria: getting environmental regulation right* (2009). The VCEC stated in its submission to the Inquiry that it recommended in these two reports:

... that the *Environment Effects Act 1978* be amended to provide statutory guidance on the matters to be considered in deciding whether proposed projects, such as large-scale mining projects, are likely to have a significant impact on the environment and should therefore be referred to the minister, the assessment options available to the minister for different levels of impact, and the processes to be followed in respect of each assessment option.⁷⁹⁰

More recently, the Parliament of Victoria's Environment and Natural Resources Committee (ENRC) completed its review into the EES process in September 2011, proposing 50 recommendations to substantially improve the transparency and rigour of the process.⁷⁹¹ In March 2012, the Victorian Government issued a response to the Inquiry report, in which it recognised the need to reform the process. The reform will be driven by the following priorities:

- The need to protect Victoria's environment
- The need to strengthen the efficiency, timeliness and certainty of the EIA [environmental impact assessment; an EES] process in order to reduce the regulatory burden on business and encourage investment

⁷⁸⁸ Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 3.

⁷⁸⁹ Environment Victoria, *submission*, no. 50, 29 August 2011, p. 3.

⁷⁹⁰ Victorian Competition & Efficiency Commission, *submission*, no. 4, 25 July 2011, p. 2.

⁷⁹¹ Environment and Natural Resources Committee, *Inquiry into the Environment Effects Statement process in Victoria*, Parliament of Victoria, Melbourne, 2011.

- The need to ensure the transparency, accountability and fairness of applicable processes.⁷⁹²

The Victorian Government will proceed with reforms addressing the report's recommendations and establish the following:

- reformed processes to provide certainty to all parties on processes, considerations and timelines
- a set of objectives to guide implementation of the reforms
- a tiered-suite of assessment processes to enable efficient assessment of projects with a variable potential for significant environmental impacts
- principles of fairness, including third-party rights, as well as reviews of key procedural decisions
- opportunities to establish clear links between the outcomes of the EES process and regulatory decisions to drive environmental outcomes and streamline regulatory requirements.
- the option to enable assessment of strategic proposals that have a wider scope than individual projects, where this would offer both efficiency and environmental benefits.⁷⁹³

The Committee notes the Victorian Government's responses to the VCEC and ENRC reports and awaits the reforms to the EES process.

7.4 Cultural heritage and native title

Compliance with cultural heritage and native title regulations remain issues of concern to the proponents of mineral exploration, mining and extractive projects. There is a view with the resources sector that compliance with cultural heritage and native title regulations adds time and money costs to advancing projects through Victoria's regulatory system and is claimed to be an additional disincentive for investment by the resources sector in Victoria.

Unlike jurisdictions such as Western Australia, cultural heritage and native title are considered separately, rather than two parts of the same regulatory process of recognising prior Aboriginal occupation of the land. Mr Paul Simmons, solicitor at Native Title Services Victoria (NTSV) told of this duality in his evidence to the Committee:

One thing we would like to mention is that there is complexity around the issue of native title and Aboriginal cultural heritage. The two are dealt with sometimes

⁷⁹² Victorian Government, *Victorian Government response to the Report of the Environment and Natural Resources Committee on its Inquiry into the Environment Effects Statement process in Victoria*, Melbourne, 2012, p. 1.

⁷⁹³ Victorian Government, *Victorian Government response to the Report of the Environment and Natural Resources Committee on its Inquiry into the Environment Effects Statement process in Victoria*, Melbourne, 2012, pp. 1–2.

separately because the native title agreement is negotiated at the licence stage. It is only at the stage where the exploration applicant wants to get on the ground and their work plan involves certain ground-disturbing activities that might trigger a cultural heritage consideration that has to be dealt with that at that stage. In other jurisdictions, such as Western Australia, they have put into place procedures whereby there have been regional agreements negotiated for the representative traditional owner groups and the State of Western Australian, which allow the native title agreements to incorporate cultural heritage considerations and have them registered and recognised under the cultural heritage legislation, so essentially a one-stop-shop.⁷⁹⁴

As a result, the two aspects of cultural heritage and native title will also be examined separately in this section of the report.

7.4.1 Cultural heritage

Where mineral exploration takes place in areas of known cultural (Aboriginal) sensitivity, a CHMP must be prepared. Under the *Aboriginal Heritage Act 2006* (AHA), mineral licence holders and EIWA applicants are required to prepare a Cultural Heritage Management Plan (CHMP) in consultation with DPCD for work proposed in areas of Aboriginal cultural heritage in Victoria. A CHMP is also prepared as part of an EES. The CHMP process is more fully outlined in chapter six of this report.

A CHMP must be completed and approved prior to any other regulatory approval, such as exploration and mining licences, work plans and work authorities and the commencement of operations. Mr Ian Hamm, Executive Director of Aboriginal Affairs Victoria (AAV) explained why CHMPs need to be approved before any other regulatory approvals:

If a CHMP is required, then it must be approved before any other licence, and in this case an exploratory licence or work plan approval can be obtained and works begin. The reason for that is that under the old regime, before this act came into effect, Aboriginal heritage was usually only dealt with when it was discovered halfway through works, whatever those works might be — mining, housing developments. Freeways, for example, would cause stoppages, enormous delays, very costly, or the Aboriginal heritage wasn't reported in which case it was destroyed but nobody was any the wiser. This way, before work starts, people know where it is and what they need to do in their project management to accommodate the Aboriginal heritage and also get their works done as well.⁷⁹⁵

Submissions to the Inquiry addressing the CHMP process for mineral exploration, mining and extractives were provided by IGO, the CMPA and the Victorian Aboriginal Heritage Council (VAHC). Additional evidence was provided in the public hearings by CCAA, DPCD and NTSV. These viewpoints encompass the tensions in Victoria between mineral exploration, extractives and mining companies and agencies that are charged with protecting Victoria's environmental and cultural heritage.

⁷⁹⁴ Paul Simmons, Senior Solicitor; Future Acts Coordinator, Native Title Services Victoria, *transcript of evidence*, 7 November 2011, p. 4.

⁷⁹⁵ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 6.

Mr Hamm from DPCD gave evidence to the Committee of where and when the triggers for a CHMP are activated in the approvals processes. He also spoke of how the CHMP process had only a minimal impact on the regulatory process for mineral exploration:

Under the Act there are three elements when a Cultural Heritage Management Plan is required: if the Minister directs that there's one, which rarely happens; if one's required under an EES, which we've had a few of those; but the usual method of it happening is under the Aboriginal Heritage Regulations which has a series of triggers in it which says that the Aboriginal management plan has to be developed.

... exploration rarely triggers an Aboriginal heritage management plan, and probably the third dot point is the most relevant one: of the 1,191 CHMPs to date since the Act commenced that relate to exploration, 3 have been for exploration. Five were triggered and two were discontinued and all three were approved, so it really has a minimal impact on the Heritage Act, the Heritage Act has a minimal impact on mining exploration.⁷⁹⁶

In its submission, IGO explained that CHMPs are required when ground disturbing exploration is planned within defined areas of cultural sensitivity and typically require archaeologists and representatives of local Registered Aboriginal Parties (RAP) to complete detailed site visits. In these cases, work plans cannot be approved until a CHMP is prepared and approved. The company claimed the development of CHMPs results in significant expense and delay despite the actual risk of mineral exploration destroying significant sites being low. It recommended that a risk assessment (completed by an archaeologist and the RAP) would be adequate in identifying culturally sensitive areas to be avoided.⁷⁹⁷

The cost of developing a CHMP was seen as another impediment to the development of resource sector projects. The CMPA provided anecdotal evidence that referred to the escalating costs of developing a CHMP. As stated in chapter six, It claimed costs for a simple 'desktop' cultural heritage study have escalated since the introduction of the AHA from \$4000–\$8000 in 2007 to \$40 000 in 2011. More complex studies are alleged to have escalated from \$120 000 in 2007 to up to \$270 000 in 2011.⁷⁹⁸ According to the CMPA, the combination of cost, the length of processing time for a CHMP and the uncertain outcome adds to a proponent's project risk, providing a disincentive to companies seeking to invest in Victoria.⁷⁹⁹

Mr Bryon Powell, a Wadawurrung traditional owner representing NTSV, gave evidence about factors that contribute to costs and delays in the CHMP assessment. Mr Powell claims that many of these factors are issues with the assessment process rather than issues with Aboriginal parties:

Some of the delays that we have found have been not through our part in the process, because our part in the process is basically we get a notice of intent; we have 14 days to respond to it. We then go through the assessment process of the Cultural Heritage Management Plan, then we have a 30-day timeline to evaluate it

⁷⁹⁶ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, pp. 5–6.

⁷⁹⁷ Independence Group, *submission*, no. 39, 24 August 2011.

⁷⁹⁸ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁷⁹⁹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

and approve it. The assessment process can take a hell of a long time. That can also be very dependent on Aboriginal Affairs Victoria and their interpretation of archaeological practices, it can be dependent on work practices as far as being able to resource the work. There are examples where we have gone out and actually done the work on the ground, done the assessment, and the process has been fairly straightforward.

The difficulty arises when we have to spend time doing further investigation because what seems like just an innocuous couple of stone tools on the surface turns out to be a rather intense occupation site that shows evidence of being there for thousands of years. That needs careful examination. That can take time, but we can still sit down with the sponsor or the organisation and negotiate around how the work can proceed without any large delays. It's process-driven rather than Aboriginal-driven.⁸⁰⁰

Mr Hamm and Mr Jamin Moon, Senior Aboriginal Heritage Advisor from DPCD gave evidence about the range of costs and the Department's interest in understanding the way costs for CHMP have grown and which elements have contributed to the increased cost:

Mr HAMM — I would have to say that we're getting some concerning figures to me around what we estimated the cost would be when we developed the legislation to what we're being advised some of the costs are when that's done. We've got three case studies in the mining area, probably not enough in itself to concern me, but it seems to be not uncommon with other submissions we're getting. In effect, it's looking that at the development of Cultural Heritage Management Plans, particularly complex ones which involve the fieldwork, and are proving more expensive than we envisaged so we want to pick apart that to see what the causes of that are. I don't think there's a single cause, as I said before I think it's a complex set of things interweaving together. We want to pick that apart and find out what actually it's leading to what could be regarded as ostensibly high costs for this and see if we can find a way forward through the regulations in the Act.

The CHAIR — Can you give us two extremes?

Mr MOON — I did see one submission involving wind farms where the company that supplied the submission said that they'd paid \$750,000 for a Cultural Heritage Management Plan. I'm interested in finding more, particularly about that one, because I was quite shocked when I read it to see if somebody has paid that for a Cultural Heritage Management Plan it must be over a really big area ...

...

I want to find out what's going on there, rather than speculate, but that figure did concern me. At the other end of the scale, you do get ones where they're comparatively quite small for a plan to be done because the work required is quite small ... About \$20,000, \$30,000. Complex plans generally range from about \$30,000 to about \$120,000, that's what we're finding. \$750,000, well, yeah, I'd probably walk out of my job and go and work for them if they were charging that much. I'm very dubious about that.⁸⁰¹

⁸⁰⁰ Bryon Powell, Member, Victorian Traditional Owners Land Justice Group, *transcript of evidence*, 7 November 2011, p. 7.

⁸⁰¹ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 8; Jamin Moon, Senior Heritage Policy Officer, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 8.

In support of the CHMP system, the VAHC's submission stated that it does not believe the system administered under the AHA impedes mineral exploration. It believes the AHA provides a clear process creating certainty for the resources sector, allowing it to meet its legal obligations in a timely manner. Low impact exploration activities such as drilling do not trigger the CHMP process, while strict timelines and clear decision pathways are designed to provide certainty. VAHC recommended that targeted engagement of the mining and extractives industries with traditional owners would assist reduce compliance issues and generate better cultural heritage outcomes.⁸⁰²

From the viewpoint of DPCD, the CHMP process is seen to work well in protecting Aboriginal cultural heritage, while balancing the competing needs of natural and cultural heritage and economic development. Mr Hamm from DPCD claimed the CHMP process is effective in meeting these needs:

Fundamentally, the CHMP process is efficient and effective; it provides certainty once approved and it's lining up hopefully all the other pieces of legislation that revolve around Aboriginal heritage and landscape management. We are looking, as I said, reducing the triggers with DPI and other areas as well to ensure that we give balance to landscape use and protection of Aboriginal heritage. We've already relaxed regulations around the drilling and the area works plans and the review of the Act, as I said before, hopefully will lead to a lowering of costs and so forth around the CHMP's process.⁸⁰³

Mr Turner from the AIG concurred with DPCD's statement of the value of AAV's relaxation of cultural heritage regulations for lower-impact exploration, and praised its contribution to reducing the regulatory burden for exploration in Victoria:

AAV has relaxed requirements when working in areas and they have adopted a low impact exploration definition, which means that a lot of the onerous regulations which came from Aboriginal Affairs was improved. So that was good.⁸⁰⁴

As stated in chapter six, the Victorian Government is currently undertaking a legislative review of the AHA. At this time, the Committee believes it is premature to make any findings or recommendations until the review is completed and the government has responded to review later in 2012.

7.4.2 Native title

As described previously in chapter six, the legislative environment governing native title in Victoria is affected by both Victorian and Commonwealth government legislation. While a relatively small part of the resource sector's regulatory environment in Victoria, native title is seen as another element providing uncertainty for proponents of mineral exploration, extractives and mining projects in the state. In defining the scope of the issue, native title rights have effectively been extinguished on alienated Crown land (that is, Crown land that is now privately held) or on land that is now Crown land but was once

⁸⁰² Victorian Aboriginal Heritage Council, *submission*, no. 56, 5 September 2011.

⁸⁰³ Ian Hamm, Executive Director, Aboriginal Affairs Victoria, *transcript of evidence*, 14 December 2011, p. 9.

⁸⁰⁴ Geoff Turner, Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 4.

private land.⁸⁰⁵ Therefore, native title issues are only relevant on around 36 per cent of Victoria's land area that is held as Crown land. The vast majority of Victoria that is privately held land is unaffected by native title.

Mr Simmons from NTSV spoke of the myths that surround the native title system in Victoria and that for resource sector project proponents, there was a high likelihood of achieving a relatively quick, decisive native title outcome:

I guess there is a fair degree of myth about the Native Title Act and native title processes. One myth might be that native title stops things or slows things down. The Native Title Act is quite clear and it says that once an exploration applicant lodges their application, they have a period of up to six months whereby if they can't reach an agreement with the traditional owner group, they can go to the National Native Tribunal and seek the Tribunal to make a decision about whether an application proceeds.

The experience in Victoria is that the vast majority of people and companies who are keen to progress actually get their outcomes.

...

The jurisprudence in this area is that there has never been an application which has been knocked back by the Tribunal in Victoria. So native title is not an impediment. I think the relationship between traditional owner groups and industry is very good, and we would probably like to see more of the regional sort of agreements put in place.⁸⁰⁶

At a federal level, the *Native Title Act 1993* (NTA) is the key piece of legislation and any action under the MRSDA taken on approving work authorities and granting licences must not be inconsistent with the NTA. The NTA provides for Indigenous Land Use Agreements (ILUAs) to be developed as a way to streamline native title processes for mineral exploration and mining. According to DPI, ILUAs are the preferred method of native title negotiation in the resource sector.⁸⁰⁷

In terms of the resources sector in Victoria, the Victorian Division of the MCA has negotiated in conjunction with NTSV a number of ILUAs with the Dja Dja Wurrung people (central Victoria around Bendigo) and the Wadi Wamba Barapa people (along the Murray River around Swan Hill) which were finalised in 2005.⁸⁰⁸

One of the difficulties encountered by the resources sector in regard to native title is in developing agreements with the right Registered Aboriginal Party (RAP). Mr Roberts of Orion Gold spoke of his experience in working with Aboriginal groups in eastern Victoria as part of Orion's exploration project at Walhalla; and the different native title regimes in Victoria and elsewhere in Australia:

⁸⁰⁵ David Yarrow, Legal Advisor, Victorian Traditional Owners Land Justice Group, *transcript of evidence*, 7 November 2011, p. 6.

⁸⁰⁶ Paul Simmons, Senior Solicitor; Future Acts Coordinator, Native Title Services Victoria, *transcript of evidence*, 7 November 2011, pp. 3–4.

⁸⁰⁷ Department of Primary Industries, *Information regarding the processing of mineral tenements under the Native Title Act 1993*, Victorian Government, Melbourne, 2011, p. 10.

⁸⁰⁸ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 35.

Mr ROBERTS — One of the difficulties has been — and it is not so much in Victoria, but elsewhere — identifying which is the correct group to speak to. There is a reasonable process now whereby we, having had an exploration licence granted, advertise notices, and if nobody responds in that period, then you can proceed without that. However, if a number of people with conflicting sorts of claims respond and that has not been heard in the Tribunal, then that all gets rather difficult. I cannot offer a simple solution to that, I do not think. I think that is a bigger question than we are able to deal with.

It is more of a government and social sort of issue to do it, but suffice to say that where we have got clear claimants, we have very good relations with them. The Gunai/Kurnai are very helpful and understanding of what we are trying to do, and we try to utilise their services as much as we possibly can, which I think is important. So native title can work very well, with goodwill on both sides, but it can get quite messy where there is argument between different groups and it is uncertain as to who is in control. If you have an agreement negotiated and go to all the effort of getting that settled, they might then be the wrong people. Somebody else might be the right person, so it needs a little bit of thought, I think.⁸⁰⁹

As previously noted in section 7.1.3, native title was also an issue with Iluka Resource's decision to not seek an extension of its mineral sands mine at Douglas in western Victoria. The issue was not so much about the process of meeting the legislative requirements of notification of potential native title claims, but with the length of time that DPI took to begin the notification process.⁸¹⁰

7.5 Native vegetation management

The Victorian Government's *Native Vegetation Management Framework* (the Framework) and its key policy outcome of net gain of native vegetation is perceived by a number of extractive and mining companies as an additional regulatory barrier impeding greater investment in mineral exploration, extractives and mining projects in Victoria.

The Victorian Government established the Framework in 2002 to provide strategic direction for protection, enhancement and revegetation of native vegetation across the state. The Framework's primary objective is achieving a reversal across the entire landscape of the long-term decline in the extent and quality of native vegetation, leading to a net gain'.⁸¹¹ Net gain refers to the outcome for native vegetation and habitat where overall gains are greater than overall losses and where individual losses are avoided where possible.⁸¹²

Net gain accounts for improvements in the quality and extent of native vegetation, overcoming native vegetation loss from unpermitted clearing and other processes and practices and ensuring no net native vegetation loss from permitted clearing. The three-step approach of avoid, minimise and offset is key to achieving this aim. The three step approach is defined as:

⁸⁰⁹ Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011, p. 11.

⁸¹⁰ Alison Currie, Principal Exploration Geologist, Iluka Resources, *transcript of evidence*, 10 October 2011, p. 3.

⁸¹¹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 28.

⁸¹² Department of Natural Resources and Environment, *Victoria's native vegetation management: a framework for action — summary*, Victorian Government, Melbourne, 2002.

- **Avoid** adverse impacts, particularly through vegetation clearance.
- If impacts cannot be avoided, **minimise** impacts through appropriate consideration in planning processes and expert input to project design or management.
- Identify appropriate **offsets** for vegetation loss.⁸¹³

The Framework applies to all earth resources industry activity that will cause the removal, destruction or lopping of native vegetation. It is relevant to any exploration and mining activities taking place in Victoria. Applications for exploration work plans and mining and extractive work authorities will be referred from DPI to DSE to determine the proponent's compliance requirements with the Framework, including the extent and types of native vegetation offsets.

Ms White from DSE gave evidence to the Committee of the workings of the native vegetation offset system in Victoria:

Offsets can be achieved in several ways. These include action by the proponent or by the proponent funding action that is conducted by others on the proponent's behalf. Offsets may be on-site or they may be off site or they may be purchased from a third party. To deliver offsets, proponents may plant vegetation or improve the quality of existing vegetation on land that they own, or they can purchase land with the requisite native vegetation from a third party and establish arrangements for the ongoing management of that land. Offsets may in some cases be obtained from public land.

The majority of native vegetation offsets approved to date are created when a landowner commits to carrying out revegetation or other management actions over a 10-year management period and secures the offset in perpetuity through the use of agreements registered on title. In some instances proponents have generated native vegetation credits by donating land to the Crown, and that land is consequently managed by the Crown for conservation purposes. Offsets are in many cases required to meet the like-for-like rule. Like-for-like means that the vegetation type forming the offset must have the same features that it replaces. Where a direct replacement cannot be found DSE will, in the first instance, require the proponent to demonstrate that they have undertaken a reasonable search. If the proponent can demonstrate that a reasonable search has been carried out, an alternative offset management arrangement can be agreed to.⁸¹⁴

In its submission to the Inquiry, the Minerals Council of Australia (MCA) supports the Framework, its key policy outcome of net gains in native vegetation and does not 'seek to challenge the principles or policies of the Framework'.⁸¹⁵ However, evidence was received of issues and problems with the Framework based on the experiences of extractive and mining companies operating in Victoria. The issue of the calculation, sourcing of land and long-term management of offsets were particular concerns for the resources sector.

⁸¹³ Victorian Government, *submission*, no. 58, 22 October 2011, p. 28.

⁸¹⁴ Kylie White, Executive Director, Biodiversity and Ecosystem Services, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, p. 8.

⁸¹⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 41.

The evidence presented to the Inquiry claimed the Framework was a barrier due to the prescriptive application of native vegetation offsets in work authorities and the high cost of purchasing offsetting land to address perceived rather than actual native vegetation impacts. The offset component of the framework was particularly concerning for the extractives industry, with the CMPA and CCAA indicating that offset requirements 'sterilise land from extractive operations'.⁸¹⁶

7.5.1 Native vegetation management — the resource sector's view

Native vegetation controls were seen as problematic for the mining and extractives industries. Many submissions viewed these controls as an additional regulatory barrier to the success of exploration, extractives and mining projects in Victoria. However, the resources sector provided some constructive suggestions on how native vegetation could be better managed.

7.5.1.1 *Extractives industry*

The CMPA's submission claimed that native vegetation offsets have had negative impacts on Victoria's extractives industry. These impacts include the 'sterilising' of land from extractives operations through proscriptive application of native vegetation offsets in work authorities and the high cost of purchasing offsetting land to address perceived rather than actual impacts on native vegetation.⁸¹⁷

Boral's submission relates its experience in gaining approvals for its Deer Park quarry, which is located among the Western Plains Basalt Grasslands. Boral cited the 'hidden' costs of maintaining a 90-hectare native vegetation conservation offset area in perpetuity, as part of its approval conditions. This land is in private ownership and maintained by Boral. They question whether conserving small, isolated parcels of conservation land is in the public interest and the most sustainable outcome for native vegetation.⁸¹⁸

7.5.1.2 *Explorers and miners*

IGO's submission cited native vegetation as one of many barriers making Victoria an unfavourable jurisdiction for mineral exploration and mining. It noted particularly the native vegetation framework's 'inflexibility' in dealing with 'temporary' clearing of native vegetation for exploratory drilling and purchasing offsetting land outside DSE's 'Bush Broker' system. IGO also noted that while forestry is exempt from the Framework, mineral exploration is not, despite its claiming the impact of mineral exploration is demonstrably lower than forestry. The company also makes reference to other issues involving compliance with the Framework, including the high cost in money and time procuring offsetting land and the inability of mining companies to claim purchase of offsetting land as part of its statutory expenditure commitments.⁸¹⁹

⁸¹⁶ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁸¹⁷ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁸¹⁸ Boral Quarries, *submission*, no. 37, 23 August 2011.

⁸¹⁹ Independence Group, *submission*, no. 39, 24 August 2011.

Geos Mining Consultants' submission also spoke of its client's recent experience with meeting the requirements of the Framework when conducting mineral exploration, including undertaking habitat assessments for exploration drilling and to purchase offsetting land for exploration purposes. In both cases, it is claimed disturbance from exploration was both minimal and temporary, and that the use of current rehabilitation practices and natural re-growth would see exploration areas return to 'minimal disturbance' within 12 months.⁸²⁰

MCO's submission to the Inquiry spoke of the cost of purchasing offsetting land for exploration and mining works as part of the high cost structure for regulatory compliance in Victoria, alongside Environmental Impact Assessments or Indigenous Cultural Heritage Studies are considered unreasonable. It claims the cost incurred to clear one hectare of native vegetation in the Box-Ironbark region is in the order of \$150 000 per hectare. Like many other compliance costs, these are incurred at the start of an exploration project where uncertainty is high and there is the greatest demand on capital.⁸²¹

Ms Vogel from DMS spoke of the seemingly high standards of native vegetation offsetting required as part of the development of the company's mineral sands mine in western Victoria. Similar to the case of Boral above, DMS questioned the rationale behind the requirements in the Framework to maintain native vegetation offsets in perpetuity on freehold land. As part of the EES for its Donald mine development, DMS would need to offset the vegetation lost from land clearing on the area of its mining licence. Ms Vogel gave evidence that as a result, DMS would have to:

Retain, and recruit 70,000 new plants. Planting 70,000 is one thing ... but to find 13,812 large old trees on private land that then has to be locked up into perpetuity, so we have to compensate the landholder theoretically for generations of landholders to care for and maintain these trees, is a very difficult task.⁸²²

Ms Vogel drew attention to the open and unanswered question of who is responsible for the long-term management of the offsets after mining ceases:

There are different considerations as to how this policy is going to be managed after 10 years. Theoretically, at 10 years, somebody comes out and looks at our stands of trees and says, 'Yes, you have met your gain requirements', and we leave, and then what happens, no-one can tell us. Until we really know that, it's very hard to go to a farmer about how they're going to be compensated or what they are going to be compensated.⁸²³

Ultimately, Ms Vogel gave evidence of the disincentives to her company's project from compliance with the high offsetting requirements for large old trees:

We will have to go far and wide into the local community to find them, if we gain approval to remove them all within the project area, it might come down to a financial calculation where the compensation to the landholders who have the trees —

⁸²⁰ Geos Mining, *submission*, no. 15, 17 August 2011, pp. 1–2.

⁸²¹ Morning Star Gold, *submission*, no. 14, 16 August 2011, pp. 3–4.

⁸²² Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 7.

⁸²³ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 7.

compensating them into perpetuity — actually outweighs the value of the material sitting underneath the tree and we end up with a pit with holes in it with stands of trees, which actually may be DSE's preferred option.⁸²⁴

In their submission, the PMAV claims that the native vegetation removal and restoration rules are unclear to small miners. It also claims there is a perception among its membership that DSE are 'using, or misusing, the native vegetation controls to prohibit mining', especially for small miners operating claims of under five hectares.⁸²⁵

7.5.1.3 *More flexible native vegetation management*

As noted above the MCA, as a peak body for the mining industry supports the Framework, but its submission to the Inquiry and those of other organisations have recommended changing to the Framework to allow greater flexibility without compromising its aim and intent. The most important of these is to allow Crown land to be used for native vegetation offsets.

The MCA's submission spoke of how relatively simple improvements to native vegetation management would assist in allowing the sector's requirement for net gain to be met in an appropriate way. It claimed there are numerous occurrences where the required vegetation classes for remediation do not exist on private land, so the ability to offset on Crown land is essential for both the sector and the environment.⁸²⁶ Ms Davison of MCA argued that there are also benefits for the government as the ability to purchase offsets on Crown land would better resource DSE as the manager of Crown land:

The industry could provide enormous benefit in that if we were given access to providing native vegetation offsets on Crown land. The Crown land manager, we have long suggested, is not adequately resourced, and there is a lot of opportunity for the private sector to get involved in that with the ultimate goal of no net loss. In some cases the industry is better able to provide that preservation of native vegetation on Crown land.⁸²⁷

The MCA's policy position was also supported by DMS.⁸²⁸

This view was also echoed by the extractives industry. CCAA in its submission, made reference to the establishment by the Victorian Government of the 15 000 hectare Western Grasslands Reserve on the edge of Melbourne's Urban Growth Boundary (UGB) as a model that could be expanded to provide access to native vegetation offsets on Crown land for extractives and other industries across

⁸²⁴ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 7.

⁸²⁵ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁸²⁶ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 5.

⁸²⁷ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 4.

⁸²⁸ Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 10.

Victoria. This position was also supported by the CMPA in their submission to the Inquiry.⁸²⁹ In its submission, CCAA stated that:

The Western Grasslands Reserve is only accessible for offsets for developments within the Urban Growth Boundary (UGB). All other proposed developments outside the UGB, including quarry developments adjacent to the Western Grasslands Reserve, do not have access to this Reserve for their offsets. This does not provide for a level playing field for developers seeking native grassland offsets. Such anti-competitive actions by Government should be carefully considered in the future. Future offset reserves should be available for all developers across the State.⁸³⁰

The extractives industry had its own recommendations regarding the management of native vegetation in Victoria. CCAA recommended an independent body be established to manage native vegetation offsets in Victoria, similar to the South Australian Native Vegetation Council. In that state, it is claimed that offsets can be achieved either through agreed offsets or payment into the Native Vegetation Fund to undertake approved native vegetation works.⁸³¹

However, Ms Melissa Ballantyne, Solicitor from the Environmental Defender's Office of South Australia claimed that SA's regulations on native vegetation were much more permissive than Victoria's. She gave evidence to the Committee that:

There is an exemption for mining activities essentially in respect of approval to clear native vegetation in this State. However, that exemption does allow for significant environmental benefits to be considered ... We would suggest that they don't necessarily live up to expectations and perhaps we are not adding to our native vegetation resources in that way but simply creating the kind of lending bank which is taken from routinely and not added to. Also, there is not legislation to cover the clearance of native vegetation; it is simply reduce the guidelines, and we would suggest that that is not a strong enough regulation.⁸³²

The CMPA proposes calculating offsets against actual rather than perceived native vegetation impacts. This would be achieved by balancing the value of extracted resource against the environmental value of the land where extraction occurs. It also recommends that the extractives industry be exempted from native vegetation controls due to its lower environmental footprint.⁸³³

7.6 Improved engagement with the resources sector

The Committee received evidence indicating the resources sector is concerned with the way the Victorian Government, and DPI in particular engages with the resources sector. A commonly voiced criticism was that DPI is seen by the sector as a regulator, rather than a facilitator and/or promoter of the sector. Various industry stakeholders (especially those involved in small mining and prospecting) consider the current structure of the Earth Resources Division of DPI to have

⁸²⁹ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

⁸³⁰ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011.

⁸³¹ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011.

⁸³² Melissa Ballantyne, Solicitor, Environmental Defenders Office of South Australia, *transcript of evidence*, 18 November 2011, pp. 3–4.

⁸³³ Construction Material Processors Association, *submission*, no. 40, 24 August 2011.

shifted from an industry-focused position to a very subdued regulatory role.⁸³⁴ Stakeholders called for the Victorian Government to reorient DPI's role to one of a customer-focused agency that facilitates and assists companies engaged in exploration, mining and extractive projects in Victoria.⁸³⁵

Throughout submissions, there was a strong consensus on the need to resolve the complex nature of the Victorian Government's regulatory regime. Various submissions recommended that government employs either a 'lead agency' approach or a 'one-stop-shop' to facilitate and coordinate mineral exploration, extractives and mining projects in Victoria through the whole-of-government regulatory approval process.⁸³⁶ Across a range of submissions, it was argued that either approach would streamline processes and timelines for approval of exploration and mining work plans, as well as reduce delays in referral processes between DPI and other government agencies.⁸³⁷

The evidence was mixed on which of the two suggested models, either the 'one-stop-shop' or 'lead agency' would be the best fit in Victoria. The Committee has formed the view that there was some confusion in the industry around the difference between the two different approaches.

The Committee ultimately found in the course of its investigation that the successful 'one-stop-shop' facilitation model used in South Australia (SA) was the most effective for improving the transition of late stage exploration projects into mining operations. By providing a single point of entry into the state's regulatory

⁸³⁴ Rita Bentley, President, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011; William J Kyte, *submission*, no. 6, 27 July 2011; Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁸³⁵ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011; Brian Hauser, State Director Victoria-Tasmania-South Australia, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011; Independence Group, *submission*, no. 39, 24 August 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Morning Star Gold, *submission*, no. 14, 16 August 2011; Orion Gold, *submission*, no. 35, 22 August 2011; Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011; Unity Mining, *submission*, no. 34, 22 August 2011; Fiona Weigall, Manager, Major Projects & Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011.

⁸³⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁸³⁷ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 2.

system, the SA model coordinates the SA Government's regulatory processes through a single agency. This is a great strength of the SA system and allows proponents to deal only with a single government agency with a case manager co-ordinating the regulatory approval process.

7.6.1 Other jurisdictions

Industry stakeholders directed the Committee's attention to the models used by the South Australian and Western Australian Governments. These jurisdictions were lauded in many submissions and by many witnesses as the best practice agencies regulating the promotion of mineral exploration and development of extractives and mining projects in Australia.

The Committee recognises both the South Australian and Western Australian processes as relevant only to successful exploration projects that are moving into the development phase. Other incentives are required to increase levels of investment in mineral exploration in Victoria as part of a wider package of policies.

7.6.1.1 South Australia

South Australia was referred to in many submissions as the model jurisdiction in Australia for effective government facilitation of mineral exploration and mining projects.⁸³⁸ The AMEC claimed the South Australian Department for Manufacturing, Innovation, Trade, Resources and Energy's (MITRE; formerly PIRSA⁸³⁹) model of facilitation has been highly successful in converting late stage mineral exploration projects into production in relatively short timeframes, stating that:

National industry best practice for the mine development consent process is in SA where an economically viable exploration project can be moved to production within 12 months under the guidance of a dedicated PIRSA Minerals case officer.⁸⁴⁰

Lakes Oil's submission stated the role taken by MITRE as both facilitator and regulator has resulted in more exploration and mining activity being drawn to SA.⁸⁴¹

The MCA also cites MITRE's method of regulatory coordination and project facilitation as worth emulating, stating that SA 'consistently leads the nation in regard to policy and regulatory settings'.⁸⁴²

⁸³⁸ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Lakes Oil, *submission*, no. 11, 15 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011.

⁸³⁹ Note: the Energy and Resources division was part of the former Department of Primary Industries and Resources SA (PIRSA) until 1 January 2012.

⁸⁴⁰ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 2.

⁸⁴¹ Lakes Oil, *submission*, no. 11, 15 August 2011, p. 1.

⁸⁴² Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 27.

Several stakeholders considered the 'one-stop-shop' approach of the SA Government to be a model which would be worth replicating.⁸⁴³ The benefits to the resources sector of the SA model comes from having a single point of entry into the regulatory system for proponents mining and extractive projects in that state. This single point of entry provides increased certainty for proponents from better co-ordination of the regulatory process. MITRE's approach for project development is one part of the SA Government's wider package of support to increase investment the resources sector (the *Plan for Accelerating Exploration* [PACE]). The PACE program is covered in greater depth in chapter eight of this report.

When the Committee travelled to South Australia to take evidence in November 2011, it heard evidence from a number of industry stakeholders regarding the operation of the SA model. Mr Belperio from Minotaur Exploration gave evidence of the functioning of SA's 'one-stop-shop' for the development of mining projects. He explained that for late stage explorers moving into a development stage, SA's system provides a single point of contact for organising the various regulatory approvals:

One-stop-shop is just that ... 'welcome to the Department' where they say: 'Okay, yep, we understand what you are trying to do. This is how we can help you. Just come and see this person or see this range of people, depending on whether you have an environmental problem, a land access problem, a geological technical data problem'. Basically saying: 'Come to these people for help'.

... in South Australia if we have got a land access problem, whether it is native title or environment, or groundwater, we still have a first point of contact in the Geological Survey. They do the chasing up.⁸⁴⁴

Mr Belperio also spoke of the difference between exploration and project development, saying that under the SA Government's system, the 'one-stop-shop' provisions are:

... most commonly used for a development project rather than exploration because exploration pretty well tends to go off and do our own thing, but certainly if you are trying to get a mine approved, that is where the one-stop-shop principle comes in and you are given a development officer/case manager who basically acts as the front for all the regulatory requirements that you are going to need for that mining lease.⁸⁴⁵

⁸⁴³ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011; Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 5; Geos Mining, *submission*, no. 15, 17 August 2011; Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Resource Futures, *submission*, no. 25, 19 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

⁸⁴⁴ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, p. 9.

⁸⁴⁵ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011, p. 9.

Mr Forbes from SACOME told the Committee of the approach taken by MITRE in assisting late stage explorers moving into production:

... The strengths obviously are that when a major mine is coming into fruition — there's a great proposal and they are starting a process of working through a mining lease for the Government — that single point of contact, who is that? ... you can get one person who is your case officer ... they will start them off and say: 'These are the things you have to do. These are the hurdles you have to jump', and they will sit down and work their way together. Also that case manager would deal with other agencies by putting that proposal to other agencies, Department of Environment Heritage and all that kind of thing. They will take that out because you have not got — the person who is about to start the project has to traipse around from department to department.

...

I know in other jurisdictions that is the case and it drives them nuts, quite frankly. It slows it down enormously and they are running from pillar to post. Having that one single person as their case manager is fantastic. I am struggling for a weakness, quite frankly, in having one person, but it is good. That is a great system.⁸⁴⁶

Mr Edwards from the AMEC spoke of the benefits of certainty for industry created by a streamlined, facilitated process such as that in South Australia:

If you know that you have a 12-month period and a case officer is going to walk you through, you can go to bankers, investors and material suppliers with confidence. If you know you have long tenure in exploration terms, that is a plus. The marketing is separate. It has to sell the whole package of reforms that Victoria can put in place to make every step of the chain attractive for an explorer and a miner.⁸⁴⁷

The assessment of South Australia as a benchmark regulatory system was also confirmed by the geothermal energy sector. Mr Mark Miller, Managing Director for Greenearth Energy, compared the paradigms of the SA and Victorian resource departments from his experience in geothermal exploration and project development in both states:

If you ask somebody in DPI how they see their role, invariably you will hear the words 'We are regulators'. If you ask somebody in PIRSA [MITRE] how they view their role, you do get a slightly different answer to that. They are regulators and promoters.⁸⁴⁸

7.6.1.2 *Western Australia*

An alternative to the SA model of resource sector engagement was found in the 'lead agency' approach used in Western Australia (WA). In 2009, the WA Government implemented a Lead Agency Framework (the Framework) to reform

⁸⁴⁶ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 9.

⁸⁴⁷ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 5.

⁸⁴⁸ Mark Miller, Managing Director, Greenearth Energy, *transcript of evidence*, 26 September 2011, p. 7.

the project approvals process for major resources, industry and infrastructure projects in the state.⁸⁴⁹

The Framework assigns project support to new developments in different tiers of engagement based on project complexity and impact. CCAA's submission summarises the support given by the framework to projects with different levels of complexity as shown in Table 9 below:

Table 9: Levels of assistance provided to projects under Western Australia's Lead Agency Framework⁸⁵⁰

Proposal classification	Lead agency assistance provided	Monitoring/Reporting
Level 1: <ul style="list-style-type: none"> • Small to moderate scale • Majority of proposals 	<ul style="list-style-type: none"> • Initial advice • Referral and introduction to relevant agencies 	<ul style="list-style-type: none"> • Status of proposal through standard website report
Level 2 <ul style="list-style-type: none"> • Non-standard moderate to large, complex proposals 	<ul style="list-style-type: none"> • Assigned project manager • Application tracking • Approvals management • Interagency coordination 	<ul style="list-style-type: none"> • Agency monitors progress • Regular reporting • Identification and resolution of issues
Level 3 <ul style="list-style-type: none"> • Very large, complex proposal; may be of state significance 	<ul style="list-style-type: none"> • Assigned project manager or team, negotiating in the state's interest • Application tracking • Approvals management • Interagency coordination 	<ul style="list-style-type: none"> • Agency heads monitor progress • Regulator reporting • Focus on interagency coordination • Identification and resolution of issues

CCAA supported implementation of a similar framework in Victoria and envisages that it would reduce delays and provide a coordinating, monitoring, reporting and evaluation mechanism to the approvals process for mining and extractives projects.⁸⁵¹ The CMPA also endorses the adoption of a lead agency framework similar to that in WA. It claims this would more clearly define and identify roles and responsibilities for government agencies in Victoria's regulatory environment.⁸⁵²

IGO also supported the Framework, commenting on the operation of the WA Government's approvals processes in its presentation to the Committee, based on the company's experiences operating in both Victorian and WA regulatory environments.⁸⁵³ In comparing the two jurisdictions, Dr Yeates, Manager of Government Relations at IGO gave evidence of his experience working in Western Australia, where major resource projects can be facilitated through the state's

⁸⁴⁹ Department of State Development, 'Lead Agency Framework', viewed 29 April 2012.

⁸⁵⁰ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 13.

⁸⁵¹ Cement Concrete & Aggregates Australia, *submission*, no. 36, 22 August 2011, p. 14.

⁸⁵² Construction Material Processors Association, *submission*, no. 40, 24 August 2011, p. 22.

⁸⁵³ Ian Blucher, Approvals Manager, Independence Group, *transcript of evidence*, 26 September 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Dr John Yeates, Manager — Government Relations, Independence Group, *transcript of evidence*, 26 September 2011.

regulatory system by a dedicated major projects organisation, while smaller projects remain part of the Department of Mines and Petroleum:

For big projects the Department of State Development takes them on as state projects, essentially. So big oil and gas projects, for example, have been shepherded through by it. The experience there is that what they do is essentially bang heads until there is an outcome. They set time frames, and Premiers and others make sure that they are met.

For smaller projects I guess you do not have the same sort of level of focus, but people like those at the Department of Mines and Petroleum are still, I guess, very user friendly when you go and talk to them. They do have some delegated regulatory powers for the projects that do not attract EPA attention, but they are user friendly, if you like, in terms of, 'These are the hurdles you have got to get through; this is what you have to do, and this is how you do it'. I think the experience here is that that is not easy. There are almost two scales of projects, if you like, depending on what they are.⁸⁵⁴

7.6.2 Changing the regulatory environment: a 'one-stop-shop' or 'lead agency'?

The Committee concluded that significant benefits can be gained from the Victorian Government introducing a 'one-stop-shop' to better manage the resources sector in Victoria. The evidence received by the Committee indicates that changing the state's regulatory environment to a 'one-stop-shop' model would improve outcomes for mineral exploration and mining projects. It would also ensure decisions are made consistent with achieving good social, economic and environmental outcomes.

The adoption of a 'one-stop-shop' model is important in providing clarity of process and greater regulatory certainty to project proponents through a single point of entry into Victoria's regulatory system for mineral explorers and miners. Evidence received by the Committee showed that presently, Victoria's regulatory system is viewed as uncertain and convoluted with multiple points of entry through agencies with overlapping responsibilities and agendas. Provision of a single point of entry into the regulatory system for the resources sector was seen as particularly important for new entrants into Victoria's regulatory environment, especially for overseas investors.⁸⁵⁵

In the course of the Inquiry, the Committee found that the resources sector used the terms 'lead agency' and 'one-stop-shop' interchangeably. In effect, stakeholders used these terms as shorthand for an organisation providing a single point of entry into the regulatory system. In practice, the 'lead agency' model can still retain multiple points of entry into the regulatory system. The Committee has formed the view that a 'one-stop-shop' model is the preferred model for reshaping Victoria's regulatory environment for the resources sector.

⁸⁵⁴ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 7; Dr John Yeates, Manager — Government Relations, Independence Group, *transcript of evidence*, 26 September 2011, p. 7.

⁸⁵⁵ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 8.

Recommendation 21: That the Victorian Government develops a 'one-stop-shop' framework to provide a single point of entry into Victoria's regulatory system for the full range of resource sector activities from exploration to production under the *Mineral Resources (Sustainable Development) Act 1990*.

The MCA's submission advocated for a Victorian 'one-stop-shop' to act as the sole approval authority for mining projects:

Ideally we seek a one stop shop for project approvals. That is, a single agency charged with the authority to approve projects. Whilst such an agency would be required to do an intense amount of work across all relevant agencies to reach a whole of government position on a proposal, the proponent would only deal with one point in Government.⁸⁵⁶

The AMEC's submission recommended that the Victorian Government adopt the Australian best practice 'one-stop-shop' model from South Australia, where dedicated case officers can guide late-stage explorers through the approvals process and into production within 12 months.⁸⁵⁷

Mr Forbes from SACOME gave evidence on the strength of the SA Government's 'one-stop-shop' system for late stage explorers moving toward project development and production. He also spoke of the value provided to industry by the ability for proponents to be piloted through the state's regulatory framework by an experienced MITRE case officer:

... when a major mine is coming into fruition — there's a great proposal and they are starting a process of working through a mining lease for the Government — that single point of contact, who is that? ... If you can get one person who is your case officer ... and that person's job is to get your project over the line, quite frankly, and they will be upfront with the companies, but they will start them off and say: 'These are the things you have to do. These are the hurdles you have to jump', and they will sit down and work their way together. Also that case manager would deal with other agencies by putting that proposal to other agencies, Department of Environment Heritage and all that kind of thing. They will take that on because you have not got — the person who is about to start that project has to traipse around from department to department.⁸⁵⁸

EGSC's submission also recommended the allocation of 'project champions' as part of a wider change to the regulatory system for exploration and mining. These champions would be senior DPI officers whose job is to improve facilitation of late stage explorers through the regulatory process into production and would:

... act as the project liaison point for the proponent company to provide general advice on government processes; contact points and introductions across a range of agencies; and regular updates to relevant Ministers and decision makers on the progress of the project.⁸⁵⁹

⁸⁵⁶ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, pp. 17–18.

⁸⁵⁷ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 2.

⁸⁵⁸ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 9.

⁸⁵⁹ East Gippsland Shire Council, *submission*, no. 44, 26 August 2011.

In making its recommendation for the implementation of a 'one-stop-shop', the Committee notes DPI is presently investigating the implementation of a lead agency approach as part of its stage two review of the MRSDA. The Committee strongly encourages the implementation of a single point of entry (via a 'one-stop-shop') into the regulatory system for mineral exploration and mining in Victoria as an improvement on the existing overlapping system of agencies leading different stages of the regulatory process.

While it is the Victorian Government's decision on how best to achieve a single point of entry into the regulatory system, some important organisational issues were revealed during the course of the Inquiry that the Committee believes must be considered by the government before designing a new regulatory structure. These issues are outlined in greater detail below.

7.6.2.1 *Managing the 'every agency believes it is the lead agency' problem*

During the course of the Inquiry, the Committee received evidence regarding the levels of overlap in the current regulatory environment from the resource sector. Submissions and evidence from the sector identified the issues of 'silo' thinking among Victorian Government departments, along with departments protecting their regulatory 'turf' from the inroads of other departments.⁸⁶⁰

Evidence given by Victorian Government departments that appeared before the Inquiry seemed to bear out the evidence from the sector. At a *prima facie* level, there were tensions over which agency should be the lead regulatory agency for resource sector development projects. Despite the presence of MoUs between DPI and other Victorian Government agencies for regulatory approvals related to resource sector projects, there was no clear evidence of a willingness to delegate powers to a lead agency or one-stop-shop to improve regulatory outcomes.

Mr Blake from DPCD gave evidence on the MoUs to the Committee. When questioned whether the MoUs between DPI and DPCD for the Environmental Effects Statement process were based on the development of a lead agency for project approvals, he replied:

It's a dual agency relationship. On the one hand DPCD will lead the co-ordination of the assessment process, which we manage, with relevant approval processes in terms of primary approval decisions, and there will ordinarily also be a need for a facilitation agency that has particular responsibility to help shepherd whole-of-government issues such that there might be, so you see there that we have

⁸⁶⁰ Megan Davison, Assistant Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Chris Fraser, Executive Director, Victorian Division, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Sarah Gafforini, Manager, Policy and Professional Standards, Australasian Institute of Mining and Metallurgy, *transcript of evidence*, 29 August 2011; Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011.

formal agency agreements to coordinate these processes. One of the priorities there is to establish seamless agency contact arrangements.⁸⁶¹

When pressed further by the Committee on how this 'dual agency' process might play out under a hypothetical situation of a mining project development, Mr Blake answered:

DPI would be the facilitation agency that would be a point of contact, but I wouldn't see them as being the sole point of contact, they're the entry point, if you like. But if it's plain that other statutory processes are going to be triggered then ... DPI couldn't be representing that process, they need to say: 'Look, maybe you're looking at an EES, so DPCD should be involved in this'.⁸⁶²

Evidence provided by DSE to the Committee also hinted at a 'dual agency relationship' with DPI in regard to native vegetation. While DPI had a role to play in guiding proponents on native vegetation and referring work plan applications to DSE for approval, it was also clear that DSE would conduct direct discussions with proponents, particularly on conditions and requirements before draft work plans were submitted.⁸⁶³

7.6.2.2 *Separation between regulation and facilitation roles*

In submissions and evidence received from industry stakeholders, recommendations were made for structural separation between the facilitator of exploration, mining and extractive projects and the industry regulator.

Mr Richardson from EGSC saw an opportunity for the Government to establish a coordinating or facilitating role that is separated from the regulatory role of DPI. He considered that the broader community would have difficulty with the perception of an 'agency whose role was to facilitate development as well as protect the community's interests'.⁸⁶⁴ Dr Hamilton of Exergen also concurred with his view.⁸⁶⁵ Mr Jacobs of IGO spoke of Western Australia where major resource projects of state importance were dealt with through a department structurally separated from industry and environmental regulators, which gave them a greater role as project advocates and facilitators within government:

They had a Department of State Development. They were very different. They were segregated from the regulators. They did not seem to have any problem vigorously proposing projects, which still had to go through via the EPA and all the approvals

⁸⁶¹ Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, p. 5.

⁸⁶² Trevor Blake, Chief Environmental Assessment Officer, Department of Planning and Community Development, *transcript of evidence*, 14 December 2011, pp. 9–10.

⁸⁶³ Lee Miezi, Executive Director, Forests and Parks, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012; Kylie White, Executive Director, Biodiversity and Ecosystem Services, Department of Sustainability and Environment, *transcript of evidence*, 30 January 2012, pp. 9–10.

⁸⁶⁴ Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 8.

⁸⁶⁵ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011.

process, and really did not interact with the regulators until it was operational anyway ...⁸⁶⁶

Mr Jacobs of IGO recommended Regional Development Victoria within DPCD to fulfil the role of facilitation agency. He told the Committee of the proactive role the agency has taken in facilitating the company's Stockman project. He suggested that Regional Development Victoria assume the role as lead agency for mining developments:

... my first thoughts were DPI, but I do not see much hope there. They are basically missing in action, and I think it would be too big a cultural change to get there. RDV look to be the best people culturally for that, and they seem to have connections within Government and the ability to talk to other departments and across silos. To me they look like they are the best bet.⁸⁶⁷

While some advocated separating DPI's resource sector project facilitation role from its role as industry regulator, others saw the facilitation role as an important role for DPI to retain. Mr Fraser of the AIG gave evidence on the value of DPI as a facilitator to the resources sector:

We think that DPI should be the responsible body in this. It not only applies to development projects, but for exploration as well. As Geoff outlined the various problems he has had dealing with the various regulatory authorities, it needs to be coordinated so that explorers have a simple, clear, transparent process of seeing where their permission to explore through the work plan is and also the rate at which those things have been improved.⁸⁶⁸

⁸⁶⁶ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 7.

⁸⁶⁷ Rod Jacobs, Development Manager, Independence Group, *transcript of evidence*, 26 September 2011, p. 6.

⁸⁶⁸ Rodney Fraser, Victorian Branch Chairman; Federal Council Member, Australian Institute of Geoscientists, *transcript of evidence*, 7 November 2011, p. 6.

CHAPTER EIGHT:

GOVERNMENT SUPPORT FOR THE MINERAL RESOURCES SECTOR

This chapter outlines a range of current and recent mineral resource initiatives adopted by state and federal governments and discusses their relative merits. Government support from these initiatives includes government-driven geoscientific research organisations, collaboration with industry and academia, grants, and legislative reform. Whilst a number of the following initiatives are not focused exclusively on the mineral resources sector, it is useful to consider the range of initiatives which exist to ascertain their overall effectiveness. This chapter focuses on initiatives supporting minerals, carbon capture and storage (CCS), unconventional gas and geothermal resources; discussion and analysis of other resource initiatives is beyond the scope of the Inquiry's terms of reference.

The Committee received conflicting views on the effectiveness of previous Victorian Government initiatives for exploration and mining. Exploration and mining stakeholders considered pre-competitive geoscience data resulting from these initiatives to be exceptional in comparison with other jurisdictions. Notwithstanding the quality of the pre-competitive data provided by these initiatives, the Victorian Government acknowledged that there was limited investment in new minerals exploration as a result of the provision of this data.

The Committee received extensive evidence identifying South Australia (SA) as achieving significant success in stimulating new mineral discoveries and securing major levels of exploration investment through its *Plan for Accelerating Exploration* (PACE). PACE and its successor, PACE 2020, are discussed in section 8.5.

8.1 Victorian Government initiatives

As at 2012, there are four initiatives supporting the resources sector that receive funding from the Victorian Government. These are *Rediscover Victoria*; the *Victorian Geological Carbon Storage* (VicGCS) project; *CarbonNet*; and the *Energy Technology Innovation Strategy*. The Government also funds Brown Coal Innovation Australia, a not-for-profit company that co-invests with industry in brown coal innovation and emissions reductions technologies.

In 2010, the Department of Primary Industries (DPI) commissioned the Allen Consulting Group to evaluate the *Victorian Initiative for Minerals and Petroleum*; *Developing Gold Undercover*; and *Rediscover Victoria*. The results were published in its report: *Review of Victoria's earth resources programs* (the Allen Report) in August 2011 and the findings are discussed below.

The Committee notes that the direct effects of these initiatives on the resources sector are often difficult to measure, particularly due to the long lead-time from an improved geological understanding to development of a resource. For this reason, the University of Melbourne's submission considered it 'far too soon to

judge the impact of more recent initiatives, such as [Developing] Gold Undercover'.⁸⁶⁹ The Allen Report expressed similar views:

It was virtually unanimous among industry stakeholders that governmental support for earth resource exploration must consider the long lead times of the mineral exploration process. Some stakeholders were fearful that the Department might view minimal gold mine development as a reason to reduce support for the sector. These same stakeholders wanted to make it clear that typically, exploration, discovery, and ultimately the development of a mine can take many years and that if the Department appreciates this, then it should continue supporting the sector into the future.⁸⁷⁰

The Committee is of the view that the Victorian Government should consider these issues when considering future resource sector initiatives.

8.1.1 Existing initiatives

8.1.1.1 Rediscover Victoria

Rediscover Victoria (RDV) was established in 2007 with \$5 million in funding allocated over four years.⁸⁷¹ An additional \$625 000 in funding was allocated to RDV in the 2011–12 state Budget.⁸⁷² RDV consists of two components, a drilling initiative and production of a 3D geological model of the state.

8.1.1.1.1 Drilling initiative

Rediscover Victoria Drilling (RDVD) aims to attract greater exploration in greenfields areas and stimulate drill testing of new geological concepts and models. Grants under RDVD were awarded in three rounds between 2008 and 2009 and totalled over \$1.4 million. These are summarised in Table 10.

Table 10: Summary of Rediscover Victoria Drilling grants⁸⁷³

Round	Year	Total of grants	No. of projects	Resources targeted
1	Feb 2008	\$318 400	5	Gold, silver, base metals
2	Nov 2008	\$378 000	7	Gold, copper, antimony, molybdenum, base metals
3	Oct 2009	\$703 700	10	Gold, copper, molybdenum, base metals, geothermal

Ten RDVD reports have been released to date, containing results of drilling projects.⁸⁷⁴

⁸⁶⁹ University of Melbourne, *submission*, no. 60, 25 January 2012, p. 7.

⁸⁷⁰ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 73.

⁸⁷¹ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011.

⁸⁷² Hon. Peter Ryan MP and Hon. Michael O'Brien MP, *Coalition delivers on support for minerals and energy exploration and development*, media release, Victorian Government, Melbourne, 3 May 2011

⁸⁷³ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 23; Department of Primary Industries, 'Rediscover Victoria Drilling', viewed 13 February 2012, <<http://www.dpi.vic.gov.au/>>.

The Minerals Council of Australia (MCA) considered RDVD to be instrumental in identifying gold potential in Victoria.⁸⁷⁵ The Association of Mining and Exploration Companies (AMEC) was also an advocate for RDVD, suggesting that the copper/porphyry gold province in western Victoria be a targeted area for drilling collaborations and strongly recommended that RDVD grants continue.⁸⁷⁶

In contrast, DPI and the Victorian Government were critical of RDVD. According to Dr Michael Hollitt, Executive Director, Minerals and Resource Development, Policy and Strategy Group of DPI, RDVD supplied less than 3 per cent per year to the greenfields exploration budget that was spent in the state.⁸⁷⁷ The Victorian Government's submission stated that RDVD's effects were negated by excessive compliances required by exploration companies involved:

The Rediscover Victoria drilling program provided very little in the way of incentive to drill and, as such, did not particularly encourage any additional exploration. The drilling program has provided a modest amount of money in drilling subsidies; however, some companies felt that the compliance costs and requirements were burdensome and significantly negated the value of the grants.⁸⁷⁸

This echoed the findings of the Allen Report, which also found that RDVD did little to build on the work of *Developing Gold Undercover*. The Report also stated that industry input into the design of the program appeared to be limited, whereas best practice would have involved consultation with industry leaders.⁸⁷⁹ Based on the issues identified, the Allen Report considered continuation of RDVD difficult to justify.⁸⁸⁰

The Allen Report indicated that the late-2000s financial crisis reduced the effectiveness of RDVD. A number of recipients forfeited their grants as they were unable to raise additional capital for drilling activities. The report noted, however, that departmental stakeholder consultations viewed RDVD as significant in keeping a number of recipient companies afloat.⁸⁸¹

RDVD is discussed further in chapter nine.

⁸⁷⁴ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 25.

⁸⁷⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011.

⁸⁷⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 4.

⁸⁷⁷ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 14.

⁸⁷⁸ Victorian Government, *submission*, no. 58, 22 October 2011, p. 37.

⁸⁷⁹ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 26.

⁸⁸⁰ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 47.

⁸⁸¹ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 74.

8.1.1.1.2 3D Victoria

The aim of 3D Victoria is to collate data from the petroleum and minerals exploration industries, the Cooperative Research Centre for Predictive Mineral Discovery, and the *Developing Gold Undercover* Initiative (see section 8.1.2.2) and integrate them to produce a 3D geological model for the state.⁸⁸² To date, 12 *3D Victoria Reports* have been published, containing geological data and modelling of various areas of Victoria. Additionally, five 3D geological models of various areas in Victoria have been released.⁸⁸³

The Association of Applied Geochemists' (AAG) submission portrayed the importance a consolidated 3D geological model for the state for exploration companies:

The development of a computer simulated 3- Dimensional model of the state is one the [*sic*] important developments it [the Department of Primary Industries] has undertaken. As more information becomes included into the model this will become an even more powerful tool for interpreting geology and locating areas of potential mineralising systems. This technology is widespread throughout the world and it is important that the state maintains this important exploration tool.⁸⁸⁴

However, the Allen Report was critical of 3D Victoria, stating:

The 3D Victoria component of Rediscover Victoria does not appear to have secured the inputs or use from the exploration industry that might justify this investment. The lack of KPIs [key performance indicators] has again meant that measurable outcomes from this program are difficult to identify.⁸⁸⁵

It found that a significant criticism of 3D Victoria was that 'not enough support, advertising and presentation of the model occur in regions where the data will most likely be used'⁸⁸⁶. The report acknowledged that these shortcomings were a likely indicator of a fledgling model, and stated that a more concentrated effort to improve the uptake of the model by industry is important.⁸⁸⁷

8.1.1.2 Victorian Geological Carbon Storage (VicGCS)

VicGCS is a four-year carbon dioxide (CO₂) storage project, established by the Victorian Government in July 2008. GeoScience Victoria (GSV) is administering

⁸⁸² Department of Primary Industries, '3D Victoria', viewed 1 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁸³ Department of Primary Industries, '3D Victoria', viewed 1 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁸⁴ Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011, p. 3.

⁸⁸⁵ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 26.

⁸⁸⁶ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 72.

⁸⁸⁷ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 72.

the \$5.2 million initiative that is researching the CO₂ storage capacity of the Gippsland Basin.⁸⁸⁸ VicGCS focuses on three technical components:

- confirming that CO₂ stored underground will be contained for the long-term
- confirming how much CO₂ can be injected into the Basin and at what rate
- confirming that stored CO₂ will migrate as expected underground and will minimise impacts on existing facilities, hydrocarbon reserves or undiscovered resources.⁸⁸⁹

A key output of VicGCS is to develop a 3D geological model of the Gippsland Basin to assess the CCS potential of the area. The model will be used to:

- assess injection, migration and storage of CO₂ in the Basin
- develop regional petroleum systems models
- develop regional hydrogeological models
- assess onshore geothermal potential of the Basin.⁸⁹⁰

To date, three *VicGCS Reports* have been released, containing data on the CO₂ storage potential of the Gippsland Basin. Work is still underway on this project, and is expected to be completed in June 2012.⁸⁹¹

8.1.1.3 CarbonNet

CarbonNet is a Victorian Government initiative established in 2011. It is led by the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC) in collaboration with industry to investigate the potential of capturing CO₂ emitted by coal power generation in the Latrobe Valley and moving it to Victoria's geological basins. The project received \$70 million in funding from the Australian Government's *Carbon Capture Storage Flagships Program* (see section 8.2.1.2) in February 2012. The Victorian Government has also contributed \$30 million to CarbonNet.

CarbonNet is currently conducting feasibility studies, including the following two survey projects:

⁸⁸⁸ Department of Primary Industries, 'Victorian Geological Carbon Storage (VicGCS)', viewed 15 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁸⁹ Department of Primary Industries, 'VicGCS: uncovering geological carbon storage potential in the Gippsland Basin', viewed 21 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁹⁰ Department of Primary Industries, 'VicGCS — Gippsland Basin', viewed 15 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁹¹ Department of Primary Industries, 'Victorian Geological Carbon Storage (VicGCS)', viewed 15 February 2012, <<http://www.dpi.vic.gov.au/>>.

- **Airborne gravity survey:** The first survey was completed in December 2011 and the data is currently being analysed.
- **Soil hydrocarbon survey:** The second survey commenced in March 2012 and intends to investigate structural traps (pockets of gas or petroleum) in geological faults below the earth's surface.

The feasibility stage is expected to conclude in 2014. The resulting data will provide information on the carbon storage viability of these areas. Assessment of commercial, financial and economic dimensions will define arrangements to facilitate private sector investment.⁸⁹²

8.1.1.4 *Energy Technology Innovation Strategy*

The Victorian Government established the *Energy Technology Innovation Strategy* (ETIS) in 2005 to invest in low emissions energy technology and innovation, with funding allocated over five years.⁸⁹³ Further funding to the initiative was allocated in 2008 and 2011. ETIS aims to reduce costs associated with prospective sustainable energy technologies to ensure that a range of low cost, low emissions technologies are available for commercial deployment to minimise the economic impact of a cost on carbon.⁸⁹⁴

ETIS has allocated three rounds of grants in 2005, 2008 and 2010 to a range of clean coal, CCS and geothermal projects. The grants are summarised in the following sections.

8.1.1.4.1 **2005 — ETIS 1**

In 2005, the Victorian Government allocated over \$180 million in funding to a range of pre-commercial, low emissions energy and technology projects under ETIS 1. ETIS 1 grants that were allocated to brown coal and CCS projects are summarised in Table 11 below.

⁸⁹² Department of Primary Industries, 'The CarbonNet project', viewed 21 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁹³ Business Victoria, '2005–06 Victorian Budget: Energy Technology Innovation Strategy', viewed 1 February 2012, <<http://www.business.vic.gov.au/>>.

⁸⁹⁴ Department of Primary Industries, 'Energy Technology Innovation Strategy (ETIS)', viewed 1 February 2012, <<http://www.dpi.vic.gov.au/>>.

Table 11: Brown coal and CCS projects allocated funding under ETIS 1⁸⁹⁵

Recipient	Project	Allocated funding	Total project value
HRL	400 MW power plant using clean coal technologies developed in Victoria	\$50 million	\$750 million
International Power Hazelwood	<ul style="list-style-type: none"> • Coal drying and combustion plant • Carbon capture plant for coal fired generation 	\$30 million	\$369 million
CO2CRC	100 000 tonne CO ₂ geosequestration trial in the Otway Basin	\$6 million	\$40 million
Monash University, CSIRO, AquEx, HRL, CO2CRC	Brown coal R&D grants for high-value, high-volume applications and low emissions technologies associated with power generation	\$12 million	N/A
Monash University, Swinburne University, HRL	Brown coal R&D through Post Doctoral fellowships	\$1.2 million	N/A

ETIS 1 also leveraged a further \$250 million of funding from the Australian Government for the selected projects, as well as \$1.2 billion of co-investment from industry.⁸⁹⁶

8.1.1.4.2 2008 — ETIS 2

In 2008, the Victorian Government allocated a further \$182 million to ETIS, \$110 million of which was dedicated to CCS research and development. Of this funding, grants totalling \$29 million were allocated to CCS projects in the Latrobe Valley.⁸⁹⁷ These are summarised in Table 12 below.

⁸⁹⁵ Department of Primary Industries, Energy and Technology Division, *Victoria's Energy Technology Innovation Strategy*, Victorian Government, Melbourne, 2009, p. 7.

⁸⁹⁶ Department of Primary Industries, Energy and Technology Division, *Victoria's Energy Technology Innovation Strategy*, Victorian Government, Melbourne, 2009, p. 7.

⁸⁹⁷ Department of Primary Industries, Energy and Technology Division, *Victoria's Energy Technology Innovation Strategy*, Victorian Government, Melbourne, 2009, p. 8.

Table 12: CCS demonstration projects allocated funding under ETIS 2⁸⁹⁸

Recipient	Project	Allocated funding
Carbon Store Australia, TRUenergy, Mitsubishi Corporation	Development of a multi-user CO ₂ storage and transport system	\$19 million
Calera	Feasibility investigation for a small-scale plant for CO ₂ capture and mineralisation for use in the building industry	\$3.5 million
TRUenergy, Southern Company	Feasibility investigation for a gasification, pre-combustion CO ₂ capture project	\$2 million
HRL	Feasibility investigation for a gasification, pre-combustion CO ₂ capture project	\$3.5 million
Loy Yang Power, Mitsubishi, TRUenergy	Feasibility investigation for a retrofitted post-combustion CO ₂ capture plant at Loy Yang A power station	\$1 million

8.1.1.4.3 2011 — New Funding

In May 2011 the Victorian Government announced a further \$41 million in funding for ETIS.⁸⁹⁹ Further details about grant funding will be made available in 2012.⁹⁰⁰

8.1.1.4.4 Evaluation of ETIS

In April 2011, The Victorian Auditor General's Office conducted an audit that examined projects funded under ETIS. The audit found that due to a lack of standard performance or evaluation methods, it was not possible to assess the value of the projects or effectiveness of ETIS:

The Energy Technology Innovation Strategy (ETIS) is an 'umbrella' under which a number of separate projects have been established. There is no documented strategy for the program as a whole. While individual ETIS projects have their own reporting frameworks, which have indicated their successful completion, there were no overarching performance measures or evaluation framework established for ETIS at the outset. As such it is not possible to assess the outcomes and total value of the projects to date, or the effectiveness of the ETIS program as a whole.⁹⁰¹

Exergen was critical of current ETIS projects in the Latrobe Valley, calling for a 'use it or lose it' approach to project assessment:

Things like ETIS funding, the programs are there again and we would certainly strongly encourage that. They effectively focus on commercial type deployment. One

⁸⁹⁸ Department of Primary Industries, 'Large scale demonstration programs (LSDP) — low emissions coal', viewed 2 February 2012, <<http://www.dpi.vic.gov.au/>>.

⁸⁹⁹ Hon. Michael O'Brien MP, *Coalition delivers on \$41 million boost for renewable and low emission energy technology*, media release, Victorian Government, Melbourne, 8 February 2012

⁹⁰⁰ Department of Primary Industries, 'Energy Technology Innovation Strategy (ETIS)', viewed 24 November 2011, <<http://www.dpi.vic.gov.au/>>.

⁹⁰¹ Victorian Auditor General's Office, *Facilitating renewable energy development*, Victorian Government, Melbourne, 2011, p. 29.

issue we would suggest to the Committee to consider is ETIS over its six- or eight-year life has announced something close to \$410 million of funding awards. Our information is there is less than 20 per cent of that being drawn down. Of course it is not drawn down, we know one party has returned \$50 million who was not able to draw it and goes back into general treasury so that program is good for announcements. Not wishing to be sceptical, but its purpose is to see the asset in the State develop and if the money is actually returning back to general purposes you are not investing in supporting what you think.⁹⁰²

8.1.1.5 *Brown Coal Innovation Australia*

The Victorian Government established Brown Coal Innovation Australia (BCIA) in August 2009 and provided \$16 million in initial funding. BCIA's aims are to secure a sustainable future for Australia's brown coal resources by progressing brown coal innovation and emissions reduction research and development, and by serving as a focal point for programs and projects already underway.⁹⁰³

In 2011, BCIA awarded \$8.3 million in funding to 10 projects in brown coal low-emissions and production innovation technologies. The projects are summarised in Table 13 below:

⁹⁰² Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 4.

⁹⁰³ Brown Coal Innovation Australia, 'About us', viewed 20 February 2012, <<http://www.bcinnovation.com.au/>>.

Table 13: Summary of projects allocated funding in 2011 by BCIA⁹⁰⁴

Recipient	Project	Allocated funding
Loy Yang Power Management, in association with TRUenergy and CSIRO Energy Technology	Pre-treatment of flue gas and CO ₂ capture from brown coal-fired power stations	\$1.5 million
Process Group, in association with Westec Environmental Solutions (WES)	Commercialisation of WES froth generator gas/liquid absorption technology	\$1 million
CSIRO Advanced Coal Technology, with participants Exergen and Energy Resources	Power generation using processed brown coal in adapted diesel engines	\$1.3 million
HRL, in association with Kawasaki Heavy Industries	Examination of process design and infrastructure requirements for hydrogen production from gasification of brown coal	\$300 000
CO2CRC, in association with International Power Hazelwood	Solvent-based CO ₂ capture technology in brown coal-fired power plants	\$1.5 million
Monash University, in association with TRUenergy, CSIRO Process Science and Engineering, Chalmers University of Technology Gothenburg, Sweden, and Technical University of Darmstadt, Germany	Chemical looping process for fuel production and CO ₂ capture from brown coal	\$605 000
Monash University Department of Chemical Engineering, in association with Mitsubishi Heavy Industries	Entrained flow gasification technology with brown coal for power, fuel and chemical generation	\$603 028
Monash University, with participants Environmental Clean Technologies, LawrieCo, Keith Engineering (Australia)	Research into methods to reduce the tendency of lignite to spontaneously combust, and optimum conditions for granulation of lignite	\$525 000
HRL, in association with Monash University and CO2CRC	Integrated drying and gasification systems with brown coal for power production and products	\$500 000
Monash University, with participants Clean Coal Victoria, International Power, LawrieCo, Exergen and Environmental Clean Technologies	Evaluation of the merits of using brown coal and derivatives for improving soil health and plant yields, and increasing CO ₂ capture from the atmosphere	\$450 000

8.1.2 Previous initiatives

8.1.2.1 Victorian Initiative for Minerals and Petroleum

Established in 1993, the *Victorian Initiative for Minerals and Petroleum* (VIMP) was the first concerted pre-competitive geoscience data provision initiative of the Victorian Government to aid mineral exploration.⁹⁰⁵ Originally a three-year program, VIMP was extended to 2001 and again to 2005. Total funding in VIMP amounted to \$32 million.

VIMP was largely executed by GSV and focused on stimulating exploration and mining in Victoria by providing pre-competitive data to stakeholders. It was separated into mineral and petroleum components.

⁹⁰⁴ Brown Coal Innovation Australia, 'Current projects', viewed 20 February 2012, <<http://www.bcinnovation.com.au/>>.

⁹⁰⁵ Victorian Government, *submission*, no. 58, 22 October 2011, p. 35.

8.1.2.1.1 Minerals component

The minerals component of VIMP was designed to promote and aid mineral exploration by providing pre-competitive data to explorers. Airborne surveys and geophysical data projects were conducted under VIMP and the results were made available to explorers. New and existing datasets were integrated to produce geological data and exploration reports which were made available digitally. Ninety-two *VIMP Reports* were published from 1994–2007 containing geoscientific data for various areas of Victoria.

8.1.2.1.2 Evaluation of VIMP

According to the Victorian Government, VIMP was considered quite successful since, at the time of its inception, available national geoscience data was not considered noteworthy. It provided the state with some of the most comprehensive pre-competitive data of any state in Australia.⁹⁰⁶ Geoscience Australia attributes the discovery of mineral sands deposits in north-west Victoria as well as new gas fields in the Otway Basin and gold prospects throughout the state to geoscientific data released under VIMP.⁹⁰⁷

The Allen Report noted that evaluation of VIMP is limited to an extent, due to a corporate memory loss over the years since its inception and the lack of evaluation upon its conclusion. Nevertheless, the Report considered VIMP successful in terms of geoscience provision. Furthermore, it spoke of stakeholder praises in the administration of VIMP by GSV:

Most external stakeholders described the at large performance of GeoScience Victoria over the period VIMP was active as highly effective. Stakeholders praised the performance of particular members associated with the program. The quality of the geoscience data acquired by the Department also reflects on the performance of GeoScience Victoria.⁹⁰⁸

Victoria's exploration expenditure increased during the VIMP initiative. However, the Victorian Government stated that it is difficult to measure the specific impact of the program on greenfields exploration and differentiate it from other contributing factors.⁹⁰⁹

8.1.2.2 *Developing Gold Undercover*

Developing Gold Undercover was a \$9 million initiative that ran from 2006–2009.⁹¹⁰ The initiative sought to attract gold exploration investment to and stimulate research in Victoria by providing new geoscience data, insights and techniques to exploration companies.

⁹⁰⁶ Victorian Government, *submission*, no. 58, 22 October 2011, p. 36.

⁹⁰⁷ Geoscience Australia, *submission*, no. 19, 18 August 2011, p. 5.

⁹⁰⁸ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 55.

⁹⁰⁹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 36.

⁹¹⁰ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 19.

Outputs for *Developing Gold Undercover* consisted of a series of reports and systems in six key areas:

- **Geoscience:**
 - o data capture and analysis, including 24 *Gold Undercover Reports* and two scientific papers submitted to two geoscience journals.
 - o exploration toolkit, comprising of gold deposit types, locations and potential exploration methodologies
 - o gold resource assessment
 - o 3D and predictive mineralisation models
- **Information communication technology:**
 - o infrastructure, including and upgraded Geographical Information Systems (GIS) toolkit, new/improved geoscience databases and searching capability
 - o data delivery, including a new website, improvements to the GeoVic mapping application, and a new web service: Geoscience data on-line.⁹¹¹

Industry stakeholders often referred to *Developing Gold Undercover* and generally regarded work conducted under the initiative as a positive contribution to Victoria's mineral resources sector.⁹¹² The AMEC, Geoscience Australia and the MCA advised that the work of *Developing Gold Undercover* indicated that there may be up to 73 million ounces of gold undiscovered in Victoria.⁹¹³

In contrast, the Victorian Government's submission stated that *Developing Gold Undercover* appeared to be primarily focused on existing exploration companies,

⁹¹¹ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 60; Department of Primary Industries, 'Gold Undercover', viewed 26 March 2012, <<http://www.dpi.vic.gov.au/>>.

⁹¹² Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Chris Roberts, Exploration Consultant, Orion Gold, *transcript of evidence*, 19 September 2011; Unity Mining, *submission*, no. 34, 22 August 2011; University of Melbourne, *submission*, no. 60, 25 January 2012.

⁹¹³ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 3; Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 15.

which minimised its impact on bringing new exploration into the state. It also stated that although information provided by the program was perceived as interesting by stakeholders, gold exploration remained subdued through the life of this program.⁹¹⁴ This view reiterated the findings in the Allen Report, which stated that the true-value add of the data supplied to stakeholders by the initiative was impacted by the following factors:

- external: including competing geologies, perceptions on prospectivity and general economic conditions
- internal: Victoria's policy and regulatory frameworks and geology.

The Report found that both these types of factors tended to work in favour of SA as the PACE initiative (see section 8.5.1) was operating concurrently.⁹¹⁵ As a result, greenfields exploration expenditure during the period of *Developing Gold Undercover* rose in SA, but remained stagnant in Victoria.⁹¹⁶

The Prospectors and Miners Association of Victoria (PMAV) believed that *Developing Gold Undercover* provided benefits only to larger companies in the mining industry,⁹¹⁷ however conceded it is difficult for governments to assist prospectors and smaller companies through initiatives:

There is probably not much they [Victorian Government initiatives] can do, to be perfectly honest ... [Victoria's available] geoscience, its historical collection, its mapping, its online mapping — all this sort of stuff — is quite world class.⁹¹⁸

The University of Melbourne considered the time from the conclusion of *Developing Gold Undercover* too soon to evaluate the overall impact of the initiative:

... the long-lead time from an improved understanding provided by these regional scale initiatives to the discovery and establishment of a mine (several years, as also acknowledged in other submissions) means that it is far too soon to judge the impact of more recent initiatives, such as *Gold Undercover* that was only completed a year or so ago.⁹¹⁹

⁹¹⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 36.

⁹¹⁵ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, pp. 66–67.

⁹¹⁶ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 9.

⁹¹⁷ Prospectors & Miners Association of Victoria, *submission*, no. 48, 29 August 2011, p. 7.

⁹¹⁸ Noel Laidlaw, Consultant, Prospectors & Miners Association of Victoria, *transcript of evidence*, 26 September 2011, p. 9.

⁹¹⁹ Department of Mines and Petroleum, 'Mineral royalties', viewed 20 December 2011, <<http://www.dmp.wa.gov.au/>>, p. 6.

8.2 Australian Government

8.2.1 Existing initiatives

8.2.1.1 Geothermal Drilling Program

The Australian Government launched the Geothermal Drilling Program (GeoDP) in August 2008. GeoDP provides grants to companies seeking to develop geothermal energy through proof-of-concept projects, including drilling geothermal wells.

Two rounds of GeoDP grants were allocated in April and December 2009. These are summarised in Table 14.

Table 14: Projects allocated funding under GeoDP⁹²⁰

Recipient	Location	Allocated funding	Status
Round 1, April 2009			
MNGI Pty Ltd	Paralana, SA	\$7 million	active
Panax Geothermal Limited	Limestone Coast, SA	\$7 million	complete
Round 2, December 2009			
Hot Rock	Koroit, Otway Basin, Vic	\$7 million	terminated
Geodynamics	near Bulga, Hunter Valley, NSW	\$7 million	active
GRE Geothermal WA1	Perth metro, WA	\$7 million	terminated
Greenearth Energy	near Geelong, Vic	\$7 million	terminated
Torrens Energy	Parachilna, SA	\$7 million	terminated

Four projects were terminated through mutual agreement between the Government and companies in August 2011 due to difficulties in attracting private sector funding. The returned funds were allocated to the Government's *Emerging Renewables* program (see section 8.2.1.3).⁹²¹ The remaining projects are contracted to be completed by 31 December 2014.⁹²²

8.2.1.2 Carbon Capture and Storage Flagships Program

The Australian Government launched the Carbon Capture and Storage Flagships Program (CCSFP) in 2009 to support construction and demonstration of

⁹²⁰ Department of Resources, Energy and Tourism, 'Geothermal Drilling Program', viewed 23 February 12, <<http://www.ret.gov.au/>>.

⁹²¹ Torrens Energy Limited, Green Rock Energy Ltd, Greenearth Energy Ltd and Hot Rock Limited, 'ASX release — joint company statement: GDP funding mutually terminated', viewed 23 February 12, <<http://www2.torrensenergy.com/>>.

⁹²² Department of Resources, Energy and Tourism, 'Geothermal Drilling Program', viewed 23 February 12, <<http://www.ret.gov.au/>>.

large-scale CCS projects in Australia.⁹²³ The Government allocated \$2.4 billion in funding to the program over nine years.⁹²⁴

In December 2009, four projects were shortlisted for consideration under CCSFP.⁹²⁵

- **Wandoan Power project:** an integrated gasification combined cycle (IGCC) coal fired power plant project located north-west of Brisbane, Queensland. The company prepared a pre-feasibility report for the Australian Government in June 2011.⁹²⁶
- **ZeroGen project:** an IGCC coal fired power plant project located west of Gladstone, Queensland. In October 2011, the company behind ZeroGen was placed into liquidation and the project was abandoned.⁹²⁷
- **Collie South West CO₂ Geosequestration Hub:** based around an integrated multi-user CO₂ capture, transport and storage infrastructure project, located south of Perth in Western Australia. The project is a collaboration between the Western Australian Government and industry partners and received \$52 million in funding from CCSFP in June 2011.⁹²⁸
- **CarbonNet:** an integrated multi-user CO₂ capture, transport and storage infrastructure project located in the Latrobe valley in Victoria. The CarbonNet project is discussed previously in section 8.1.1.3.

8.2.1.3 *Emerging Renewables*

Emerging Renewables is an Australian Government initiative administered by the Australian Centre for Renewable Energy (ACRE) Board to support development of renewable energy. The \$126 million program began with applications for grants in August 2011. Funding amounting to \$40 million has been allocated to renewable energy enabling technologies and a further \$26.6 million targets the geothermal energy sector. *Emerging Renewables* consists of two funding categories:

- **ACRE Projects:** for renewable energy and enabling technologies and products to lower the cost of renewable energy in Australia

⁹²³ Department of Resources, Energy and Tourism, 'Carbon Capture and Storage Flagships Program', viewed 2 February 2012, <<http://www.ret.gov.au/>>.

⁹²⁴ Dr Julie Styles and Anita Talberg, 'Budget review 2009–10: Climate change and energy, parliamentary research paper, Parliament of Australia', viewed 16 May 2012, <<http://www.aph.gov.au/>>.

⁹²⁵ Department of Resources, Energy and Tourism, 'Carbon Capture and Storage Flagships Program', viewed 2 February 2012, <<http://www.ret.gov.au/>>.

⁹²⁶ Wandoan Power, *Pre-feasibility knowledge sharing report*, 2011.

⁹²⁷ Paul Robinson, 'Clean coal project in liquidation', *ABC News*, 28 November 2011, viewed 2 February 2012, <<http://www.abc.net.au/>>.

⁹²⁸ Global CCS Institute, 'Collie — south west CO₂ geosequestration hub', viewed 2 February 2012, <<http://www.globalccsinstitute.com/>>.

- **ACRE Measures:** for industry capacity building and skills development, and preparatory activities for ACRE Projects.

At the time this report was tabled, *Emerging Renewables* is currently receiving applications for grants under these two categories. Grants have been allocated to one ACRE Project and three ACRE measures, including \$1.9 million to National ICT Australia for a geothermal data fusion initiative.⁹²⁹

8.2.2 Future tax reform targeting mineral exploration

In July 2010 the Australian Government established the Policy Transition Group (PTG) to provide advice on the technical design of the Minerals Resource Rent Tax and the extension of the Petroleum Resource Rent Tax. The PTG's terms of reference were 'to consider the best way to promote future exploration and ensure a stream of new resource projects for future generations'.⁹³⁰ The report was released in December 2010 and found that regulatory processes and contradictory policies for exploration licence applications were considered a major burden by industry. Evidence presented by stakeholders suggested the administration and compliance costs account for up to 60¢ of every exploration dollar raised.⁹³¹ In her presentation to the Committee, Ms Emma Vogel, Technical Services Manager from Donald Mineral Sands, stated that these compliance costs were primarily from environmental approvals:

As far as what that [60¢ to every exploration dollar raised] would be spent on? ... they [the PTG] did not break it down. It may be in the report, but I know from personal experience we would most likely be sitting around that figure, and it goes predominantly to environmental approvals.⁹³²

The report also found the following areas were considered disincentives for explorers across all Australian jurisdictions:

- complex environmental approval processes
- landholder consultation requirements
- national parks and similar wilderness protection legislation
- occupational health and safety legislation
- strategic land cropping policies

⁹²⁹ Department of Resources, Energy and Tourism, 'Emerging Renewables Program', viewed 16 May 2012, <<http://www.ret.gov.au/>>.

⁹³⁰ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010, p. 3.

⁹³¹ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010, p. 17.

⁹³² Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011, p. 4.

- inappropriate tenement conditions.⁹³³

Based on these findings, the PTG made the following recommendation:

The Council of Australian Governments (COAG), through the Ministerial Council on Mineral and Petroleum Resources (MCMPR), should review its current work program aimed at improving the regulatory environment faced by explorers with a view to energising outcomes from this work.

As part of this effort the Australian Government should commission the Productivity Commission to undertake an examination of regulatory barriers faced by exploration companies and present its report to the COAG for action by Australian jurisdictions.⁹³⁴

Recommendation 22: That the Victorian Government considers the recommendation of the Policy Transition Group's *Report to the Australian Government* (2010) that the Productivity Commission be directed to conduct a review of regulatory barriers faced by exploration companies in Australia.

The MCA's submission noted the PTG's report and stated that while the above recommendation was worthwhile, it considered it 'insufficient to arrest Australia's declining share of global minerals exploration'.⁹³⁵ The Australasian Institute of Mining and Metallurgy (AusIMM) supported the recommendation in its submission, and stated:

The AusIMM seeks the Victorian Government's support in strongly encouraging the Federal Government to immediately task the Productivity Commission with the review of all aspects of exploration in Australia as a matter of urgency including taxation and other barriers to investment and exploration in general.⁹³⁶

8.2.3 Council of Australian Governments' regulatory reform agenda

8.2.3.1 *National Partnership Agreement to Deliver a Seamless Economy*

In March 2008, the Council of Australian Governments (COAG) agreed to implement regulation and competition reforms under the *National Partnership Agreement to Deliver a Seamless Economy* (national partnership agreement). Forty-five areas were identified for these reforms, including:

- 27 deregulation priorities
- 17 areas of competition reform

⁹³³ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010, p. 18.

⁹³⁴ Policy Transition Group, *Policy Transition Group report to the Australian Government — minerals exploration and petroleum exploration*, Australian Government, Barton, 2010, p. 7.

⁹³⁵ Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 21.

⁹³⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 14.

- reform to regulation making and review processes.⁹³⁷

One of the areas of reform identified in the deregulation priorities concerned environmental assessment approvals. The national partnership agreement required the Australian and Victorian Governments to finalise a bilateral agreement for accreditation of Environment Effects Statements for matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) during 2008–09.⁹³⁸ This was agreed to by both governments and commenced effect on 20 June 2009.

COAG also identified the need to reform mine safety regulation across jurisdictions. A nationally consistent mine safety framework is due to be implemented in December 2012.⁹³⁹

In February 2011, COAG agreed to implement a second tranche of seamless national economy reforms. The Business Regulation and Competition Working Group (BRCWG) was tasked with stakeholder consultation regarding these reforms and released a consultation paper in September 2011. Theme 1 of the paper concerned the need for further environmental regulation reform, which COAG identified in August 2011:

COAG has agreed on the need for major reform of environmental regulation across all levels of government to reduce regulatory burden for business and to deliver better environmental outcomes ... This reform will be part of the next tranche of Seamless National Economy agenda.⁹⁴⁰

Key areas of reform under this theme include:

- joint development of national standards for environmental assessment and approval processes
- greater accreditation by the Commonwealth of state and territory processes for matters of national environmental significance under the EPBC Act
- greater use of strategic approaches under the EPBC Act to streamline approvals and increase business certainty
- establishment of a national threatened species list

⁹³⁷ COAG Reform Council, *Seamless national economy: report on performance*, COAG Reform Council, Sydney, 2012, p. xiii.

⁹³⁸ Council of Australian Governments, 'National partnership agreement to deliver a seamless national economy: Attachment A — implementation plan', viewed 8 February 2012, <<http://www.coag.gov.au/>>, p. 2.

⁹³⁹ Business Regulation and Competition Working Group, 'Report card on progress of deregulation priorities', viewed 1 May 2012, <<http://www.coag.gov.au/>>.

⁹⁴⁰ Council of Australian Governments, 'Council of Australian Governments meeting — Canberra — 19 August 2011— Communiqué', viewed 8 February 2012, <<http://www.coag.gov.au/>>, p. 3.

- development of national standards for environmental offsets and biodiversity banking that are complementary to, and build on, the successful elements of existing state schemes.⁹⁴¹

The BRCWG also noted that compliance costs associated with the number of environmental approvals required to obtain an exploration licence can act as a barrier to explorers in Australia, as discussed previously in section 8.2.2.⁹⁴²

8.2.3.2 *National Productivity Compact: Regulatory and Competition Reform for a more Competitive Australia*

In April 2012, COAG held a business advisory forum (BAF) with business CEOs and representatives of Australia's peak business organisations. The BAF resulted in formation of a new national regulatory and competition reform agenda, which COAG later committed to. The agenda will be supported by a *National Productivity Compact: Regulatory and Competition Reform for a more Competitive Australia*. A taskforce consisting of senior state and Commonwealth officials will develop the policy and timeline for implementation of the reform agenda.

Of the priorities of the reform agenda, streamlining environmental approvals process will result in a relief on the regulatory burden experienced during resource developments. COAG agreed to fast-track development of bilateral arrangements for accreditation of state assessments and approval processes. Currently, Victoria's EES assessment process is accredited by the Australian Government under the EPBC Act. However, an EES still requires approval at a Commonwealth level rather than at state level. The Australian and state governments will work to establish bilateral agreements that allow the states to undertake EPBC approvals in the Commonwealth's interest. The Australian Government will retain approval responsibilities for projects within its jurisdiction affecting heritage sites, as well as other specific areas (e.g. nuclear actions; actions in Commonwealth waters). COAG will agree to frameworks for the bilateral agreements by December 2012 and finalise agreements by March 2013.⁹⁴³

The Committee supports a bilateral agreement accrediting EES approval to satisfy requirements of the EPBC Act. As discussed in Chapter seven, streamlining the existing EES process will reduce regulatory burdens that have inhibited mineral and extractive developments in Victoria.

⁹⁴¹ Business Regulation and Competition Working Group, *Future COAG regulatory reform agenda — stakeholder consultation paper*, Department of Finance and Deregulation, Parkes, 2011, pp. 2–3.

⁹⁴² Business Regulation and Competition Working Group, *Future COAG regulatory reform agenda — stakeholder consultation paper*, Department of Finance and Deregulation, Parkes, 2011, p. A.1.

⁹⁴³ Council of Australian Governments, 'Council of Australian Governments meeting — Canberra, 13 April 2012 — Communiqué', viewed 16 April 2012, <<http://www.coag.gov.au/>>.

8.3 Other Australian jurisdictions

8.3.1 Western Australia

8.3.1.1 Exploration Incentive Scheme

In 2009 the Western Australian Government launched the *Exploration Incentive Scheme* (EIS), aiming to encourage exploration in the state with a primary focus on greenfield areas. The Western Australian Government allocated \$80 million of funding over five years to EIS through the *Royalties for Regions* fund.

The AusIMM's submission referred to EIS as a case study in response to the Inquiry's term of reference (g) — the different roles of government.⁹⁴⁴

EIS comprises the following six programs.

8.3.1.1.1 Exploration and Environmental Coordination

EIS allocated \$1.5 million in funding to the Exploration and Environmental Coordination program to enhance and improve transparency of the online mineral and petroleum tenement application process. The aims of the enhancements are:

- to integrate the environmental application and approval process into the tenement management systems
- to allow tenement applicants to track applications online through various approval stages
- to facilitate online lodgement of tenement applications and associated reporting obligations.⁹⁴⁵

8.3.1.1.2 Innovative Drilling

Innovative Drilling is a co-funded drilling program between the WA Government and successful proponents. To date, four rounds of grants have been completed, with a fifth round scheduled during 2013.⁹⁴⁶ A summary of the first four rounds is below:

- Round 1 (2009): 35 projects received funding, primarily targeting gold and base metal deposits.⁹⁴⁷
- Round 2 (2010): 62 projects received funding, most of which targeted base metal deposits. Two geothermal projects were included in the list of successful applicants.⁹⁴⁸

⁹⁴⁴ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 15.

⁹⁴⁵ Department of Mines and Petroleum, 'Exploration and environmental coordination in DMP', viewed 2 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁴⁶ Department of Mines and Petroleum, 'Innovative drilling', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁴⁷ Department of Mines and Petroleum, 'List of successful applicants, rnd 1, 2009–2010', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

- Round 3 (2011): 58 projects received funding, primarily targeting gold deposits. One geothermal project was included in the list of successful applicants.⁹⁴⁹
- Round 4 (2012): 52 projects received funding targeting a range of resources, including five conventional and unconventional oil and gas projects and two extractive projects.⁹⁵⁰

8.3.1.1.3 Geophysical and Geochemical Surveys

The Geophysical and Geochemical Surveys program focuses on three areas:

- airborne magnetic and radiometric surveys
- deep crustal seismic traverses
- regional gravity and geochemical surveys.

Data collected from the surveys will then be incorporated into the Geological Survey of Western Australia's web-based geochemical database.⁹⁵¹

8.3.1.1.4 3D Geological Mapping

EIS allocated \$13.8 million in funding to establish an online system that allows users to create customised geoscience reports and maps. This program includes the following projects:

- **WA Geology Online:** focuses on developing an integrated system that allows all geoscience databases to be accessed from a single online source.
- **3D database and modelling rocks beneath the surface:** builds and maintains interactive 3D geological models for selected greenfield areas.
- **Geochemical information delivery:** upgrades GSWA's existing geochemistry database so it can accept digital data submitted by explorers.
- **Mineral drillhole information database:** improving online access to drillhole data and related geochemistry.
- **Geological mapping and interpretation:** mapping and interpretation of regional geoscience data and bedrock under cover, with a focus on remote greenfield areas.

⁹⁴⁸ Department of Mines and Petroleum, 'List of successful applicants, rnd 2, 2010–2011', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁴⁹ Department of Mines and Petroleum, 'List of successful applicants, rnd 3, 2011–2012', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁵⁰ Department of Mines and Petroleum, 'EIS co-funded exploration drilling round 4, 2012', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁵¹ Department of Mines and Petroleum, 'Geophysical and geochemical surveys', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

- **Geothermal potential, depleted reservoir, tight gas, alternative coal technologies:** investigates alternative and clean energy sources such as geothermal energy, clean coal technologies and CCS techniques.⁹⁵²

8.3.1.1.5 Promoting Strategic Research with Industry

EIS allocated \$2.3 million in funding to supporting the flow of new geoscience information, skills and technologies to the minerals exploration industry. As part of this, \$900 000 will be used to develop the Western Australian Regional Research Initiative. Three researchers employed by the CSIRO will be placed into exploration companies that focus on greenfield areas. The remaining \$1.4 million is allocated to the Minerals and Energy Research Institute of Western Australia to support mineral- and petroleum-related research that it funds in association with industry.⁹⁵³

8.3.1.1.6 Sustainable Working Relations with Indigenous Communities

EIS allocated \$3 million in funding to provide assistance to Indigenous and environmental approvals for prospecting, geoscience mapping, and mining exploration and production. Key objectives of this program are to address issues regarding Indigenous heritage issues, the Future Act process under the *Native Title Act 1993* (Cwlth) and land access where native title exists. A model Indigenous land use agreement will be developed which can be used in the tenement application process in cases where native title exists.⁹⁵⁴

8.3.2 Queensland

8.3.2.1 Smart Exploration

The Queensland Government launched *Smart Exploration* in 2004 with \$20 million in funding to stimulate exploration investment and reduce exploration risk in the state. The program concluded in 2009 and focused on the following four areas with high potential for mineral and energy resource discoveries:

- Mt Isa region
- Drummond Basin
- Bowen and Surat Basins
- Mt Rawdon Corridor.

Exploration activities in these areas involved investigating mineral and CSG deposits, various geophysical surveys and geoscience data acquisition, and

⁹⁵² Department of Mines and Petroleum, '3D geological mapping', viewed 27 October 2011, <<http://www.dmp.wa.gov.au/>>.

⁹⁵³ Department of Mines and Petroleum, 'Promoting strategic research with industry', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

⁹⁵⁴ Department of Mines and Petroleum, 'Sustainable working relations with Indigenous communities', viewed 6 February 2012, <<http://www.dmp.wa.gov.au/>>.

reviewing existing data and exploration reports.⁹⁵⁵ The data gathered from the Mount Isa region was incorporated into the North-West Queensland Minerals and Energy Province (NWQMEP) report and data package, which was a major outcome of the Queensland Government's Smart Mining — Future Prosperity program.⁹⁵⁶ This is discussed further below.

8.3.2.2 Smart Mining — Future Prosperity

Smart Mining — Future Prosperity (SMFP) aimed to stimulate exploration investment in Queensland, and comprised the following three initiatives:

8.3.2.2.1 Collaborative Drilling Initiative

SMFP's Collaborative Drilling Initiative provided four rounds of grants to mineral and energy explorers conducting exploratory drilling. These grants continued as part of the *Greenfields 2020* program, which is discussed further in section 8.3.2.4. The four rounds of grants are summarised in Table 15 below.

Table 15: Projects allocated funding under the SMFP Collaborative Drilling Initiative⁹⁵⁷

Round	Year	No. of projects	Technical successes
1	2006	16	Eight projects were considered successful in identifying mineral deposits.
2	2007	12	Seven projects were considered successful which identified deposits of minerals and a potentially fertile hydrothermal deposit.
3	2008	9	Five projects were considered successful which identified deposits of minerals and CSG.
4	2009	11	Two projects were considered successful in identifying mineral deposits.

8.3.2.2.2 Cluster Formation Initiative

SMFP allocated \$800 000 in funding to the Cluster Formation Initiative, which targeted groups of exploration companies who share resources to encourage better use of available drilling and geophysical resources. Clusters (two or more exploration companies) that cooperated to bring drill rigs or geophysical resources to an area were eligible for grants up to half of their mobilisation costs.⁹⁵⁸

8.3.2.2.3 Industry Network Initiative

SMFP allocated \$480 000 in funding to the Industry Network Initiative, which provided funding to junior exploration companies to work towards establishing

⁹⁵⁵ Department of Employment, Economic Development and Innovation, 'Smart Exploration', viewed 27 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁵⁶ Department of Employment, Economic Development and Innovation, 'Mount Isa Project', viewed 27 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁵⁷ Department of Employment, Economic Development and Innovation, 'Smart Mining — Future Prosperity Program', viewed 26 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁵⁸ Department of Employment, Economic Development and Innovation, 'Cluster Formation Initiative — guidelines for proposals seeking funds in round 3', viewed 26 October 2011, <<http://mines.industry.qld.gov.au/>>.

networks of specialist industry and/or academic organisations. This aimed to stimulate research to generate exploration targets or projects and to develop new exploration methods for the benefit of the state.⁹⁵⁹

8.3.2.2.4 Outcomes of SMFP

In March 2011, from data collected as part of *Smart Exploration* and SMFP, the Geological Survey of Queensland (GSQ) published a report and data package of the resource-rich NWQMEP. The work of this report was funded by the Smart Exploration and Mining initiatives and included:

- a 3D geological model covering the entire NWQMEP area
- geological datasets and mapping
- mineral systems analyses of significant deposits
- geochemistry and drillhole databases
- a geothermal prospectivity assessment of several basins in the area.⁹⁶⁰

8.3.2.3 Coastal Geothermal Energy Initiative

The *Coast Geothermal Energy Initiative* is a collaboration of the Queensland Government's Office of Clean Energy and GSQ. It involves a geothermal drilling program over 12 sites throughout the state and aims to:

- provide an updated database of temperature and heat flow data sets
- develop maps showing heat anomalies in eastern Queensland
- report on the geothermal potential of eastern Queensland
- provide background data for industry to identify potential targets for geothermal energy exploration in eastern Queensland.⁹⁶¹

Drilling commenced in November 2010 and was completed at 10 sites as of November 2011. The remaining two sites will not be drilled. Detailed heat flow modelling results will be released for each drill hole in addition to a final report consolidating data from the drilling program for a wider perspective.⁹⁶²

⁹⁵⁹ Department of Employment, Economic Development and Innovation, 'Industry Network Initiative — guidelines for proposals seeking funds in submission round 3', viewed 26 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁶⁰ Department of Employment, Economic Development and Innovation, 'North-west Queensland mineral and energy province report and data package', viewed 19 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁶¹ Department of Employment, Economic Development and Innovation, 'Coastal Geothermal Energy Initiative', viewed 27 October 2011, <<http://mines.industry.qld.gov.au/>>.

⁹⁶² S.N. Sargent, et al., *Queensland's Coastal Geothermal Initiative: preliminary heat flow modelling results*, Geological Survey of Queensland, City East, 2011, p. 228;231.

8.3.2.4 *Greenfields 2020*

In 2010, the Queensland Government allocated \$18 million in funding to establish *Greenfields 2020*, a continuation of the *Smart Exploration* and SMFP programs. It is designed to identify mineral potential in greenfield areas and to revitalise interest in brownfield areas by providing new information through the application of new ideas and technologies.

Greenfields 2020 involves eight initiatives:

- **New Frontiers:** This initiative uses modern exploration techniques to assess a number of major greenfield areas where rock cover obscures deeper rocks with mineral and energy potential.
- **Resourceful Queensland:** This initiative aims to produce a new volume of *Geology of Queensland* and a map to showcase Queensland at the International Geological Congress to be held in Brisbane in 2012. The new volume will include ideas on Queensland's geological framework resulting from the last 30 years of mapping and research.
- **Collaborative Drilling Grants:** \$3 million of *Greenfields 2020* funding is allocated for grants that continuing on from the SMFP Collaborative Drilling Initiative. Grants of up to \$150 000 are available to exploration companies searching for new mineral, petroleum and geothermal resources.

Two rounds of drilling grants allocating funds to 26 exploration companies have been completed as of October 2011. Applications for the third round of grants closed in November 2011 and successful applicants will be notified in March 2012.⁹⁶³

- **Integrated Information Infrastructure:** This initiative aims to modernise the management and delivery of large geophysical data collections held by GSQ. It will also review statutory reporting obligations and procedures, investigate potential online information services and move towards expanded online delivery capabilities for GSQ data.
- **Exploration Attraction:** This initiative involves GSQ collaborating with Trade and Investment Queensland, Austrade and Team Australia to promote exploration, mining and petroleum investment opportunities in the state.
- **Western Geothermal:** This initiative continues the work of CGEI to examine potential of power generation from hot sedimentary aquifers and engineered geothermal systems in western Queensland.

⁹⁶³ Department of Employment, Economic Development and Innovation, 'Greenfields 2020 — Collaborative Drilling Initiative', viewed 27 October 2011, <<http://mines.industry.qld.gov.au/>>.

- **Gas Security:** This initiative is directed at better understanding Queensland's unconventional gas reserves.
- **Coal 2020:** This initiative aims to improve understanding of the state's deeper coal resources in order to guide formulation of government policies in relation to these assets.⁹⁶⁴

8.3.3 New South Wales

8.3.3.1 Exploration NSW

Exploration NSW was established by the New South Wales (NSW) Government in 2000. It was administered by the Geological Survey of NSW to promote a sustainable mineral and petroleum exploration industry in the state, and concluded in 2007. *Exploration NSW* aimed to enhance the state's framework of geological, geophysical and mineral resources mapping and information.⁹⁶⁵

The initiative contained the following two mineral resources programs:

8.3.3.1.1 Minerals program

The Minerals program promoted an increased level of exploration activity in the state and funded four regional projects involving regional mapping and geophysical surveying. Geological maps and imagery, geochemical datasets, and regional geoscience databases have been published as a result of data collected from these regional projects.

8.3.3.1.2 Information program

The Information program focused on the delivery of digital geoscience information and comprised three key areas:

Online applications

- a new web interface for retrieval and delivery of reports
- launch of the Digital Imaging Geological Systems exploration results database
- an upgrade of the MinView mapping application
- establishing the Exploration and Environment Reports Online Lodgement (EROL) system to accelerate and improve the exploration reporting process.

Database management

- reviews of the Common Geoscientific Environment (COGENT) geological data management system.

⁹⁶⁴ Department of Employment, Economic Development and Innovation, 'Greenfields 2020 Program: Geological Survey of Queensland initiatives and projects 2010–14', <<http://mines.industry.qld.gov.au/>>.

⁹⁶⁵ Department of Primary Industries NSW, 'Exploration NSW', viewed 18 November 2011, <<http://www.dpi.nsw.gov.au/>>.

State-wide geology modelling

- creation of a geological model for mapping at scales from 1:250 000 to 1:25 000.⁹⁶⁶

8.3.3.2 *New Frontiers*

New Frontiers is an exploration enhancement initiative to stimulate mineral and petroleum investment in greenfield areas. It builds on the success of *Exploration NSW* and is separated into minerals and petroleum programs.

8.3.3.2.1 Minerals program

This program focuses on applying new technologies and interpretative processes to the remote and under-explored regions of the state. The program comprises the following projects:

- **Thomson Orogen Project:** assesses the exploration potential of the Thomson Orogen⁹⁶⁷ in NSW through data collection and interpretation, and 3D modelling.
- **Stawell-Bendigo Terranes Project:** geophysical interpretation of rock packages from these terranes, which have potential to host gold-rich mineral systems.
- **Geoscience mapping projects:** further mapping and research is planned for greenfield areas to assist exploration targeting.
- **Broken Hill projects:** a series of geochemical and geophysical projects have been undertaken in the Broken Hill region. The focus of these projects is to increase the exploration potential and reduce exploration risk within the region.
- **COGENT II — Geoscience Data Management Project:** this project continues from COGENT reviews conducted during *Exploration NSW*. The project focuses on upgrading and improving the COGENT database by consolidating existing pre-competitive data that will be accessible through a mapping application such as MinView.
- **Other projects:**
 - o National and international marketing of NSW mineral exploration opportunities.
 - o Advanced online information system technologies to be applied to provide geoscience information to the global industry.

⁹⁶⁶ Department of Primary Industries NSW, 'Information program', viewed 18 November 2011, <<http://www.dpi.nsw.gov.au/>>.

⁹⁶⁷ An orogen is a belt in the earth's crust involved in the formation of mountains.

- o Improving 3D mapping of key mineral provinces through applications such as geological surveying, drilling and advanced 3D modelling.⁹⁶⁸

8.3.4 Northern Territory

8.3.4.1 *Bringing Forward Discovery*

In 2008 the Northern Territory (NT) Government established *Bringing Forward Discovery* (BFD) to assist explorers to make major mineral and petroleum discoveries in the NT. Originally a four year initiative, the Government announced in its 2011 budget that based on BFD's success, it would be extended for an additional three years with a further \$11.4 million allocated in funding. Total investment will amount to \$25.8 million over seven years.

BFD comprises three broad elements:

8.3.4.1.1 Geoscience programs

A major component of BFD is acquisition and delivery of new geoscience data, led by the Northern Territory Geological Survey (NTGS). The NTGS plans to build a comprehensive understanding of the state's geology and identify greenfield exploration opportunities with an emphasis on minerals under cover through:

- geophysical surveys
- 3D mapping and geochemical analysis in areas with high mineral potential, particularly where the geology is poorly understood
- improved online access to maps and geoscience data and information through development of an information database.⁹⁶⁹

8.3.4.1.2 Geophysics and drilling collaborations

The NT Government is offering grants to explorers conducting exploration drilling and geophysics activities in greenfield areas of the NT. Particular preference is given to drilling that tests beneath thick cover and regional-scale geophysical surveys. Funding has been allocated to successful applicants in four rounds, with a fifth planned in May 2012. Table 16 summarises grants allocated in the first four rounds.

Table 16: Summary of Bringing Forward Discovery grants⁹⁷⁰

Round	Year	Drilling projects	Geophysical Projects
1	2008–09	5	4
2	2009–10	12	2
3	2010–11	8	4
4	2011–12	5	2

⁹⁶⁸ Department of Primary Industries NSW, 'New Frontiers', viewed 18 November 2011, <<http://www.dpi.nsw.gov.au/>>.

⁹⁶⁹ Ore-struck, 'Bringing Forward Discovery', viewed 3 October 2011, <<http://www.orestruck.nt.gov.au/>>.

⁹⁷⁰ Department of Resources — Minerals and Energy, 'Geophysics and drilling collaborations', viewed 3 October 2011, <<http://www.minerals.nt.gov.au/>>.

8.3.4.1.3 Project facilitation and promotion

This element aims to promote NT's prospectivity and establish the state as a preferred location for exploration and mining investment. This involves promotion at key national and international events and conferences. Part of this promotion is through the NT's *China and Japan Minerals Investment Attraction Strategy*, which aims to identify and introduce potential investors, promote NT business to China and Japan, and assist local industry with international business collaborations.

Investment opportunities in the NT are promoted through the *NT Investment Alert*, a quarterly mail alert providing updates on potential mining developments, prospectivity, joint ventures and investment opportunities.⁹⁷¹

8.3.5 Tasmania

8.3.5.1 TasExplore

TasExplore was a Tasmanian Government initiative that ran from 2006–2010 and aimed to promote exploration opportunities and the mineral potential of Tasmania. Specifics of the program included:

- acquisition of geophysical data
- interpretation of data from satellite imagery
- promotion of exploration opportunities and the mineral potential of Tasmania
- upgrading the 3D geological model of the state
- updating the Tasmanian Information on Geoscience and Exploration Resources (TIGER) database.

The program focused on improving geological data that was available for north and north-east Tasmania and King Island. Ten collections of pre-competitive data have been published based on data collected by this program.⁹⁷²

8.4 International jurisdictions

8.4.1 Canada

The Committee received evidence that indicated which support for the resources sector from the Government of Canada has helped establish the country as favourable place for exploration and mining.⁹⁷³ This is supported by the Fraser Institute's annual *Mining Survey*, where the Canadian provinces of Quebec,

⁹⁷¹ Ore-struck, 'Bringing Forward Discovery', viewed 3 October 2011, <<http://www.orestruck.nt.gov.au>>.

⁹⁷² Mineral Resources Tasmania, 'TasExplore Project', viewed 18 November 2011, <<http://www.mrt.tas.gov.au/>>.

⁹⁷³ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

Alberta and Manitoba have consistently placed in the top 10 rankings the report's Policy Potential Index (PPI) since 2001.⁹⁷⁴

According to the *Mining Survey 2010–11*, Quebec was viewed as the most favourable province worldwide for miners between 2007 and 2010, but recently fell to third place due to pending legislative amendments:

... in our 2010 mid-year mining survey update, Quebec fell to third spot while Alberta took over first place. Quebec's decline is likely due to tax increases announced in the spring of 2010 and plans to rewrite its mining act. None the less, Quebec remains a good place to mine and it received the largest number of votes on the 'having the most favourable jurisdiction for mining' indicator.⁹⁷⁵

8.4.1.1 *Flow-through share scheme*

Submissions to the Inquiry indicated support for a form of exploration tax credits to allow companies to pass on unrealised tax deductions to shareholders as credit.⁹⁷⁶ The AMEC referred to the flow-through share scheme introduced by the Government of Canada in 2000, stating that it 'resulted in Canada's share of global exploration spend doubling in the following decade'.⁹⁷⁷ Tim Goldsmith, Global Leader, Mining of PricewaterhouseCoopers (PwC), noted that Canada's exploration spend increase after the introduction of the flow-through shares scheme, but questioned the total impact of the shares on exploration spend:

The scheme was introduced at about the same time that diamonds were found in Canada. It is always difficult to know whether the increase was because of diamonds being found, which sparked lots of other people to start looking in Canada, or whether it was the flow-through share scheme. Unfortunately you are never going to be able to tell that. What you are going to be able to tell is that the flow-through shares came in and exploration expenditure went up.⁹⁷⁸

Mr Richard Shodde, Managing Director of MinEx Consulting, also acknowledged the increased level of exploration expenditure at this time, however, he questioned the value of the scheme, stating that it did little in regards to discovery of deposits:

This is not a popular statement to make but, whilst flow-through financing has been successful in terms of increasing the level of exploration activity and spend in a country, it actually has not delivered much in the way of additional discoveries. I would argue that it has not been an effective program to do ... you really have got to make sure that you spend your money on things that improve the level of knowledge within the State so that there are opportunities for companies to go and use those

⁹⁷⁴ Fraser Institute, *Mining Surveys: 2001–2011*, Fraser Institute, Vancouver, 2001–2011.

⁹⁷⁵ Fraser Institute, *Mining Survey 2010–11*, Fraser Institute, Vancouver, 2011, p. 6.

⁹⁷⁶ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 3; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 3.

⁹⁷⁷ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 5.

⁹⁷⁸ Tim Goldsmith, Global Leader, Mining, PricewaterhouseCoopers, *transcript of evidence*, 29 August 2011, p. 8.

ideas to meet targets — that would be my argument — rather than just giving them a tax refund.⁹⁷⁹

8.5 An identified model for success — South Australia

8.5.1 Plan for Accelerating Exploration

The SA Government established the *Plan for Accelerating Exploration* (PACE) initiative in 2004 following a SA Economic Development Board recommendation stating that in order to develop a significant minerals and energy sector, further government investment was required. PACE is recognised as highly efficient government initiative that has directly contributed to a surge in minerals exploration and identification of new mineral deposits. The SA Government committed \$30.9 million over 5 years (2004–09) to establish PACE and recommitted a further \$10.2 million to the expansion of PACE through the PACE 2020 program in 2009 (see section 8.5.2).

PACE comprised eight key themes:

- **Balancing resource development with conservation:** The first theme looked to develop a scientific approach to assessing the economic and biodiversity values of SA's parks and reserves and to identify 'best practice' exploration methodologies for industry.
- **Collaborative drilling between the SA Department of Primary Industries and Resources (PIRSA) and industry:** Six rounds of drilling grants were offered to mineral, petroleum and geothermal exploration companies. Table 17 below summarises these grants.

Table 17: Projects allocated grants under PACE⁹⁸⁰

Round	Year	Grants	Total value of grants (geothermal/petroleum)
1	2004	27	\$1.75 million
2	2005	44 (3 geothermal)	\$2.4 million (\$291 000)
3	2005	35 (2 geothermal, 1 petroleum)	\$2 million (\$268 000)
4	2006	33 (3 geothermal)	\$2 million (\$300 000)
5	2008	29 (2 geothermal, 1 CSG)	\$2 million (\$300 000)

- **Establishment of the South Australian Centre for Mineral Exploration Under Cover (CMXUC):** The CMXUC is a research institution that focuses on the areas of mineral origin and distribution, landscape evolution, and geophysical exploration.⁹⁸¹
- **From Craton to Basin: new frontiers and regional geophysics:** This theme focused on developing 3D geological models in areas where barren cover obscures prospective areas.

⁹⁷⁹ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 10.

⁹⁸⁰ Primary Industries and Resources South Australia, 'PACE Initiative', viewed 18 November 2011, <<http://www.pir.sa.gov.au/>>.

⁹⁸¹ Centre for Mineral Exploration Under Cover, 'About the CMXUC', viewed 14 October 2011, <<http://www.adelaide.edu.au/>>.

- **Resource development and sustainable communities:** This involved collaboration between government, industry and Indigenous communities to achieve:
 - o protection of culturally significant sites
 - o establishment of protocols for working with traditional land owners and in areas with native title claim
 - o development of community support programs
 - o development of training programs that provide Indigenous people with exploration and mining employment opportunities.⁹⁸²
- **Baseline geochemical survey:** This survey compiled existing open file industry geochemical data into a single database.⁹⁸³
- **Next generation data delivery:** This theme focused on improving the South Australian Resources Information Geoserver (SARIG) and presenting it as a single point of reference for all open-file data and historical reporting.⁹⁸⁴
- **Establishment of the South Australian Minerals and Petroleum Expert Group (SAMPEG):** SAMPEG, a group of 14 industry professionals, was established under this theme to address perceptions of poor prosperity and attract investment to the resources sector of the state. It has adopted a position as an ambassador for the minerals and petroleum industries.⁹⁸⁵

8.5.1.1 *PACE Report 2004–2009*

At PACE's conclusion in 2009, the program was evaluated by PIRSA and the results published in the *PACE Report 2004–2009*. The report viewed PACE as an overall success, and mentioned the following outcomes:

- PACE is attributed as increasing international awareness of SA's high mineral prospectivity and potential for new discoveries.⁹⁸⁶
- An evaluation of the PACE initiative in January 2007 demonstrated a net economic benefit in excess of \$300 million. Both the SA Treasury and SA Economics Centre confirmed this finding.⁹⁸⁷

⁹⁸² Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 67.

⁹⁸³ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 75.

⁹⁸⁴ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 81.

⁹⁸⁵ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 87.

⁹⁸⁶ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 11.

- SA's ranking in the Fraser Institute's annual *Mining Survey* significantly increased after PACE was implemented. The state ranked 11th out of 79 regions in the 2010–11 Survey's Policy Potential Index, which measures the attractiveness of government policies based on surveys of exploration managers.⁹⁸⁸
- A PIRSA customer survey of PACE indicated that 96 per cent of respondents considered the initiative very effective in increasing awareness of exploration opportunities in SA.⁹⁸⁹

8.5.1.2 Evaluation of PACE

The Allen Report discussed PACE in comparison with RDV, *Developing Gold Undercover* and VIMP. It also mentioned that PACE resembled RDV to a degree. The Report listed a number of attributes of PACE for DPI to consider as guidance for future resource initiatives:

- The PACE initiative (and its successor, PACE 2020) began with clear, well defined program objectives. These objectives have ensured that any activities undertaken have clear guidance regarding what they aim to achieve.
- An evaluation of the PACE initiative was undertaken in 2007 — prior to its completion. This evaluation sought to gauge how the program was tracking against its objectives, as well as to advise on how the program might be succeeded.
- SA offers a regulatory and policy environment that is generally supportive to mineral exploration. This includes:
 - o engagement with multiple Departments and government agencies to ensure consistent and compatible policy;
 - o low compliance/administration costs/requirements on industry; and
 - o a flexible understanding of the time required to reach certain project milestones.
- SA — in part due to a strong communications campaign that leveraged off of outputs produced by PACE — is perceived as being highly prospective. This has helped unlock the value of the outputs produced.⁹⁹⁰

PACE was repeatedly recognised in evidence as a successful program for attracting investment in exploration projects.⁹⁹¹ The MCA's submission stated

⁹⁸⁷ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 11.

⁹⁸⁸ Fraser Institute, *Mining Survey 2010–11*, Fraser Institute, Vancouver, 2011, pp. 9–10.

⁹⁸⁹ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 11.

⁹⁹⁰ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, p. 81.

⁹⁹¹ Antonio Belperio, Exploration Director, Minotaur Exploration, *transcript of evidence*, 17 November 2011; Bruce Edwards, Regional Manager, New South Wales, Victoria and

that PACE 'led the nation with regards to partners with industry to explore'.⁹⁹² Mr Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, from the AMEC told the Committee:

PACE in South Australia was the first one [government/industry drilling collaboration] that kicked off, and the fact that it was very successful led the Queenslanders to follow in 2005, the Northern Territory in 2008 and about a year-and-a-half ago [in 2010], Western Australia.⁹⁹³

This view was reiterated by Mr Jonathan Law, Director, Minerals Down Under Flagship of the CSIRO:

I think South Australia probably led the charge in terms of developing these concepts. Certainly on an anecdotal level I know they have had some really impressive successes in co-investing with industry in drilling that has actually turned out to snag an ore body, so I'm pretty sure that is the best jurisdiction to look at.⁹⁹⁴

8.5.2 PACE 2020

Following on from the success of PACE, the SA Government allocated \$10.2 million over four years to establish PACE 2020 in 2010. PACE 2020 is aimed specifically at driving forward exploration activities to mine developments.⁹⁹⁵ It comprises three key work programs:

8.5.2.1 PACE Exploration

PACE Exploration aims to aid exploration in SA, through expansion of available exploration area, updated pre-competitive data and data delivery, and collaboration with industry. The four programs that comprise *PACE Exploration* and their objectives are listed below.

- **Pathways to Prospectivity:** to expand the exploration search space and deliver new world class mines. The program involves mapping

Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011; Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011; Resource Futures, *submission*, no. 25, 19 August 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011; Victorian Government, *submission*, no. 58, 22 October 2011.

⁹⁹² Minerals Council of Australia, Victorian Division, *submission*, no. 33, 22 August 2011, p. 27.

⁹⁹³ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 6.

⁹⁹⁴ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 9.

⁹⁹⁵ Primary Industries and Resources South Australia, 'PACE 2020', viewed 29 September 2011, <<http://www.pir.sa.gov.au/>>.

frontier and current producing areas and analyses of mineral systems.⁹⁹⁶

- **Pathways to Discovery:** to deliver new baseline geoscientific datasets for mineral and energy resources in greenfield areas where existing data requires updating.
- **Innovation through Integration:** to distribute data collated by the two above programs through SARIG and to release a new volume of data on SA's mineral resources.
- **PACE Partnerships:** to provide maximum leverage through collaborative programs that will engage researchers, explorers, developers, government agencies and communities through the following sub programs:
 - o **PACE Discovery Drilling:** collaborative drilling grants in frontier and newly emerging regions. Twenty-three proposals were allocated grants in 2010, two of which were for geothermal exploration and one for coal seam gas (CSG). A second round of grants was issued to 26 projects in 2012, including a project to explore for shale gas.⁹⁹⁷
 - o **PACE Targeting:** collaborative geophysical surveys with a focus on greenfield and newly emerging regions.
 - o **PACE Geochronology:** provides grants and access to analytical equipment and expertise for collaborative geochronological projects concerned with dating mineral systems and deposits.
 - o **PACE Water Search:** supports mineral and resource projects through the development and feasibility stage by assisting in the search for water resources.⁹⁹⁸

8.5.2.2 *PACE Mining*

PACE Mining aims to improve aspects of mining including the assessment and approvals process, industry policy and guidelines, managing water resources and community engagement. It is comprised of the following four programs:

- **Discovery to Development:** This program will streamline the mining assessment and approval process to six months through implementation of a new management system. This system will follow projects from the exploration lease application stage through to the conclusion of the project and rehabilitation.

⁹⁹⁶ Primary Industries and Resources South Australia, 'South Australia PIRSA update — PACE 2020', viewed 26 October 2011, <<http://www.saexplorers.com.au/>>.

⁹⁹⁷ Department for Manufacturing, Innovation, Trade, Resources and Energy, 'PACE Discovery Drilling 2012', viewed 1 May 2012, <<http://www.minerals.pir.sa.gov.au/>>.

⁹⁹⁸ Primary Industries and Resources South Australia, 'PACE Exploration', viewed 26 October 2011, <<http://www.pir.sa.gov.au/>>.

- **Next Generation Policy:** Recent changes in legislation have allowed the SA Government to develop new industrial policies and guidelines that will align resource development, conservation and sustainability with the state's triple-bottom-line goals.
- **Water and Mining:** This program will create partnerships between government and leading research organisations to map underwater ground systems. The program includes drilling subsidies for companies to identify water resources for developing mines and geothermal projects.
- **Communities:** This program defines engagement between government, industry and community as a priority and will result in development of a detailed community engagement strategy for use by industry and government.⁹⁹⁹

8.5.2.3 *PACE Global*

PACE Global aims to 'lead the world in range, presentation and distribution of geoscientific data and publications'.¹⁰⁰⁰ The three programs comprising *PACE Global* involve upgrading geoscientific databases; provision of relevant information; statistics and analysis of the resources sector; and increasing awareness of SA's minerals and energy industry locally, nationally and internationally. The programs and their objective are as follows:

- **Data Pathways:** This program focuses on ensuring that geoscientific data is made readily available online to an international stakeholder base. This involves launching an upgraded SARIG database and the development of AuScope's National Virtual Core Library.
- **South Australian Resources Analysis:** This program will provide economic analyses of the state's minerals sector, including a *South Australian Minerals Industry Annual*, an *Annual Mineral Industry Survey* and a more comprehensive Minerals Industry ScoreCard that meets triple bottom line reporting standards.
- **Building Awareness:** This program focuses on increasing local, national and international awareness of SA to promote the state as a preferred destination for exploration, mining and investment. SAMPEG will continue to act as ambassadors for the state's minerals and petroleum industries.¹⁰⁰¹

⁹⁹⁹ Primary Industries and Resources South Australia, 'PACE Mining', viewed 14 October 2011, <<http://www.pir.sa.gov.au/>>.

¹⁰⁰⁰ Primary Industries and Resources South Australia, 'PACE Global', viewed 24 February 2012, <<http://www.pir.sa.gov.au/>>.

¹⁰⁰¹ Primary Industries and Resources South Australia, 'PACE Global', viewed 24 February 2012, <<http://www.pir.sa.gov.au/>>.

8.5.2.4 *PACE Energy*

PACE Energy focuses on research into energy resources, specifically unconventional gas, geothermal resources, uranium and CCS. The four programs that comprise *PACE Energy* and their objectives are as follows:

- **SA Geothermal:** to advance understanding of SA's geothermal energy potential and deliver new data and information to industry.
- **Unconventional Gas Resources:** to reduce exploration uncertainties for SA unconventional gas plays.
- **Uranium:** to identify and model SA's uranium potential.
- **CO₂ CRC:** to support research mitigating greenhouse gas emissions through CCS technologies.

Through these programs, *PACE Energy* aims to deliver pre-competitive data and position SA as the hub of a national geothermal cooperative research centre.¹⁰⁰²

The Committee found that *PACE* consistently achieved significant outcomes in increasing greenfields mineral exploration.¹⁰⁰³ Evidence received during the Inquiry hearings in SA reaffirmed to the Committee that the framework of *PACE* should be examined by the Victorian Government when establishing the state's future mineral resource initiatives.

Recommendation 23: That the Victorian Government considers facilitating the establishment of a framework for an integrated mineral resources initiative such as South Australia's *Plan for Accelerating Exploration*, to drive new minerals exploration to encourage investment and economic development in Victoria.

¹⁰⁰² Department for Manufacturing, Innovation, Trade, Resources and Energy, 'Mineral resources in review 2011: South Australian Government's report card and future vision', viewed 24 February 2012, <<http://www.pir.sa.gov.au/>>.

¹⁰⁰³ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011; Fraser Institute, *Mining Surveys: 2001–2011*, Fraser Institute, Vancouver, 2001–2011; Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009.

CHAPTER NINE:

INNOVATION AND COLLABORATION IN THE RESOURCES SECTOR

This chapter highlights the range of evidence received by the Committee from submissions and witnesses at public hearings and follows on from the key state and federal government initiatives summarised in chapter eight.

This chapter notes perspectives on co-funded drilling programs, views on enhancing collaborative partnerships between the resources sector and universities (including an outline of programs operating in South Australia), sectors with promising technological potential for Victoria, and stakeholder observations on skills, training and labour issues.

9.1 Co-funded drilling programs

9.1.1 Benefits

Evidence received from mining industry stakeholders drew attention to the value of co-funded drilling as part of a wider program of targeted incentives to stimulate private sector investment in greenfields mineral exploration.¹⁰⁰⁴ Co-funded drilling programs in Victoria included components of the *Victorian Initiative for Minerals and Petroleum* (VIMP) and *Rediscover Victoria* (RDV), as discussed in chapter eight.

Mining and exploration stakeholders emphasised the benefits of drilling to complement available pre-competitive geoscientific data. The Association of Mining and Exploration Companies' (AMEC) submission summarised the argument in favour of co-funded drilling, stating:

Geoscience is the starting point but drilling metres leads to success. If pre-competitive geoscience is the prospectus then co-funded drilling is the seed capital.¹⁰⁰⁵

¹⁰⁰⁴ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Australian Institute of Geoscientists (Victorian Branch), *submission*, no. 32, 19 August 2011; Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011; Commonwealth Scientific and Industrial Research Organisation, *submission*, no. 31, 19 August 2011; Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011; Geos Mining, *submission*, no. 15, 17 August 2011; Geoscience Australia, *submission*, no. 19, 18 August 2011; Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011; Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011; Mark Miller, Managing Director, Greener Earth Energy, *transcript of evidence*, 26 September 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011; Emma Vogel, Technical Services Manager, Donald Mineral Sands, *transcript of evidence*, 7 November 2011.

¹⁰⁰⁵ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

Similarly, the Australasian Institute of Mining and Metallurgy's (AusIMM) submission conveyed the benefits of data from drilling as a complement to existing geoscience information:

Drilling assistance for true "greenfields" exploration has been helpful in many States and would also benefit Victoria. Victoria has very good regional magnetic and gravity understanding but even more detail could be added.¹⁰⁰⁶

Furthermore, Mr Jonathan Law, Director of the Minerals Down Under Flagship at the CSIRO, spoke of the flow-through value of drill holes on the geoscience data of the surrounding area:

We learn a tremendous amount from drilling. Every borehole that goes down in the greenfields area provides information whether it finds an ore deposit or not. What it does is add value to the whole area, and it makes the interpretation of those remote datasets much better in those areas. As you move away the uncertainties grow very quickly.¹⁰⁰⁷

Evidence from mining stakeholders also stressed the need for drilling to understand Victoria's undercover resources, particularly the gold potential identified through the work of *Developing Gold Undercover* (discussed in chapter eight). Mr Richard Schodde, Managing Director of MinEx Consulting, emphasised the need for drilling in order to identify a significant deposit under cover in order to change perceptions of Victoria's prospectivity:

One of the challenges for Victoria is that most of the outcropping deposits have been found, so the next generation of discoveries will be under cover, and that requires drilling. You just cannot walk up to the rocks and say there is an ore body there. South Australia was the one that took the lead on [co-funded drilling initiatives] ... Queensland and Western Australia have taken similar measures as well. I will come back and emphasise that point: the best way to change perceptions is to actually make a big discovery, and the only way you can make a big discovery is to step out and do something new and fresh. You just cannot repeat the same old stuff.¹⁰⁰⁸

Likewise, Professor David Giles of the South Australian Centre for Mineral Exploration Under Cover (CMXUC) considered co-funded drilling to be a way of building confidence and reducing the risks for investors.¹⁰⁰⁹

The AMEC proposed that co-funded drilling could form part of a package of incentives to encourage greenfields mineral exploration and could be useful in uncovering or defining new resources, such as the copper/porphyry gold deposits in northern Victoria.¹⁰¹⁰ Mr Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania of the AMEC, explained this in his presentation to the

¹⁰⁰⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 13.

¹⁰⁰⁷ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 9.

¹⁰⁰⁸ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 5.

¹⁰⁰⁹ Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011, p. 4.

¹⁰¹⁰ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

Committee, noting that such deposits are more consistently spread than Victoria's traditional nuggetty gold deposits.¹⁰¹¹

From the geothermal industry perspective, Mr Mark Miller, Managing Director of Greenerth Energy viewed drilling as the next step in developing the emerging resource:

... the trigger for investment in the industry is going to be companies ... drilling a number of successful deep geothermal wells that essentially become enablers for either what we call pilot or demonstration.¹⁰¹²

He considered Government collaboration with the geothermal industry a necessity if the Government wishes to develop geothermal energy as a baseload power source:

If you look back in history, it was government that basically built our generation assets and generation infrastructure. To expect the geothermal industry, which has only been operating for 10 years, to deliver up a solution as far as baseload renewable energy is concerned in this country without substantial government support and assistance, I think, is really quite naïve. It is about understanding where we need to get to on the cost curve so that we can drive cost out of our technologies by the adoption of those technologies locally and be competitive — not in absolute terms but more so — with existing generation, given that existing generation costs are on the rise, as we all know and recognise.¹⁰¹³

9.1.2 Limitations of previous initiatives

The Committee notes the somewhat differing views from mining industry stakeholders and the Victorian Government on the benefits of co-funded drilling under past initiatives. While industry stakeholders praised the past collaborations, the Victorian Government stated that RDV provided 'very little in the way of incentive to drill' and that 'industry take-up of grants was low due to the perception that grant compliance costs and requirements were burdensome'.¹⁰¹⁴

Mr Tom Burrowes, Director of Providence Gold and Minerals and member of the Minerals Council of Australia (MCA), considered grants received under the drilling component of RDV as instrumental in gold discoveries made by the company.¹⁰¹⁵

Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, from the Department of Primary Industries (DPI), drawing from the findings of the Allen Consulting Group's *Review of Victoria's earth resources programs* (2011) (the Allen Report), stated:

¹⁰¹¹ Bruce Edwards, Regional Manager, New South Wales, Victoria and Tasmania, Association of Mining and Exploration Companies, *transcript of evidence*, 29 August 2011, p. 6.

¹⁰¹² Mark Miller, Managing Director, Greenerth Energy, *transcript of evidence*, 26 September 2011, p. 6.

¹⁰¹³ Mark Miller, Managing Director, Greenerth Energy, *transcript of evidence*, 26 September 2011, p. 5.

¹⁰¹⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 37.

¹⁰¹⁵ Tom Burrowes, Member, Victorian State Councillor, Minerals Council of Australia, *transcript of evidence*, 29 August 2011, p. 7.

Victoria's experience with co-funded drilling is actually well recorded in the Allen report, which said that it didn't really work for us and part of the reason was because it wasn't engaged appropriately ... There is a risk with co-funded drilling programs that you simply displace exploration expenditure that was going to occur anyway, so you do need to be very careful in those programs.

...

I think it's probably fair to say that in the Department we have conversations about co-funded drilling and we have trouble finding that it could be successful by itself.¹⁰¹⁶

As discussed in chapter eight, based on the findings of its report, the Allen Report considered a continuation of RDV difficult to justify. This was due to there being little available evidence of benefits to greenfields exploration during the course of this initiative. However, the Allen Report suggested that a new initiative could overcome some of the factors that limited the success of RDV.

The Allen Report emphasised the need for an initiative to:

- not be confined to greenfield operations
- be designed in consultation with industry
- target potential private sector investors, not necessarily with a presence in Victoria
- support projects with scale and real commercial potential
- provide a smaller number of larger grants, in order to attract significant private sector investment
- articulate clear objective from the outset, using key performance indicators for evaluation
- include opportunities to build on outcomes from *Gold Undercover* and RDV
- be evaluated after an appropriate length of time based on the length of the projects supported.¹⁰¹⁷

Although the Allen Report recommends that such an initiative not be confined to greenfields areas, the Committee recognises the direct and indirect benefits resulting from resource initiatives for mineral exploration.

While recognising there are some benefits to co-funded drilling programs on the basis they are part of a package of targeted incentives to engage industry at an

¹⁰¹⁶ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 14.

¹⁰¹⁷ Allen Consulting Group, *Review of Victoria's earth resources programs: Report to the Victorian Department of Primary Industries*, Allen Consulting Group, Melbourne, 2011, pp. 47–48.

early stage, this alone is insufficient to make a substantial difference in investment in mineral exploration.

9.1.3 Best practice — other Australian jurisdictions

As discussed in chapter eight, co-funded drilling programs in some form or another have been implemented throughout other Australian jurisdictions within the last ten years. The AusIMM and Resource Futures called for the Victorian Government to provide drilling assistance to industry based on best practice in other Australian jurisdictions.¹⁰¹⁸

A number of mining industry stakeholders considered the collaborative drilling theme under South Australia's *Plan for Accelerating Exploration (PACE)*, to be a 'best practice' example for the Victorian Government to consider.¹⁰¹⁹ The evaluation of PACE by the then South Australian Department of Primary Industries and Resources (PIRSA) attributed a 'substantially improved perception of South Australia's mineral prospectivity within the international resources investment sector' to the drilling theme under the initiative.¹⁰²⁰ Mr Shodde from MinEx Consulting attributed the change in perception of prospectivity in South Australia as a result of a discovery made under the PACE collaborative drilling theme:

The South Australian Government funded grassroots exploration programs, and specifically it paid for the drilling program. A private entrepreneur actually drilled the hole — it was his baby — and he found spectacular results. That project was recently sold ... for several hundred million dollars, and it will lead to a mine sometime in the future. You can see that perceptions about endowment can change quite dramatically when you make a significant discovery. That is the key message you want to make.¹⁰²¹

Dr Hollitt from DPI considered this change in perception to be partly due to the level of involvement by the South Australian Government, in particular the geologists that were placed on site:

One of the other distinguishing features of the South Australian program was they put their geologists out on the drilling rigs of the people involved so there was lot of feedback backwards and forwards. This is possibly one of the reasons why some of these programs work sometimes and they don't work, that it's all about perceptions

¹⁰¹⁸ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011; Resource Futures, *submission*, no. 25, 19 August 2011.

¹⁰¹⁹ Geos Mining, *submission*, no. 15, 17 August 2011; Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011; Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011.

¹⁰²⁰ Primary Industries and Resources South Australia, *PACE Report 2004–2009*, South Australian Government, 2009, p. 20.

¹⁰²¹ Richard Schodde, Managing Director, MinEx Consulting, *transcript of evidence*, 22 August 2011, p. 4.

and engagement — it's not necessarily rational, as you mentioned before — but this is as much about marketing as it is about anything else.¹⁰²²

On a national level, Mr Law from the CSIRO considered South Australia to be the forerunner in co-funded drilling initiatives:

I think South Australia probably led the charge in terms of developing these concepts. Certainly on an anecdotal level I know they have had some really impressive successes in co-investing with industry in drilling that has actually turned out to snag an ore body, so I am pretty sure it is probably the best jurisdiction to have a look at.¹⁰²³

The Committee did not receive substantial evidence on co-funded drilling programs in other jurisdictions outside of South Australia. As such, it considers the approach adopted by the South Australian Government under the PACE initiative, and more recently, PACE 2020, to be a model for the Victorian Government to consider replicating, in order to stimulate greenfields exploratory drilling.

9.2 Research and development collaborative partnerships

A number of submissions and witnesses argued for enhanced levels of research and development collaboration and partnerships which, they believed, are currently inadequate.

For instance, the AusIMM highlighted in its submission that, while Victoria has 'excellent, broad-based university geoscience departments according to most national or international rankings'¹⁰²⁴ the Victorian Government needs to take a leadership role to develop collaborative research projects that integrate the research efforts of DPI (GeoScience Victoria), universities and the mining industry. The AusIMM argued this would ensure a supply of highly skilled explorers who can access the best 'pure' geoscience research and apply it in the Victorian exploration environment. According to the AusIMM, this will promote greater levels of exploration in Victoria and increase the likelihood of mineral discoveries.¹⁰²⁵

In its submission, the AusIMM also identified what they saw as a lack of collaboration between Victorian university geoscience departments:

It is disappointing to many in industry how poorly some of these like-minded organisations work together with one another and with industry. The Victorian

¹⁰²² Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 9.

¹⁰²³ Jonathan Law, Director, Minerals Down Under Flagship, CSIRO, *transcript of evidence*, 19 September 2011, p. 9.

¹⁰²⁴ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 12.

¹⁰²⁵ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011.

situation is in contrast to some excellent partnerships and collaborations in other states, enabled through strong State Government leadership.¹⁰²⁶

The AusIMM argues this situation can be ameliorated by stronger partnerships or collaborations between government, universities and industry, including government support for in-service workshops delivered to an international standard.¹⁰²⁷

However, the University of Melbourne's Head of the School of Earth Sciences, Professor Janet Hergt, challenged this view. In her presentation to the Committee (with the endorsement of Monash University School of Geosciences), she argued that the universities work well together, although she acknowledged more needs to be done to work in with government agencies and industry:

One of the things I did notice in reading some of the submissions were perhaps perceptions — and I think false perceptions — that universities are not particularly good at working with each other, they are not particularly good at working with government organisations and they are not particularly good at working with industry. I wanted to dispel all three of those as quickly as I can.

...

... the strong history of cross-organisational collaboration that the universities have had in this particular area. You may well have heard about the Predictive Minerals Discovery CRC, a very large national program — Monash and Melbourne were both very strong players in that, and of course the Victorian State Government and CSIRO and various others. The Victorian Institute of Earth and Planetary Sciences is a cooperation between Monash, Melbourne, La Trobe and, more recently, Ballarat, and even more recently, the University of Tasmania. We share bids for research infrastructure. We share senior teaching, so staff and/or students may travel between universities so that rather than duplicating efforts we actually work together. That has been going for 25 years, so this is not just a new flash-in-the-pan sort of thing; this is a very well established collaboration.¹⁰²⁸

Professor Hergt later told the Committee:

I think Victoria has almost all the pieces of the puzzle. We have great expertise in research infrastructure sitting in the universities that we have put together over many years, and of course we have CSIRO, the Synchrotron et cetera. We have a culture of collaboration, despite what you may have heard others, in lots of particular areas such as geological mapping, geochronology and all those sorts of things. I think the kind of piece we are missing is coordination ...¹⁰²⁹

Professor Hergt believed there are a number of outcome based ways in which research can link in with collaborative partnerships between government, industry and the tertiary sector, namely:

¹⁰²⁶ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 12.

¹⁰²⁷ Australasian Institute of Mining and Metallurgy, *submission*, no. 24, 19 August 2011, p. 12.

¹⁰²⁸ Professor Janet Hergt, Head of School, School of Earth Sciences, University of Melbourne, *transcript of evidence*, 30 January 2012, p. 3.

¹⁰²⁹ Professor Janet Hergt, Head of School, School of Earth Sciences, University of Melbourne, *transcript of evidence*, 30 January 2012, pp. 6–7.

- University students are keen to undertake relevant 'real world' projects involving government and industry and provide an important source of additional support. When employed they also carry their new knowledge and expertise directly into the workforce, maximizing the uptake of the results by Industry.
- Victorian universities have a long history of collaboration with each other, particularly in senior level teaching and the establishment of geoscience research infrastructure. Research programs that bring them together have met with varying levels of success and a new model is eagerly sought.
- A range of reports and submissions over the years have emphasized the need for greater research coordination and collaboration between stakeholders and a program or series of programs to bring expertise together. The State Government could provide leadership in this area by establishing a Director of a new entity (e.g., the 'Victorian Earth Resources Consortium?') with the role of informing all stakeholders of the existing research activity being undertaken, identifying the potential to open up new areas of collaboration, seeking out potential Industry partner interest, and ensuring results of research activities are strongly promoted. Part of this new initiative may involve co-funded positions and/or the co-location of staff, but certainly with a view to leveraging Industry and Federal Government funding (e.g. ARC [Australian Research Council] Linkage Project grants).¹⁰³⁰

9.2.1 South Australian experience

During the Inquiry hearings in South Australia in November 2011, the Committee heard how a number of these collaborative issues appear to have been addressed. The Committee met with stakeholders with strong partnerships with government, industry and academia.

The Committee met with a representative from the CMXUC, which is a collaboration between the University of Adelaide and the South Australian Department for Manufacturing, Innovation, Trade Innovation and Energy (MITRE, formally PIRSA).

The aim of the CMXUC is to facilitate mineral discovery by focusing on exploring beneath the sedimentary cover and weathered rock that conceals much of the Australian continent.

The CMXUC was established in 2005 with a \$1.2 million grant from PIRSA as part of the PACE initiative. Its key outcomes are to:

- develop new methodologies to explore for economic mineral deposits through thick cover sequences
- address the issue of skills shortages in the mining industry that affect the productivity and development of the South Australian (SA) minerals industry.

Since its inception, the CMXUC has established extensive industry partnerships with various exploration and mining companies, other state governments (including the Victorian DPI), the CSIRO, Geoscience Australia, and other

¹⁰³⁰ University of Melbourne, *submission*, no. 60, 25 January 2012, p. 2.

Australian universities, including Monash and James Cook universities. It also comprises a strong education focus, adopting a key role in providing education and training in the science of mineral exploration at University of Adelaide through:

- contributing curriculum at undergraduate levels
- supporting a critical mass of post-graduate students addressing mineral exploration under cover
- facilitating links between students, researchers and the exploration community.¹⁰³¹

The CMXUC's Professor David Giles told the Committee how this is being done:

... we have tried to design undergraduate training programs in geology that specifically meet the needs of the exploration and the mining community and we have done that a couple of ways by making new undergraduate courses: one called 'Mineral Exploration', where we are looking at that 'where' question, not the 'why' question, which was a traditional thing to do in universities, and we have established now an Australia-wide network of fourth year training courses that has support from the Minerals Council of South Australia. This is called the *Minerals Geoscience Honours Program* and what that does is that sends our students around to — there are eight different universities in the country involved and we send them around to the different universities to do short courses in areas that those universities have expertise in. I think this is a commonly overlooked area in terms of state government investment that tends to make a big distinction between the government side of where contributions can be made and the teaching and training side and I think those two things can successfully be brought much closer together.

Apart from that, there is a massive wealth of intellectual power; for example in the Victorian universities, that can be brought to bear on these problems if they are given proper incentive, and that information goes straight from those academics to the students they are teaching and those students go straight out there into the work force. It is a very quick turnaround to getting that intellectual power into the work force.¹⁰³²

Professor Giles also explained ways in which students are being vocationally prepared:

... the investment that is required to bring the universities, the academics and the students along with you in these programs in monetary terms is much less — it is a fraction of the type of investment which you need in terms of building these big data sets and the co-investments and all of that kind of thing. It is a very small initial investment. It usually has a much larger footprint because it ties the survey to the university, the university can then go out and look for Federal Government money and the university can then go out under a research banner and look for company money for those co-investments.

As an example, the State Government here now has put \$2 million into the Myer Centre and I added this up before I came over. So the research investment that we

¹⁰³¹ University of Adelaide, 'Centre for Mineral Exploration Under Cover — about the CMXUC', viewed 6 May 2012, <<http://www.adelaide.edu.au/>>.

¹⁰³² Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011, p. 5.

have got back from them is \$10 million over six years and in that time we have now 600 students across the country through these honours courses.

...

... it is the eight universities that teach the most honours students and they filter out. They have not all gone through the Adelaide courses, they have been pushed out. Now, the University of Adelaide has the biggest undergraduate numbers in geology in the country, despite the fact they are three universities in a city of a million people. We have the biggest honours numbers in the country, who are fourth year students. We had 45 last year, 35 this year. We will have 40 next year, and more than half of those do mineral exploration – related projects. Nearly all of the honours classes going out into the minerals and energy area at the end of this year, with the exception of about five, who are doing PhDs. Since 2004 there has been steady growth in those teaching areas and we now teach across the board three times the number of undergraduate students we did in 2005. It is terrific. It is a terrific success story.¹⁰³³

In addition, Professor Giles reinforced to the Committee the need for data as a way of enhancing support for the industry:

So what we need to do is to say to people: 'We need to provide confidence that you can do something in that environment'. We need to reduce the cost for drilling and we need to build up the knowledge of the geological system and the hydrothermal system that is under cover. This whole process cannot be done in a data poor environment.¹⁰³⁴

Also in South Australia, the Committee met with Mr Ian Hardwick, Business Manager for Deep Exploration Technologies Cooperative Research Centre (DETCRC). DETCRC is one of 40 cooperative research centres (CRCs) currently operating in Australia. CRCs are typically supported by a combination of Australian Government, university and end-user (predominantly industry) funding to build research partnerships addressing major challenges that require medium to long-term collaborative efforts. DETCRC is one of the world's best funded independent research initiatives in mineral exploration, with \$112 million of cash and in-kind funding from the Australian Government (\$28 million), universities (\$50 million) and end-users (\$33 million).¹⁰³⁵

There are two levels of organisational involvement in DETCRC, which includes 'Participants' which contribute on average \$450 000 each per annum, and 'Affiliates' which contribute \$10 000 each per annum. Participants include major mining companies, universities and Australian Government agencies (the CSIRO, Geoscience Australia). Victoria's DPI is an Affiliate of the DETCRC. It was established in late 2010 to address the most significant challenge to the future of

¹⁰³³ Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011, pp. 4–5.

¹⁰³⁴ Professor David Giles, Director, South Australian Centre for Mineral Exploration Under Cover, *transcript of evidence*, 18 November 2011, p. 3.

¹⁰³⁵ Deep Exploration Technologies Cooperative Research Centre, 'Welcome to Deep Exploration Technologies CRC', viewed 7 May 2012, <<https://detcrc.com.au/>>.

the Australian minerals industry, namely the reduction in the mineral resources inventory due to high production rates and low mineral exploration success.¹⁰³⁶

In response to a question from Committee member Mr Wade Noonan MP on investment by state governments to help facilitate data for undercover operations, Mr Hardwick responded that governments could be involved in funding drilling in order to provide data and offering greater support for the exploration sector through promoting the development of technologies that allow efficiency savings and are also environmentally friendly.¹⁰³⁷

The Committee also met with Mr Jonathon Forbes, Director Industry Development South Australian Chamber of Minerals and Energy (SACOME), which is a not-for-profit, non-government organisation that promotes the long-term sustainability of the resources sector in South Australia.

SACOME has over 300 members who represent the full spectrum of the resources sector, including companies that operate in oil, gas and minerals exploration, extractives, mining and minerals processing, electricity generation and transmission, and the logistics, transport and other industries related to the sector.

A key function of SACOME is promoting vocational and professional careers in the resources sector to young people through conducting educational presentations at primary and secondary school students. In collaboration with PIRSA, it also plays a role in the retention of professional skills in the sector through the Geoscientist Assistance Program (GAP). This program provides salary subsidies and training grants to mineral exploration and mining companies to employ geoscientists on paid work placements.

In his presentation to the Committee, Mr Forbes provided information on PACE, which he stated was designed to:

... promote South Australia as a premier destination for mineral and energy investment. In 2004 we had four key outcomes set: improved land access, decision-making under a multiple land use framework, South Australia to be recognised as a world class centre of excellence in the science and practice of exploring undercover. You may know that South Australian minerals are generally quite deep, so we start about 200 often 300 metres underground. Olympic Dam, for example, is around 450 metres underground, or thereabouts. So they have got to shift an awful lot of rock. I think off the top of my head when they take all the rock off, it is covering something like 6500 hectares, 150 metres high.

...

The other big outcome under PACE is to have a significant increase in private exploration expenditure in minerals, petroleum and geothermal sectors leading to new discoveries, opportunities for regional development, employment and exports. Finally, the emergence of sustainable and vibrant indigenous communities engaged in economic development in and around the mining sector. The total budget for

¹⁰³⁶ Deep Exploration Technologies Cooperative Research Centre, 'Welcome to Deep Exploration Technologies CRC', viewed 7 May 2012, <<https://detcrc.com.au/>>.

¹⁰³⁷ Ian Hardwick, Business Manager, Deep Exploration Technologies Cooperative Research Centre, *transcript of evidence*, 17 November 2011, p. 9.

PACE was 22 and a half million which included, out of that funding, about 10 million dollars for 168 drilling projects. In 2010 the State Government announced a \$10.2 million expansion of the PACE initiative aimed at advancing resource exploration and mining developments in the state ...¹⁰³⁸

In a separate project, DETCRC is managing an eight-year research program divided into three streams of new and optimised drilling technologies, logging and sensing data obtained under deep cover, and using real-time data to better target minerals under deep cover.

As part of its research, DETCRC is establishing a training facility at a disused mine in the Adelaide Hills. This will train workers on new drilling equipment and sensors, and test equipment in a realistic operating environment.¹⁰³⁹

9.2.2 Areas of innovation for Victoria

In its submission, the Victorian Government acknowledged there are a number of reasons why private firms may not invest more significantly in Victorian greenfields exploration. It referred to a recent House of Representatives report detailing what the Standing Committee saw as the crux of the problem:

- risk and uncertainty across the resources exploration industry, which leads to exploration activity falling to low levels;
- the lack of geological knowledge of regions and deposits that decreases the probability and increase the costs of discovery; and
- the lack of publicly available geoscientific data, which may deter companies from undertaking their own data collection due to the existence of 'free riders'.¹⁰⁴⁰

The Victorian Government noted one way for governments to address these externalities and help stimulate greenfields exploration is by improving the provision of geoscience data as a way to enhance information on the geology of land areas.¹⁰⁴¹

The Victorian Government's submission identified several key resources in which technological advances are likely to have an impact on exploration interest, namely:

- treated brown coal
- emerging geothermal resources

¹⁰³⁸ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 3.

¹⁰³⁹ Deep Exploration Technologies Cooperative Research Centre, 'Welcome to Deep Exploration Technologies CRC', viewed 7 May 2012, <<https://detcrc.com.au/>>.

¹⁰⁴⁰ House of Representatives Standing Committee on Industry and Resources, *Exploring: Australia's future — impediments to increasing investment in minerals and petroleum in Australia*, Parliament of Australia, Canberra, 2003, pp. 50–51, cited in Victorian Government, *submission*, no. 58, 22 October 2011, p. 11.

¹⁰⁴¹ Victorian Government, *submission*, no. 58, 22 October 2011, p. 11.

- gold and base metals.¹⁰⁴²

In relation to low emissions coal technologies (e.g. coal drying, coal gasification and carbon capture and storage), the Victorian Government informed the committee that none of the above three technologies is currently operating at any significant scale, although extensive work is underway to assess their commercial viability.¹⁰⁴³

The Committee is encouraged by promising technological advances to identify viable deposits and then extract the minerals or material at competitive cost, although recognises the longer-term nature of this process.

Recommendation 24: That the Victorian Government strengthens Victoria’s role in research and innovation, through facilitation of partnerships between the Government, universities and the resources sector.

9.3 Skills and labour mobility

The Committee received a small amount of evidence on skills and labour demands in the Victorian resources sector. Outlined below is a summary of key issues raised in submissions and at public hearings.

In its submission to the Inquiry, the Victorian Government identified that, as at 2006, the earth resources sector employed 6227 people, over half of whom lived in rural Victoria. The submission acknowledged the economic supply chain as one in which the earth resources sector exports goods from the regions, supplies inputs into other sectors, such as manufacturing and provides downstream economic prospects.¹⁰⁴⁴

The Victorian Government’s submission further added:

It is likely that, while the sector accounts for a small proportion of direct employment, it has a higher relative importance in local areas that are characterised by elevated levels of unemployment and disadvantage. The benefits of the sector are magnified in small communities, where the existence of additional medium to long term employment with high wages can have significant flow-through to the rural economy.¹⁰⁴⁵

SkillsDMC, which operates as the National Industry Skills Council for the resources and infrastructure sectors, advises on workforce planning and development to various industries, including the mining, quarrying and civil infrastructure committees.

According to SkillsDMC’s *Environmental Scan 2011* report, skills issues have become critical for the resources and infrastructure sectors as the demand for resources has returned to levels similar to those prior to the global financial crisis. Drawing on predictions of the MCA, SkillsDMC indicated that an additional 86 000 workers will be needed by the industry in this decade to sustain its share of the

¹⁰⁴² Victorian Government, *submission*, no. 58, 22 October 2011, pp. 20–23.

¹⁰⁴³ Victorian Government, *submission*, no. 58, 22 October 2011, p. 20.

¹⁰⁴⁴ Victorian Government, *submission*, no. 58, 22 October 2011, p. 6.

¹⁰⁴⁵ Victorian Government, *submission*, no. 58, 22 October 2011, p. 7.

global commodities market. In particular, the mining industry will need another 31 000 skilled tradesmen, 30 000 skilled operators and 9 000 industry professionals.¹⁰⁴⁶

SkillsDMC identified the following strategies to enhance the skills base within the sector:

- provide opportunities for younger people to join the industry by providing appropriate career paths
- extend the working life of those retiring early from the workforce
- review and align skills
- ensure employees have the opportunity to further develop their skills and competencies through ongoing training and leadership programs.¹⁰⁴⁷

In its *Environmental Scan 2012* report, published in February 2012, SkillsDMC drew on Australian Bureau of Statistics data when noting that, as at November 1991, mining employed 84 800 people nationally and that this number remained constant over the decade to November 2001 when the number dropped to 81 700, yet in the decade to November 2011, the number trebled to 242 400 people.¹⁰⁴⁸

Mr John McKay, Manager, Workforce Planning and Development at SkillsDMC's Victorian office, highlighted a skills retention issue when he told the Committee:

By and large our sector is drilling, mining, civil construction and quarrying. They're struggling for staff retention and skilled retention; I think that's fairly universal. The skills migration to WA and Queensland is significant, we lose a lot of well-skilled people from Victoria to both those states. There are a number of challenges that we're dealing with with our industries, our sectors, and that's the centre of them. We're very active in the planning and development space, as we have to be, trying to support and trying to help in the filling up of that vacuum that it creates when those skills go, trying to make sure people are skilled.

One of the ways that we're principally doing that is through the Recruitment Skills Investment Fund and through the National Workforce Development Fund. In Victoria we haven't had any applications, despite considerable liaison from mining companies. Having worked in both WA, Victoria and, to a lesser extent, Queensland it's harder to engage the mining companies in Victoria, principally I guess because most of the senior management come from WA, or are fairly WA focused.¹⁰⁴⁹

¹⁰⁴⁶ SkillsDMC, *Environmental Scan 2011: building capacity and capability of enterprises to support workforce planning and development*, SkillsDMC, Sydney, 2011, p. 5.

¹⁰⁴⁷ SkillsDMC, *Environmental Scan 2011: building capacity and capability of enterprises to support workforce planning and development*, SkillsDMC, Sydney, 2011, p. 30.

¹⁰⁴⁸ SkillsDMC, *Environmental Scan 2012: the resources & infrastructure industry workforce solution: solving the challenges of current and future workforce needs*, SkillsDMC, Sydney, 2012, p. 9.

¹⁰⁴⁹ John McKay, Manager, Workforce Planning & Development, Victorian Office, SkillsDMC, *transcript of evidence*, 10 October 2011, p. 3.

To address skills retention issues, Mr McKay recommended to the Committee 'User Choice funding', based primarily on the Queensland model.

In Queensland, the User Choice program provides public funding for the delivery of accredited, entry-level training to apprentices and trainees. The program works in conjunction with the Commonwealth Australian Apprenticeships System, under which apprentices and trainees (also known in some jurisdictions as 'Australian Apprentices') enter into legally binding training contracts with their employers and receive structured training to achieve a nationally recognised qualification.

The Queensland Government's Department of Education, Training and Employment states that the Queensland User Choice program enables apprentices, trainees and their employers to select a preferred registered training organisation (RTO) from a list of pre-qualified suppliers for the delivery of accredited training. The stated aims of the User Choice 2010–2015 program is to provide funding aligned to the skill needs of industry.¹⁰⁵⁰

Acknowledging that the larger, higher end mining companies, such as Rio Tinto and BHP, have their own internal workforce and internal enterprise based training regimes, Mr McKay advised the Committee that small-to-medium enterprises tend to work with private or public RTOs and group training companies, in providing training and skills development for staff. He then noted the option of an apprenticeships model comprising 'on the job' training in order to maintain productivity rather than off site courses, while noting what he saw as the role of government:

On-site University training, some sort of workplace training at a University level. One of the things that Ballarat Uni was looking at in terms of the metallurgy training we were hoping to do was that they were going to do two week blocks. Iluka were prepared to manage the shift around that so that there was three two week blocks per year, the rest of the time they were working under the direct supervision of an engineer or a metallurgist as well, supported by the university. A lot of those people on coal-face have a lot of practical knowledge and understanding but they don't have a formal qualification to reflect that. These are people like operational supervisors who have been in the industry 15, 20 years, know the place backwards, probably haven't got a qualification, but can practically do a metallurgist's or a geologist's job or a project management job.

...

I think there's a role for government because somebody has got to lead it and I'm not sure that the industry is able to respond. Their way of responding in the past is pirating people from other companies, and that's lead to an escalation of wages, I guess. I think if it was somehow possible for government to lead that, and you're right, Wade, there's got to be a bang for their buck in terms of mining companies, they're not going to get involved in this and support this unless there's something in it.

The cadetship model that we were hoping to use meant that the company was prepared to pay for their HECS and their time, continue to pay them the salary whilst they were learning, but it was a higher level salary so that was attractive, that helped

¹⁰⁵⁰ Department of Education, Training and Employment, 'User choice', viewed 6 May 2012, <<http://training.qld.gov.au/>>.

us attract candidates. But part of that deal was that they had to stay with the company two years post graduation, and I think that's probably reasonable. It was checked with the unions, they were happy with it, it wasn't tying people to a millstone, and they could get out of it, but they had to pay for the company investment, and I think it's been pretty successful.¹⁰⁵¹

For regional Victoria, the submission from the AMEC noted that 'exploration activity, diminished as it is by neglect, is an important contributor to the economic health of regional Victoria'.¹⁰⁵² The AMEC argued Victoria is fortunate in that a regional labour force is available and often close to the prospective exploration and mining regions, which eliminates the need and expense associated with a fly-in/fly-out workforce and associated 'social/community problems' experienced in the major mining states.¹⁰⁵³

The AMEC recommended to the Committee that a specific training package be developed to train miners working with the nuggety gold resource that is so prevalent in Victoria. In particular, it claimed that Victorian Government support and funding for training in highly specialized shrinkage stoping and airleg mining skills is essential to create a workforce that can effectively work with nuggety gold.¹⁰⁵⁴

Drawing on the example of the Stockman Project which, Independence Group (IGO) argued, received no support from government during its formative stages, IGO recommended to the Committee that more needs to be done to support projects where there is likely to be a significant positive impact on local employment, regional development, and state and local Gross Domestic Product.¹⁰⁵⁵

¹⁰⁵¹ John McKay, Manager, Workforce Planning & Development, Victorian Office, SkillsDMC, *transcript of evidence*, 10 October 2011, p. 7.

¹⁰⁵² Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 1.

¹⁰⁵³ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011, p. 6.

¹⁰⁵⁴ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011. In terms of extractive technologies, the AusIMM highlighted in its submission (p. 11) that, with gold exploration especially, it is recognised that junior explorers make many discoveries that then lead to larger operations and the entry of larger exploration and mining firms.

¹⁰⁵⁵ Independence Group, *submission*, no. 39, 24 August 2011, p. 26.

CHAPTER TEN: INVESTMENT IN LOCAL COMMUNITIES

This chapter examines issues concerning infrastructure provision, the impact of mining projects on local communities and how rail can best be utilised to assist in the transport of mineral resources.

10.1 Use of local infrastructure by mining projects

A key issue identified in submissions to the Inquiry was the provision of infrastructure to support mineral exploration and mining operations and ensuring the communities that host these operations were consulted and brought on board at the earliest stage.

Both the Northern Grampians Shire Council (NGCS) and Latrobe City Council (LCC) highlighted in their submissions the impacts of new mining projects on communities, with increased demand for housing and community infrastructure (such as schools, medical centres, roads, water supplies) and contended that it was the Victorian Government's responsibility to construct, upgrade and maintain this infrastructure.¹⁰⁵⁶

With the introduction of the Australian Government's Mineral Resources Rent Tax and its underpinning argument that the benefits of mining must be shared more broadly across the community, there is a responsibility for all parties who derive a benefit from mining to also make a contribution towards the development of infrastructure.

This means the responsibility for the development of supporting infrastructure for the development of new mining projects must be shared between the resource sector, local, state and federal governments and other private sector actors if this objective is to be achieved.

In relation to pressures from mining operations on infrastructure maintained by local governments, the Municipal Association of Victoria (MAV) recommended that the Government provide capital and recurrent funding to councils to upgrade and maintain local roads. If this was unlikely to be forthcoming, the MAV recommended broadening the compensation provisions in the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA) to include councils, as they are typically 'unable to raise commensurate revenue from extractive industries to cover the cost of damage to the road network and bridges'.¹⁰⁵⁷

Ararat Rural City Council recommended that the Victorian Government examine the feasibility of utilising state-owned rail infrastructure to transport minerals

¹⁰⁵⁶ Latrobe City Council, *submission*, no. 12, 15 August 2011, p. 9.

¹⁰⁵⁷ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011.

from mines to processing plants. It claimed this would reduce damage on local roads and reduce risk to road users from additional truck movements.¹⁰⁵⁸

In citing the impact of extractive operations on local amenity from truck movements, Mitchell Shire Council (MSC) proposed that future Victorian Government strategic infrastructure planning recognise the impacts of truck movements from mining and extractives industries on local towns and put appropriate measures (e.g. highway bypasses) in place to address this.¹⁰⁵⁹

From an industry perspective, the Association of Mining and Exploration Companies (AMEC) indicated that it and its members strongly support a royalty for regions program similar to that operating in Western Australia.¹⁰⁶⁰

In its submission, East Gippsland Shire Council (EGSC) identified the importance of capturing long-term benefits from mineral exploration and mining, as occurs through the WA's 'Royalties for Regions' program to reinvest mining royalties into regions that host mining operations, the effect of which would be to subsidise the diversification of the local economy and support the community in terms of infrastructure provision during and beyond the life of the mine.

Whilst the Committee did not consider the means by which these objectives would be achieved, members were sympathetic to the view advanced by the EGSC that there was a need for agreements that increase investment by mining proponents in local jobs, goods and services and infrastructure and that minimise the negative social impacts arising from mining.¹⁰⁶¹

During his presentation to the Committee, Mr Martin Richardson, Manager of Major Projects and Economic Development at EGSC, explained some of the problems he believed required addressing:

The focus of the EES process is quite rightly around mitigating the negative impacts of proposed activities, but it does not seem to pay much attention to maximising the positive benefits, and we believe the legislation does provide that opportunity. However, when you consider that the environment is defined as the three elements of social, economic and natural and that the fundamental purpose of the process is to manage risk, one of the main risks seems to be that of not achieving the potential social and economic benefits. The EES process should provide the mechanisms to maximise these benefits, or there need to be additional processes outside of regulation to ensure that the social and economic benefits of mining activity can be pursued and maximised.¹⁰⁶²

Later in its presentation, EGSC's Ms Fiona Weigall, Manager of Major Projects and Economic Development, specifically discussed the issue of upgrading infrastructure:

¹⁰⁵⁸ Ararat City Council, *submission*, no. 16, 18 August 2011.

¹⁰⁵⁹ Mitchell Shire Council, *submission*, no. 7, 29 July 2011.

¹⁰⁶⁰ Association of Mining and Exploration Companies, *submission*, no. 38, 24 August 2011.

¹⁰⁶¹ East Gippsland Shire Council, *submission*, no. 44, 26 August 2011, p. 10.

¹⁰⁶² Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 3.

If we talk about local employment, for example, we expect that in a region such as ours that goes beyond just simply advertising the likely jobs first. We know that there will need to be lead-up training. We know that there will need to be a lot of work with employers in that region to make sure that they are planning for backfill so that it is not just the shifting in of employees within the local economy, that it is actually generating real new employment. As we said, states such as Western Australia and Queensland are now seeing the outcomes of processes that perhaps did not give enough consideration to those long-term benefits and are retrospectively trying to address this by new policy and processes such as Royalties for Regions, which is very much about local community building and strengthening, but in the face of some fairly difficult circumstances. They have got to a point where there is no local housing left and where the local councils in those areas cannot keep staff — all those sorts of issues that we see are now trying to be retrofitted.

We believe that the State has the opportunity to proactively look at those issues, to learn from states such as Western Australia and Queensland and to build some proactive policies that would help support those. If we consider things like Royalties for Regions, it has 25 per cent of the royalties earned from mining riches in Western Australia going back into local communities. We consider that not only could some of that money go back generally into regional Victoria but there is that opportunity to pre-emptively use projects or use future royalties to invest in infrastructure in those communities. If we need transport upgrades, more services, more police, more schools or whatever it might be, then there is the opportunity to pre-empt that.

What we are seeing at the moment is not enough attention being given by some agencies to the impact of mining on issues like roads, and therefore saying, 'They're fine; we will just keep maintaining them', when we know that actually we need road upgrades and that there would then need to be a major investment in those upgrades. By having a program with a good, strong business case and supportive policy, there could be pre-emptive investment in infrastructure in those communities. We believe we will give those communities a real opportunity, and it is about creating a legacy. We feel it is very important that the investment is not just to support the mining venture but is to create a legacy or sustainable outcomes for those communities that last beyond the life of the project itself. Often one of the main benefits of a project may be the legacy that it leaves behind — upgraded infrastructure, upgraded skills in local communities, better health services and so on. Mines such as the Stockman provide the opportunity to grow the community and not just the state economy. The opportunity is lost if the financial benefit that is accrued for the State is not then also translated so it accrues to the local community in our state; in our case this would be the Omeo region.¹⁰⁶³

This was a point backed up by Independence Group (IGO), which stated in its submission:

Mining developments are no different from any other industry; they need the support of appropriate physical infrastructure and the ability to draw on skills applicable to their sector. Failure to provide support to either of these areas will reduce the economic efficiency of individual projects and those explorers and developments will move to other jurisdiction where the support is forthcoming or where they can gain a better return on their investment.¹⁰⁶⁴

In South Australia, the Committee received evidence from Mr Jonathon Forbes, Director Industry Development at the South Australian Chamber of Mines and Energy, who referenced a South Australian study undertaken in 2011 by Parsons

¹⁰⁶³ Fiona Weigall, Manager, Major Projects & Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 5.

¹⁰⁶⁴ Independence Group, *submission*, no. 39, 24 August 2011, p. 26.

Brinckerhoff for the Resources and Energy Sector Infrastructure Council (RESIC) and titled *2011 Resources and Energy Infrastructure Demand Study*.¹⁰⁶⁵

While government initiates and sets the scene for infrastructure investment, many infrastructure projects are delivered by government and paid for by industry. Private investment can be significant and is encouraged.

On this issue, Mr Forbes told the Committee:

Apart from demand, they [Parsons Brinckerhoff] found over the next 10 years mining investment in South Australia will be approximately \$35 billion. Most organisations plan to invest significantly in support of infrastructure, such as water, electricity, road, rail and ports and spending looks to be around \$14 billion on all this infrastructure. I will not go into too much detail at the moment. Obviously on infrastructure, from our end, right now is ports and lack of deepwater bulk commodity points with our iron ore industry. It is not so important with uranium, but we have got it all going out and shipping it in containers from far north, right down to Port Adelaide and stacking containers on the wharf, picking it up, rolling it into a ship and one-by-one it is not ideal.¹⁰⁶⁶

The stated aim of the Parsons Brinckerhoff study was to directly engage with government and industry to better understand future project development plans and specific infrastructure needs, involving data gathering and analysis, mapping and distributing information and then making recommendations. In relation to the recommendations, the report stated that a 'separate confidential report has been compiled and supplied to RESIC which contains the specific recommendations resulting from this study'.¹⁰⁶⁷

Notwithstanding the lack of publicly available recommendations, the report has value for the Committee due to its strategic survey of government agencies and stakeholders, and an analysis that covered the following three major themes:

- issues involving common/shared infrastructure (due to stakeholder uncertainty over total capital costs to fund projects and lack of communication over current and future infrastructure projects and various interrelationships);
- divergent regional relationships (variable project timelines impacted on ability of clusters or partnerships to plan and solve complex infrastructure projects);
- variable investment funding (some proponents could fund their own infrastructure while others were looking to infrastructure organisations, such as in the electricity sector, to fund the projects).

The study also raised issues involving:

¹⁰⁶⁵ Department for Manufacturing, Innovation, Trade, Resources and Energy, 'PACE Discovery Drilling 2012', viewed 1 May 2012, <<http://www.minerals.pir.sa.gov.au/>>.

¹⁰⁶⁶ Jonathon Forbes, Director, Industry Development, South Australian Chamber of Mines and Energy, *transcript of evidence*, 17 November 2011, p. 4.

¹⁰⁶⁷ Parkinsons Brinckerhoff, *2011 resources and energy infrastructure demand study*, Department of Primary Industries and Resources South Australia, Adelaide, 2011, p. iv.

- electricity provision and capacity
- water supply, quality and availability
- logistics (rail gauge inconsistencies, capacities and uncertainties for interconnectivity between proposed projects and import/export facilities)
- ports (with a major issue being a lack of deep water bulk commodity port facilities).¹⁰⁶⁸

The Committee notes that many of the issues affecting South Australia and identified in the Parsons Brinckerhoff study are also found in Victoria. The Committee also recognises there are different levels of project assessment and that these are dependent on whether they are the responsibility of state or local government.

10.2 Impact of mining projects on local communities and amenities

With any exploration activity, there will always be various community impacts and benefits, yet there is currently no process in place to assess infrastructure requirements at the planning stage. Many submissions to the Committee commented on how the Victorian Government should encourage further exploration and mining investment in Victoria.¹⁰⁶⁹ Previous chapters of this report have contained a range of recommendations of ways that levels of investment in greenfields mineral exploration in Victoria can be increased. With any level of increased investment in exploration will come economic, social and environmental impacts on local communities. Equally, stable or decreased levels of investment will have impacts on communities. These impacts have short, medium and long-term effects on communities.

The MAV's submission to the Committee noted there is no legislative requirement to consult with local councils at the time applications are made for exploration licences. It recommended councils be notified prior to exploration licence applications being publicly advertised to ensure they are aware of proposed activities and to enable them to provide relevant local information to facilitate decision making.¹⁰⁷⁰

¹⁰⁶⁸ Parkinsons Brinckerhoff, *2011 resources and energy infrastructure demand study*, Department of Primary Industries and Resources South Australia, Adelaide, 2011, pp. iii–iv.

¹⁰⁶⁹ The submissions focused on the following areas: funding research into pre-competitive geoscience and its distribution to explorers and miners; co-funding exploratory drilling programs to stimulate greenfields exploration; community education on exploration and mining activities; strategic land-use planning to manage land use conflicts; provision of supporting infrastructure for mineral exploration, extractives and mining operations; and provision of taxation incentives to drive increased mineral exploration.

¹⁰⁷⁰ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011.

In its presentation to the Committee, Mr David Pallot, Chairman, Victorian State Committee for Cement Concrete and Aggregates Australia (CCAA) told the Committee in response to an initial question from Committee Member Mrs Inga Peulich MLC regarding negative impact on amenities from tips and landfill due to encroaching residential development:

Mr PALLOT — My experience is a little bit overseas. I have spent 12 years in Asia and most recently 4 ½ years in Hong Kong. Their Government took control of the reserves, put them out to tender and had a competitive bidding process. It was a different framework to what we have in Australia. They had an end-use plan which provided an economic benefit to the Government and the community.

The CHAIR — Does that form part of their overall planning and forecasting?

Mr PALLOT — Yes, exactly that. You are then committed to, for example, a 15-year contract to extract 55 million tonnes on a cut-and-fill basis, supply useful resources to the community in terms of concrete and road construction materials. At the end of it you had an engineered land formation that would then go to tender; and in particular in Hong Kong it was a massive economic multiplier for the Government. It was very much a win-win.

Other examples are like Marine Cove, where we did some road realignments where there were some danger zones within the road. We realigned the road to do a cove formation, which we then handed back to the Government. It was really done on a needs basis as well. That site will eventually become available for tender as well.

The CHAIR — Our history is against us with this, isn't it?

Mr PALLOT — Correct.

...

Around Australia, Penrith Lakes is another good example where they used it for the Olympic Games as a rowing venue. That was a sand and gravel pit. Sand and gravel is typically a shallow bedding of extraction; it is over a large mass area. When you have an end plan in mind you can appease the community as well because they can see — —

The CHAIR — It is easier.

Mr PALLOT — For quarry reserves they can be a 10 or a 50-year duration. They have a very long-term impact on a community. To have a vision of what they will be left with is quite important.¹⁰⁷¹

Later in the hearing, in relation to social licences, Mrs Peulich MLC asked about examples of the types of post-operational use that land can be put to, as part of the tendering-out process. CCAA's Mr Pallot and Mr Roger Buckley, Industry Relations Manager, Victoria, responded by advising that:

Mr PALLOT — It depends on the type of deposit. A granite is typically a plug, so that could be easily done as a water reservoir, as the Lysterfield plan will be, as a water scheme. If it is sand and gravel, it can be a lakes or community sort of facility in that sense. If it is a flow of basalt, it can be one or two benches 15 metres high. That could easily be a car park, and a high-rise shopping centre complex could go in over

¹⁰⁷¹ David Pallot, Chairman, Victorian State Committee, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 5.

it. Someone has already done the extraction, so they did not need to do the rework, but someone has already targeted to plan, and there is a long-term vision on what will be put into that facility. The Singapore Government used it for a munitions facility. They tunnelled in, took a big core out and put that in as a shelter for munitions. There are different applications in different countries.

Mr BUCKLEY — If I may add, there are several examples also of residential developments happening in Victorian sites as well.

Mrs Peulich then enquired on how successful they were, in response to which Mr Buckley commented: ‘Yes, Ferntree Gully as well, and the last winner of the Strzelecki award by the Department of Primary Industries (DPI) in Scoresby was a clay pit that has been converted into a residential development’.¹⁰⁷²

On the issue of the impact of mining on communities, EGSC’s Mr Richardson told the Committee at a public hearing:

The policy emphasis that we pointed out on social and economic issues needs to be considered, and we do have some concerns about the potential impact of mining activity on communities once the mine has completed its extraction and the potential lost opportunities for communities in terms of ... long-term support for employment growth, skills in that community and social infrastructure. We think that is a role that should be supported by both private investment and government investment. Importantly the lack of a role of a project champion in this particular project has caused us concern, and we have found ourselves in the position,

not unwillingly, of attempting to provide assistance to the company to ... make contact with government agencies and work its way through the process. We really do believe it would be important for government in the future to consider where the roles sit in departments to facilitate development, as opposed to finding regulatory mechanisms to obstruct it.¹⁰⁷³

In South Australia, the Committee heard from Mr Brett Brown, Chief Executive of Southern Quarries and Direct Mix Group, who told the Committee:

The CHAIR — ... what we are looking at is very broad terms of reference, as you have identified, but I just want to make sure that the extractive side of things, because it is an immediacy and it is a long-term presence in so many communities, it really isn’t forgotten in the rush.

Mr BROWN — Absolutely. Industry is fully aware of its obligations as well. You know, the CCA is running out community engagement charters throughout each state. So we recognise to be a good corporate citizen that we must engage with the community and ensure that people who live within our community can coexist with operations. As you said, they are an incredibly long resource life. Anything in South Australia, you have got resources for 150 years so it is important that we manage that process and that people can still live nearby.

...

¹⁰⁷² Roger Buckley, Industry Relations Manager, Victorian Branch, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 8; David Pallot, Chairman, Victorian State Committee, Cement Concrete & Aggregates Australia, *transcript of evidence*, 19 September 2011, p. 8.

¹⁰⁷³ Martin Richardson, Manager, Major Projects and Economic Development, East Gippsland Shire Council, *transcript of evidence*, 26 September 2011, p. 6.

... the Department works with the operator to say 'You must, as part of your lease terms, have progressive rehabilitation'. So when that is reviewed every seven years, you must demonstrate your progressive rehabilitation. I guess that is the stick they hold to say: 'If you don't rehabilitate, then guess what; we may not then renew your rights', and I think that is a better outcome even for all operators rather than ending up with a huge amount that needs to be paid out at the end of a project or at the end of a life. Doing that progressive rehabilitation is the best outcome for the community, the operator and the Government.¹⁰⁷⁴

In relation to community liaison and infrastructure provision, the MAV, as the legislated peak body for Victoria's 79 councils, told the Committee:

- To minimise community concerns regarding mineral exploration, greater communication is required on behalf of the Victorian Government to the general community about what activities are permitted under exploration licences, and the limited number of exploration licences that result in actual mining operations and therefore require planning permits. Because this information is unclear to the community, community members often feel anxious about not having an opportunity to contribute to these types of decisions.
- In the context of infrastructure, local government should play an important role in the approvals processes for establishing mining projects as they can review the standard and conditions of existing infrastructure; assess whether it meets the appropriate levels required by the proposed project; and determine any contributions that project proponents should make towards upgrading infrastructure.¹⁰⁷⁵

The MAV also highlighted to the Committee that:

- As a provider of infrastructure, it is important for local government to be an integral part of the process for the approval and establishment of extractive industries. This will enable councils to review the standard and conditions of existing infrastructure to determine if these are at the appropriate levels for extractive industries, and what contribution the industry may need to make towards any upgrade or repair.
- It must be noted that in addition to the initial capital investment to bring infrastructure to standard, councils will face an increase in recurrent expenditure to maintain the upgraded infrastructure at the appropriate level.
- As councils often do not have the available resources to redirect to infrastructure upgrades at short notice, if at all, it is likely that additional stresses will be placed on road and bridge networks, further hastening their deterioration.
- Local government is also restricted in its capacity to raise rate revenue from extractive industries as the *Local Government Act 1989* (the 'LG Act')

¹⁰⁷⁴ Brett Brown, Chief Executive Officer, Southern Quarries & Direct Mix Group, *transcript of evidence*, 18 November 2011, pp. 5–6.

¹⁰⁷⁵ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011.

specifically provides that land used exclusively for mining purposes is not rateable land.¹⁰⁷⁶

The MAV recommended that the MRSDA be amended to provide a statutory consultation process with councils at an appropriate time to enable the Minister and Department provide information on prospective infrastructure needs before a license is granted, and that insofar as is possible the costs of these improvements are a condition on permit. The MAV further recommended that financial support be provided by the Victorian Government to councils to enable them to properly upgrade and maintain infrastructure (in particular the road network, including bridges) vital to the success of extractive industries.¹⁰⁷⁷

The MAV reinforced its recommendations to the Committee by noting that:

It is not only owners and occupiers who may be adversely affected by an extractive industry. As a provider of infrastructure, local government may be adversely affected but is unable to raise commensurate revenue from extractive industries to cover the cost of damage to the road network and bridges.

... there are sound grounds for extending the coverage of persons who may seek compensation where the damage can be proved as being caused as a consequence of the extractive industry, and where it was not possible to for those persons to mitigate the damage.¹⁰⁷⁸

10.2.1 Local council perspectives

At a local council level, the Committee heard from Cr Pat Griffin, Mayor and Mr Peter Hawkins, Acting General Manager of Shire Development from Moorabool Shire Council.

Cr Griffin explained to the Committee:

Moorabool Shire has a number of mining and extraction companies existing. Bacchus Marsh, in particular, is surrounded by sand mining to the north and coal mining to the south. Our Shire and our predecessor's shire, the Bacchus Marsh Shire Council, have always taken a responsible attitude towards mining and extraction and work very closely with those companies in the past.

As you know, recently Mantle Mining has come to town and it has caused a lot of concern within the community and most of this concern has been about the lack of communication, the lack of consultation, and the lack of transparency that the mining company has done. Mantle did fulfil their legal obligations in terms of the relevant legislation by their advertising but on a very small scale, very small print in newspapers. It has to be accepted that these days a lot of our community don't actually get newspapers anymore, even the local newspapers, so we are submitting that there should be other ways of this consultation and communication being afforded to all the communities. It should be wider, it should be transparent, and perhaps there should be some protocols around it that suggest the information that

¹⁰⁷⁶ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011, p. 3.

¹⁰⁷⁷ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011, p. 3.

¹⁰⁷⁸ Municipal Association of Victoria, *submission*, no. 57, 6 September 2011, p. 4.

has to be put forward to communities because a lot of the misinformation causes angst and causes a lot of uncertainty.¹⁰⁷⁹

Cr Griffin later told the Committee about specific roading infrastructure issues:

A major concern to us is the traffic movements that happen. Currently we have about 140,000 traffic movements around the Bacchus Marsh area with mining trucks and sand trucks, which severely degrade our roads. We get very little in terms of compensation from mining. You're probably aware of the way council rates work and we're limited under the Act that three times the smallest to the largest so it means that the extractive industries in our shire pay very, very little in terms of rates. We get a little bit of compensation from Maddingley Brown Coal in terms of amelioration of roads based on some tonnage that comes out of there, but Maddingley Brown Coal hasn't been a viable coal mine for many years, they used the limited amount of coal that they mine now for fertiliser, and they are a waste dump.

...

With regards to the roads, we have very major concerns about the extra traffic on the roads and also the cost of the roads. Just recently in another energy source in terms of wind farms we've been made aware that down into the other parts of the State that VicRoads have put aside \$1 billion for the amelioration of the destruction of roads in the south of the State so we're talking big money in terms of fixing the roads up that happens from this heavy traffic, and our roads are not designed for that.¹⁰⁸⁰

Towards the end of the presentation, the Chair and Mr Griffin had the following discussion:

The CHAIR — I asked you before about where the relationship broke down and you said you didn't think it had broken down, but everything that you've said since then indicates to me fairly strongly that it did break down. At one point you said that you had suggested to them if they actually told the truth that would be much better, and nearly everything else that you've said has been in some way critical of the way Mantle Mining has conducted themselves and, as you've already heard, we've not had the opportunity of hearing the other side of that.

I guess that identifies and brings into stark contrast the fact that it's very difficult to get people in the right position to make an objective judgment on something that is going to be, hopefully, of long-term benefit to the State but is clearly going to trample on people's rights at the grassroots level. That's the balance that our recommendations are going to have to take into account and therefore the things that we're trying to figure out about how that would be best handled. If you left it all to the mining companies, clearly that's not going to be really of any benefit to the local community. And if you leave it all to the local community I think we're hearing from you there would be very little mining going on in any of the areas that we're talking about.

You've already said that there are basically no jobs created, trucks everywhere, no compensation, so I would be guessing that there would want to be a very, very strong case before you'd be approving mining in that area, even though there's already mining there. The point that I'm trying to make is that there is a strong conflict between the rights of both parties here and then the benefit to the State as a whole. That's what we're trying to sort through.

¹⁰⁷⁹ Cr Pat Griffin, Mayor, Moorabool Shire Council, *transcript of evidence*, 14 December 2011, p. 2.

¹⁰⁸⁰ Cr Pat Griffin, Mayor, Moorabool Shire Council, *transcript of evidence*, 14 December 2011, p. 3.

Cr GRIFFIN — If you take, for example, the approach of the wind farm developers — we're not always in favour of the wind farm developers in terms of some of the things that have happened — but they take a much more consultative approach. They have come in and they have been much more open about their activities. They don't have the same strength of the mining act behind them so perhaps they may be different, but they have run much stronger and longer community consultation. I can again be critical of some of the things and some of the denial that they've showed about the effects of their wind farms; however, I don't knock their sincerity in wanting to deal with the communities because they've shown all the way along that they want to deal with the communities, so it does happen.

We can have disagreements but we are still working together to reach a resolution. We haven't been able to find that with Mantle, and not because we're against them, it's because they haven't made themselves available. I think that's the important issue because in a lot of cases we feel — and I think it's a community feeling — they've hidden behind the fact that they have their rights under the mining act and they're going to use them.¹⁰⁸¹

The Committee also heard from the City of Kingston (KCC). Quarrying of sand and other extractives has been carried out in the north-east of the KCC area for over a century. There are a number of former sand quarrying sites around Dingley Village, Oakleigh South, Clayton South and Clarinda in the north of the KCC area. Since these sites have ceased to be productive quarries, they have been used as landfill and tip sites for waste. The Committee understands that all sites are privately owned.

During 2011, complaints by residents and businesses about noxious odours emanating from a number of landfill and tip sites in the Clayton South, Clarinda and Dingley Village area has seen a number of complaints to the Victorian Environmental Protection Authority (EPA). KCC has taken on an advocacy role with the EPA on behalf of its citizens and ratepayers.

The dangers of improperly remediated landfill sites and residential encroachment into buffer zones around them were shown in mid-2008, when unsafe levels of leaking methane were detected at the Brooklands Green housing estate near Cranbourne. The estate was built close to the site of a former landfill site owned in shared ownership between Casey City Council and Frankston City Council but the decision to build houses on the buffer was the result of a 2004 VCAT decision which overturned the objections of the City of Casey. A class action was conducted on behalf of affected Brooklands Green residents against Casey City Council, and this was settled in early 2011. In recognition of the state's statutory role in the area of planning policy and environment protection, the state has made a contribution of \$41 million to the City of Casey to assist with remediation costs.

¹⁰⁸¹ Cr Pat Griffin, Mayor, Moorabool Shire Council, *transcript of evidence*, 14 December 2011, p. 9.

At its public hearing in January 2012, Council's Mr Jonathan Guttman, Manager City Strategy, reinforcing points raised in their submission,¹⁰⁸² told the Committee:

Our objective as a council is to move towards finishing landfill. Rather than state government policy encouraging recycling and other things, we actually want the holes filled quickly in our municipality to actually bring up some of the beneficial uses. These other things that spin off landfilling actually work against that objective from time to time because they are about recycling and the like. So it is really a very difficult issue for our city to manage, but as the submission says our council advocates actively to finish the landfilling which is, as the Committee would be aware, controlled by the Metropolitan Waste Management Group in terms of the sequencing of the filling.

To go to the question raised before about what are the implications for us, we have tried to outline them and we would summarise them as follows: we do have significant, from time to time, odour-related issues which are particularly seasonal and depending on wind direction. We have airborne rubbish and dust particulates in the air associated with some of the activities which have implications both on the urban but also on the non-urban community — agriculture and the market gardens that still exist in the city of Kingston.

In addition, due partly to the increased costs in landfilling we have a lot of illegal dumping, so we have significant issues associated with people getting close to the tip gate and finding the costs associated with going in the gate are quite substantial, and as you can see by the aerial it is a very difficult area to police. So there are issues with illegal dumping.

We also have issues in terms of road congestion. Those roads were designed not at the time to consider the capacity of the heavy vehicle traffic that now goes along there, as well as the large commuter demand through the south-east corridor. What comes from that too is mud and bricks and other things on roads which lead to issues for both ourselves and VicRoads in terms of policing.

In terms of landfill management, there is the issue of the post capping of landfill sites. Once the sites are capped we have a real issue in working with Melbourne Water on management of the stormwater that comes off the capped landfill sites that is moving around as a consequence of the recontouring of the landfill sites, and then obviously the environmental issue that might come in terms of leakage into that groundwater, particularly based on the older ways landfill sites were managed and the practices that occurred then.

The EPA have significantly stepped up over recent years in terms of trying to partner council on managing some of these issues. You will see by the attachment that I have provided that their website actually takes you to the Clayton South and Dingley area, quite promptly, to give the community a lot of information about how it should report incidents and particularly odour-related incidents associated with landfilling.¹⁰⁸³

The Committee is aware that the KCC's Green Wedge Review is still in progress and is one of many attempts to deal with legacy issues, including land use

¹⁰⁸² KCC's submission focused on three key themes of: strategic land use planning; amenity and environmental implications; and royalty dividends to be provided after mine use.

¹⁰⁸³ Jonathan Guttman, Manager, City Strategy, Kingston City Council, *transcript of evidence*, 30 January 2012, p. 4.

conflicts. It is focussed on identifying solutions following the passing of Green Wedges legislation in 2003.

As noted in chapter 5 of this report on strategic land use plans, there is a need to build in a periodic, independent process of review to allow land use conflicts to be resolved. In this particular case, review processes at the end of life for extractive assets would focus on the development of post-extractive land use plans, as occurred when the Karkarook Park and lake were developed in Heatherton in the mid-1990s once sand extraction ceased.¹⁰⁸⁴

10.2.1.1 Community engagement resources

The Committee is also aware that various codes of conduct or practice exist to assist stakeholders and to effectively engage with the community. These 'toolkits' or frameworks have been produced by a number of authors, including Commonwealth and state government agencies, industry groups and industry representative bodies (including the Minerals Council of Australia [MCA] Victoria and New South Wales), indigenous groups (for instance Cultural Survival), and legal and consulting firms, such as Freehills and Sinclair Knight Merz.

As these documents are often targeted in particular to stakeholders in the mining industry, government and community, it is not the purpose of this report to assess their efficacy or effectiveness. While previous chapters in this report have referenced community engagement issues, a brief mention will be made of the importance in having plans to prepare for end of mine life rehabilitation at the planning assessment stage.

It is widely accepted by most stakeholders that mining needs to be supported as an important sector of the economy but its social license to operate is contingent upon recognising that mining is a temporary use of land and, as such, the land needs to be rehabilitated to a safe, stable and self sustaining condition at the end of the mine life.

For example, in February 2006 the MCA (Victoria) released a community consultation toolkit prepared by Dr Pamela McRae-Williams from the University of Ballarat. In relation to mine closure, the report noted:

It is critical to have a good closure plan as early as the mine development stage and this must be clearly communicated to the community. Past mining legacy has hampered the reputation of the mining industry in some communities and scepticism is frequently encountered. [It is important to] encourage community involvement in mine closure objectives to facilitate support and long term management.¹⁰⁸⁵

In 2007 Victoria legislated through the MRSDA to ensure explorers and miners consult with community stakeholders, and Victoria is recognised as the only jurisdiction in which this is a mandated requirement.

¹⁰⁸⁴ For background on the Karkarook Park development, see Mr Jonathan Guttman, Manager City Strategy, City of Kingston, *transcript of evidence*, 30 January 2012, p. 5.

¹⁰⁸⁵ Dr Pamela McRae-Williams, *Community consultation toolkit: a good practice guide for Victorian explorers and miners*, Minerals Council of Australia, Victorian Division, 2006, p. 15.

10.3 Using rail transport for bulk mineral haulage

An important tool in reducing the impact on local communities and infrastructure (particularly roads) is the use of the Victoria's extensive rail network. In 2009, the state had 3570 kilometres of railway, with a mixture of standard gauge (580 kilometres) and broad gauge (2990 kilometres) of track.¹⁰⁸⁶

The Committee received evidence from a range of stakeholders regarding the role of rail haulage in taking heavy vehicles carrying bulk mineral products off the state and local road network. These stakeholders covered local government, state government agencies and mining company proponents.¹⁰⁸⁷

Currently, Victoria's rail network sees the haulage of only a few bulk mineral commodities, totalling approximately 650 000 tonnes per annum. The main commodities hauled are quarry products (400 000 tonnes per annum) and mineral sands concentrate (around 250 000 tonnes per annum).

Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group of DPI gave evidence of the Iluka rail haulage project as an important example of Victorian government support to mining operations:

There's also, and very importantly, case-by-case infrastructure support, and you may have heard recently about — I'm sure you have — a rail link that was made for Iluka with \$4 million of government support, the rest of it being spent by Iluka, to take vehicles off the roads and allow use of the rail network.¹⁰⁸⁸

The Department of Transport (DoT) provided further detail of the Victorian Government's role co-funding and facilitating Iluka's rail haulage of mineral sands between its loading site at Hopetoun and its Mineral Separation Plant (MSP) at Hamilton. The completion of these works in late 2011 allows up to 200 000 tonnes per annum of concentrates to move by rail for the majority of the journey between Iluka's mineral sand mine at Kulwin and Hamilton. Six return trains a week operate between Hopetoun and Hamilton, removing 40 B-double truck trips a day from the Henty Highway between Hopetoun and Hamilton.

The rail loading facilities cost approximately \$9 million to construct, jointly funded by Iluka Resources (\$5 million) and the Victorian Government (\$4 million). Victorian Government investment was provided through Regional Development Victoria in the Department of Planning and Community Development (DPCD),

¹⁰⁸⁶ Department of Transport, *Rail familiarisation module 1 — Victorian rail system*, Department of Transport, Melbourne, 2010, p. 48.

¹⁰⁸⁷ Ararat City Council, *submission*, no. 16, 18 August 2011; Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011; David Hill, Senior Policy Officer, Freight Logistics and Marine Division, Department of Transport, *briefing*, Melbourne, 19 October 2011; Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011; Ian Kraemer, Managing Director, Mantle Mining, *transcript of evidence*, 30 January 2012.

¹⁰⁸⁸ Dr Michael Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, *transcript of evidence*, 14 December 2011, p. 7.

while DoT provided specialist advice and rail project facilitation. DoT stated that Iluka Resources first approached DoT in 2006 to initiate the rail haulage project. The project was delayed by high levels of complexity in Victoria's rail environment. The construction of rail loading facilities and sidings required the approval of multiple rail industry stakeholders including:

- Rail infrastructure managers (Australian Rail Track Corporation [ARTC] and Victrack)
- Rail track access managers (ARTC and V/Line)
- the rail safety regulator (Transport Safety Victoria)
- the rail operator (El Zorro)
- DoT

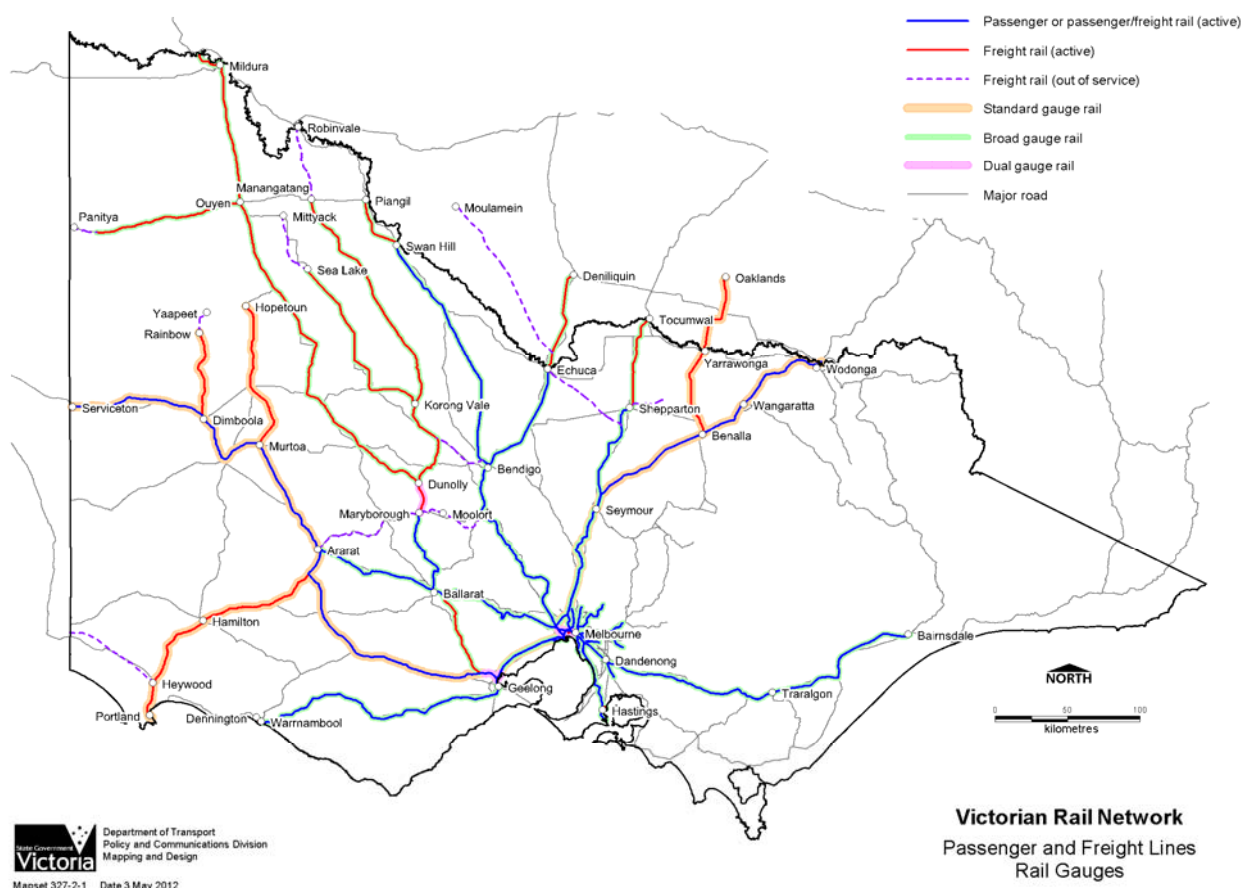
Breaks of railway gauge and the form of Victoria's rail network complicated Iluka's rail haulage plans. Its Hamilton MSP is on the standard gauge Portland to Maroona line, however the railhead closest to Iluka's mine Kulwin is on the broad gauge rail network as shown in Figure 16 below. Even if Kulwin and Hamilton were joined by the same gauge or rail track, trains from Kulwin to Hamilton would travel on a longer route via Inglewood, Maryborough and Ararat. This led to a compromise of a shorter road haul of mineral sands concentrates from Kulwin to Hopetoun (on the standard gauge network) and a rail haul from Hopetoun to Hamilton.¹⁰⁸⁹

Mr Steve Wickham, General Manager Australian Operations at Iluka Resources briefed the Committee during its site visit to Iluka's Hamilton MSP that the economics of rail over road haulage were roughly equal, however Iluka considered that the decision to use rail for bulk haulage underpinned the company's social licence to operate in Victoria. The company was also comfortable using rail haulage he stated, through its extensive use in its Western Australian mineral sands operations.¹⁰⁹⁰

¹⁰⁸⁹ David Hill, Senior Policy Officer, Freight Logistics and Marine Division, Department of Transport, *briefing*, Melbourne, 19 October 2011.

¹⁰⁹⁰ Steve Wickham, General Manager, Australian Operations, Iluka Resources, *briefing*, Hamilton, 20 October 2011.

Figure 16: The Victorian rail network (2012)¹⁰⁹¹



Department of Transport
Policy and Communications Division
Mapping and Design
Mapset 327-2-1 Date 3 May 2012

Ararat City Council’s submission referred to two mineral exploration projects in its area at Willaura and Stavely searching for copper and gold, both of which are located on or near the standard gauge Maroona-Portland railway line. It claimed if these exploration projects progressed to become working mines, rail access could either be restored or existing facilities upgraded to provide rail loading facilities for these projects.¹⁰⁹²

Proponents of mining projects also expressed interest in rail haulage of mine products, particularly for bulk commodities and the value of rail haulage in commercial decision making. Mr Ian Kraemer, Managing Director of Mantle Mining, gave evidence on the comparative advantage offered by the location of the Parwan coal deposits it was exploring compared to the Latrobe Valley. The advantage lay in the close access to the railway, proximity to rail-served ship loading facilities at the Port of Geelong for export and the disadvantages of bulk export coal haulage from the Latrobe Valley to an export port:

The particular circumstance at Bacchus Marsh leads to an easier commercial outcome to get upgraded coal to market because it has a rail there, the Port of Geelong with capacity and it does not have the eastern Melbourne sprawl. If you are

¹⁰⁹¹ Department of Transport.

¹⁰⁹² Ararat City Council, *submission*, no. 16, 18 August 2011, p. 3.

ever going to develop the Latrobe Valley, how are you going to do it infrastructure-wise for bulk commodities? I guess — albeit one is a big deposit and the other is a little deposit — there are other commercial issues that say the Latrobe Valley one involves a lot of hard yards.¹⁰⁹³

Dr Jack Hamilton, Chief Executive Officer of Exergen, also gave evidence of the value of good access to rail infrastructure and port links to the company as part of its long-term plans to export de-watered brown coal. This factor played a role in Exergen's decision to enter into a Memorandum of Understanding with Mantle Mining and its brown coal exploration and mining project at Parwan. Exergen saw good rail access as advantaging Parwan over alternative coal deposits in the Latrobe Valley.

Dr Hamilton said of Mantle Mining's Parwan project that:

... it does have some advantages in the logistic infrastructure — the Melbourne – Ballarat railway line runs over the tenement so that gives you rail access to Port of Geelong as effectively there is no rail access out of Latrobe Valley of any sort of capacity. My competitors do tell me you can do rail access but I just make the comment: let me know when the first coal train is going through, I will stand at Federation Square and watch it go through Flinders Street. It will probably be the last coal train through Flinders Street.¹⁰⁹⁴

Recommendation 25: That the Victorian Government establishes a process that determines local infrastructure requirements for mining development projects, facilitates plans to meet those needs, identifies appropriate funding models, and minimises adverse effects while maximising benefits for local communities.

Report adopted on 15 May 2012.

¹⁰⁹³ Ian Kraemer, Managing Director, Mantle Mining, *transcript of evidence*, 30 January 2012, p. 12.

¹⁰⁹⁴ Dr Jack Hamilton, Chief Executive Officer, Exergen, *transcript of evidence*, 14 December 2011, p. 7.

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APPENDIX ONE: LIST OF SUBMISSIONS

1. Association of Applied Geochemists
2. Goulburn Broken Catchment Management Authority
3. West Gippsland Catchment Management Authority
4. Victorian Competition and Efficiency Commission
5. Mordialloc Beaumaris Conservation League
6. Mr William J Kyte
7. Mitchell Shire Council
8. Dr Allan G Rossiter
9. Mrs Anne Scott
10. Hg Recoveries
11. Lakes Oil
12. Latrobe City Council
13. Minelab Electronics
14. Morning Star Gold
15. Geos Mining
16. Ararat City Council
17. Western Mining Services
18. Prospecting Supplies Australia
19. Geoscience Australia
20. Victorian Farmers Federation
21. Northern Grampians Shire Council
22. Exergen
23. City of Greater Bendigo
24. Australasian Institute of Mining and Metallurgy
25. Resource Futures
26. Iluka Resources
27. Mr M E Williams
28. Construction, Forestry, Mining and Energy Union
29. Australian Uranium Association
30. Mount Rommel Mining
31. Commonwealth Scientific and Industrial Research Organisation
32. Australian Institute of Geochemists
33. Minerals Council of Australia

34. Unity Mining
35. Orion Gold
36. Cement Concrete & Aggregates Australia
37. Boral Quarries
38. Association of Mining and Exploration Companies
39. Independence Group
40. Construction Material Processors Association
41. Friends of the Earth
42. Wellington Shire Council
43. Gippsland Coastal Board
44. East Gippsland Shire Council
45. Ovens Landcare Network
46. DJ, MJ & SJ Minifie
47. Moorabool Environment Group
48. Prospectors & Miners Association of Victoria
49. Mardan/Mirboo North Landcare Group
50. Environment Victoria
51. Gannawarra Shire Council
52. Victorian Limestone Producers Association
53. Castlemaine Goldfields
54. Environment Defenders Office
55. Mr John Cahill
56. Victorian Aboriginal Heritage Council
57. Municipal Association of Victoria
58. Victorian Government
59. WorkSafe Victoria
60. University of Melbourne

APPENDIX TWO: LIST OF WITNESSES

Melbourne, 22 August 2011

Mr Tim Goldsmith Global Leader, Mining	PricewaterhouseCoopers
Mr Richard Schodde Managing Director	MinEx Consulting

Melbourne, 29 August 2011

Mr Chris Fraser Executive Director	Minerals Council of Australia (Victorian Division)
Ms Megan Davison Assistant Director	
Mr Andrew Mattiske Chair, Environment and Community Working Group	
Mr Tom Burrowes State Councillor	
Ms Sarah Gafforini Manager, Policy and Professional Standards	Australasian Institute of Mining and Metallurgy
Mr Ashley van Krieken Director of Member and Branch Services	
Professor Neil Phillips Consulting Economic Geologist	
Mr Bruce Edwards Regional Manager, New South Wales, Victorian and Tasmania	Association of Mining and Exploration Companies

Melbourne, 19 September 2011

Mr Jonathon Law Director, CSIRO Minerals Down Under Flagship	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Mr Martin Bouwmeester General Manager, Corporate	Orion Gold
Mr Chris Roberts Director	
Mr Mark Wakeham Campaigns Director	Environment Victoria
Ms Victoria McKenzie-McHarg Safer Climate Campaigner	
Mr Rob Spence Chief Executive Officer	Municipal Association of Victoria
Ms Alison Lyon Deputy Chief Executive Officer and Legal Counsel	
Mr Alex Arbuthnot Land Management Committee member	Victorian Farmers Federation
Mr Jacon McElwee Policy Adviser, Land Management	
Mr Brian Hauser State Director, Victoria-Tasmania-South Australia	Cement Concrete & Aggregates Australia
Mr Roger Buckley Industry Relations Manager, Victoria	
Mr David Pallot Chairman, Victorian State Committee	

Melbourne, 26 September 2011

Ms Rita Bentley President	Prospectors & Miners Association of Victoria
Mr Noel Laidlaw Consultant	
Mr Mark Miller Managing Director	Greenearth Energy
Ms Fiona Weigall Manager, Major Projects and Economic Development	East Gippsland Shire Council
Mr Martin Richardson Manager, Strategic Planning	
Dr John Yeates Manager, Government Relations	Independence Group
Mr Rod Jacobs Development Manager	
Mr Ian Blucher Approvals Manager	

Melbourne, 10 October 2011

Ms Kate Tubbs President	Moorabool Environment Group
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Mr Jim Fraser Vice President	
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Ms Deb Porter Secretary	
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Ms Alison Currie Principal Exploration Geologist	Iluka Resources
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Mr John McKay Manager, Workforce Planning & Development (Victorian Office)	SkillsDMC
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Melbourne, 7 November 2011

Mr Phil Piper President	Mardan/Mirboo North Landcare Group
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Ms Emma Vogel Technical Services Manager	Donald Mineral Sands
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Mr Rodney Fraser Victorian Branch Chairman and Federal Council Member	Australian Institute of Geoscientists
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Mr Geoff Turner Past Victorian Branch Chairman and Federal Council Member	
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Councillor Darrell White Mayor	Latrobe City Council
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Ms Allison Jones General Manager, Economic Sustainability	
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Mr Peter Colley National Research Director	Construction, Forestry, Mining & Energy Union
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Mr Bryon Powell Member	Victorian Traditional Owners Land Justice Group
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Mr David Yarrow Legal Advisor	
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Mr Paul Simmons Senior Solicitor, Future Acts Coordinator	Native Title Services Victoria
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Ms Jill Webb Policy Officer	
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Adelaide, 17 November 2011

Mr Jonathon Forbes
Director, Industry Development

South Australian Chamber of Mines and Energy

Dr Nigel Long
Director, Corporate Social Responsibility

Mr Antonio Belperio
Exploration Director

Minotaur Exploration

Ms Carol Vincent
Chief Executive; President

South Australian Farmers Federation

Mr Deane Crabb
Policy Manager

Mr Ian Hardwick
Business Manager

Deep Exploration Technologies Cooperative
Research Centre

Adelaide, 18 November 2011

Ms Melissa Ballantyne
Solicitor

Environmental Defenders Office of South
Australia

Professor David Giles
Director

South Australian Centre for Minerals Exploration
Under Cover

Mr Brett Brown
Chief Executive

Southern Quarries & Direct Mix Group

Melbourne, 14 December 2011

Dr Jack Hamilton Chief Executive Officer	Exergen
Mr Stephen Manallack Consultant	
Cr Pat Griffin Mayor	Moorabool Shire Council
Mr Peter Hawkins Acting General Manager, Shire Development	
Dr Michael Hollitt Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group	Department of Primary Industries, Victorian Government
Mr Doug Sceney Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group	
Dr Danny Suster Manager of Earth Resources Legislation and Reform, Energy and Earth Resources Group	
Mr Jeff Rathjen President	Flynn Creek Coal & Power Consultative Committee
Mr Kevin Mealing Secretary	
Mr Gordon Graham Member	
Mr Trevor Blake Chief Environmental Assessment Officer	Department of Planning and Community Development, Victorian Government
Mr Ian Hamm Executive Director	Aboriginal Affairs Victoria
Mr Jamin Moon Senior Heritage Policy Officer	

Melbourne, 30 January 2012

Professor Janet Hergt Head of School, School of Earth Sciences	University of Melbourne
Mr Paul Hillyer Regional Manager (Victoria)	Boral Quarries
Mr Bruce McClure General Manager	Construction Material Processors Association
Mr Ron Kerr Honorary CEO	
Mr John Mawson Chair	
Mr Basil Natoli Management Committee Member	
Ms Kylie White Executive Director, Biodiversity and Ecosystems Services	Department of Sustainability and Environment, Victorian Government
Mr Lee Miezis Executive Director, Forests and Parks	
Mr Ian Kraemer Managing Director	Mantle Mining
Mr Callum Lamont Exploration Manager, Coal	
Mr Jonathan Guttman Manager, City Strategy	Kingston City Council
Mr Dusan Ivanic Team Leader, Environmental Health	

APPENDIX THREE: LIST OF BRIEFINGS

Melbourne, 27 June 2011

Dr Michael Hollitt Executive Director, Energy Resources Development Division	Department of Primary Industries, Victorian Government
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Melbourne, 14 July 2011

Mr Jim O'Brien President	European Aggregates Association
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Melbourne, 15 July 2011

Mr Bruce Edwards Regional Manager, New South Wales, Victoria and Tasmania	Association of Mining and Exploration Companies
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Melbourne, 19 October 2011

Mr David Hill Senior Policy Officer, Freight Logistics and Marine Division	Department of Transport, Victorian Government
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Hamilton/Douglas, Victoria, 20 October 2011

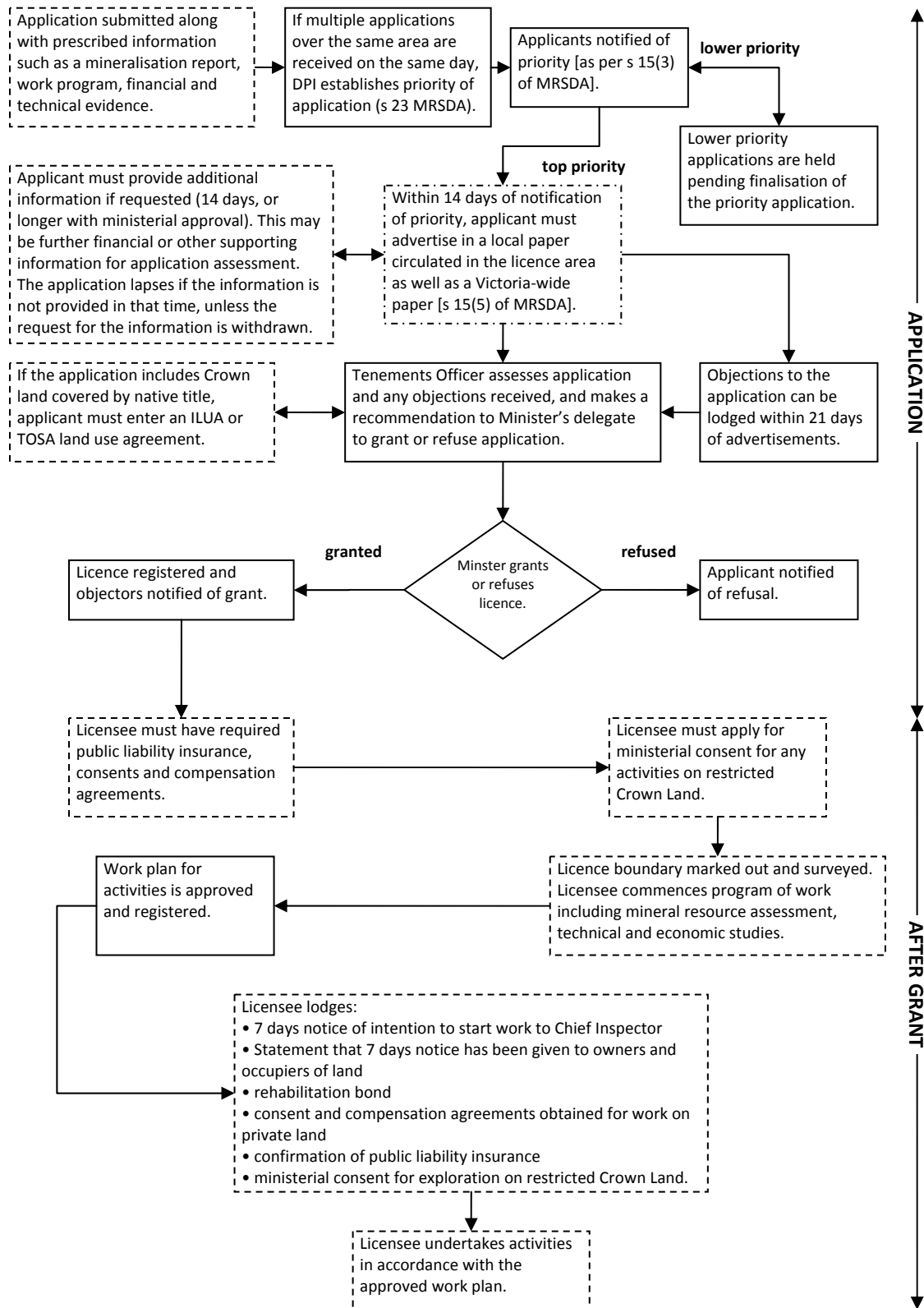
Mr Steve Wickham General Manager, Australian Operations	Iluka Resources
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Ballarat, Victoria, 21 October 2011

Mr Matthew Gill Managing Director and Chief Executive Officer	Castlemaine Goldfields
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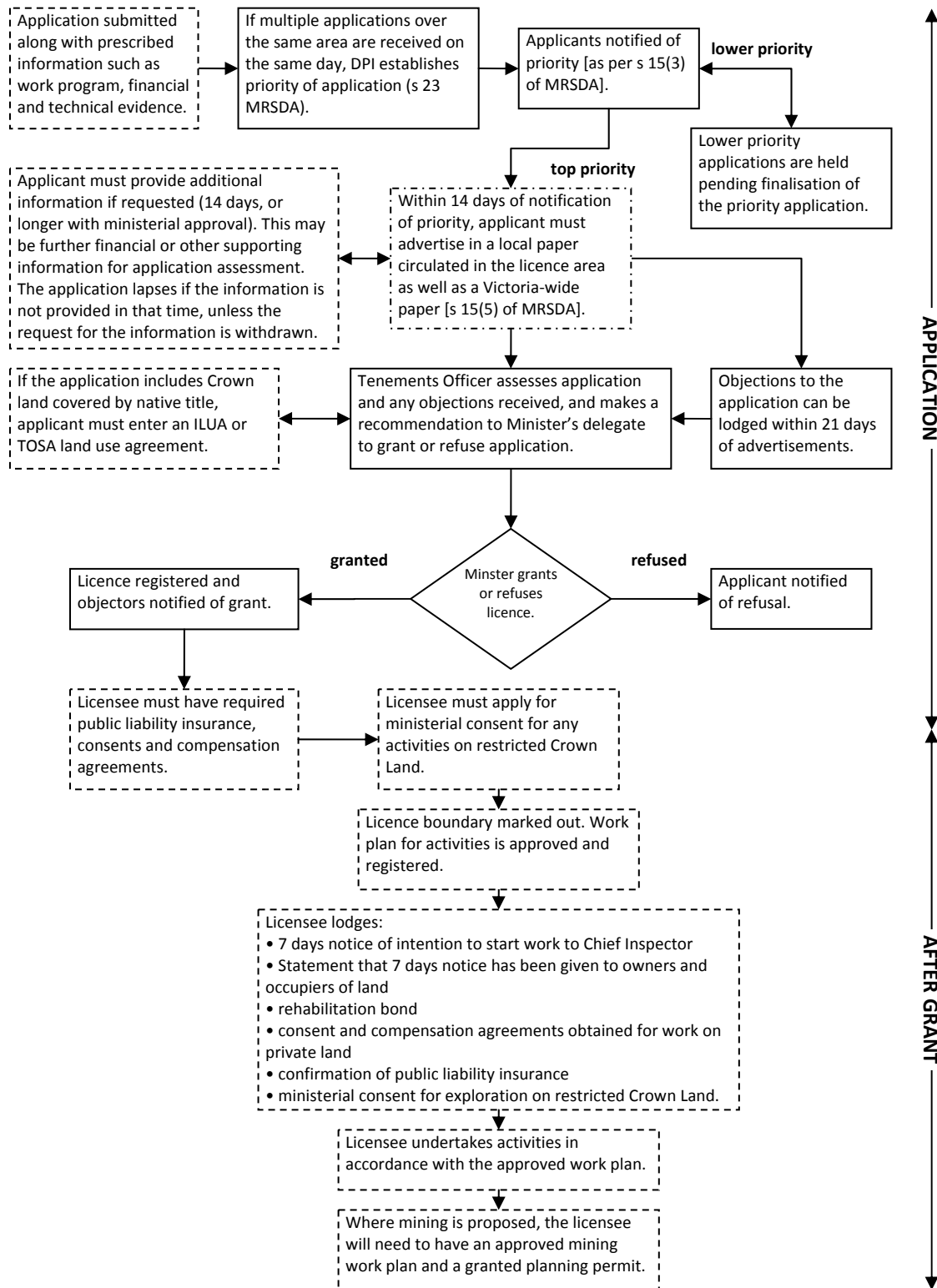
Mr Wessley Edgar Exploration Manager	
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APPENDIX FOUR: RETENTION LICENCE APPLICATION AND WORK AUTHORITY APPROVALS PROCESS¹⁰⁹⁵



¹⁰⁹⁵ Department of Primary Industries, 'Retention licence application kit', viewed 23 March 2012, <<http://www.dpi.vic.gov.au/>>.

APPENDIX FIVE: PROSPECTING LICENCE APPLICATION AND WORK AUTHORITY APPROVALS PROCESS¹⁰⁹⁶



¹⁰⁹⁶ Department of Primary Industries, 'Prospecting licence application kit', viewed 23 March 2012, <<http://www.dpi.vic.gov.au/>>.