



QUEENSLAND GOVERNMENT

PREMIER OF QUEENSLAND

Submission 43
VAL Inquiry

13 JAN 2000

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The Honourable Geoff Prosser MP
Chair
House of Representatives Standing
Committee on Industry, Science and Resources
Parliament House
CANBERRA ACT 2600

Dear Mr Prosser

I refer to my letter of 2 July 1999 advising that the Queensland Government would be providing a submission to your Inquiry into Increasing Value-Adding to Australian Raw Materials.

I am now pleased to forward to you Queensland's response to this important initiative.

It is a priority of my Government to encourage further value-adding to the State's substantial mineral resources and our submission identifies those issues and impediments to investment in these activities.

In preparing this Submission, the Queensland Government has undertaken a substantial study including extensive industry consultation which will be used to develop a framework for value-adding to minerals in this State.

Thank you for the invitation for Queensland to provide a contribution to the work of your Inquiry. I look forward to my Government working closely with your Committee as the Inquiry progresses and receiving the final report in due course.

Yours sincerely

Peter Beattie MLA
PREMIER

**Queensland Government Submission to the
House of Representatives Standing Committee
on Industry, Science and Resources**

**Inquiry into Increasing Value-Adding
to Australian Raw Materials**



November 1999

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Attachment I: Overview of Value-Adding to Queensland Minerals
Attachment II: State Development Industry Brief Minerals Processing
Attachment III: Issues Paper June 1999 Value-Adding Minerals (Queensland)

EXECUTIVE SUMMARY

The House of Representatives Standing Committee on Industry, Science and Resources Inquiry into Increasing Value-Adding to Australian Raw Materials has been addressed by the Queensland Government and a number of recommendations has been put forward for consideration by the Standing Committee. These recommendations are aimed at removing impediments and providing a stimulus for a more competitive environment to encourage increasing value-adding to Australian raw materials.

The Queensland Government response deals directly with issues and impediments to value-adding to minerals. The development of this sector in Queensland is incorporated in the State Labor Government's 1998 New Directions Statement. This Statement included a commitment to encourage further value-adding to the State's substantial mineral resources.

During 1999 the Queensland Government has undertaken a substantial study including a targeted industry consultation program to develop a framework for value-adding to minerals in this State. A number of important issues have emerged from this study which require the attention of both the Commonwealth and State Government to improve the climate for investment in value-adding to minerals. Specific issues addressed in this submission include intellectual property rights, market access, vertical integration, exploration and mining tenures, greenhouse, Commonwealth taxation policy and transportation. The presentation of material and recommendations put forward in the Queensland submission to this Inquiry are based largely upon results of this most recent study into advantages and impediments to further value-adding to minerals in Queensland.

The overarching outcome required by the Queensland Government is a commitment by the Commonwealth Government to a national strategy to provide a competitive climate to attract further investment into value-adding in the minerals sector. A range of specific recommendations has been developed addressing the Inquiry's terms of reference and these are discussed in the body of this submission.

1. INTRODUCTION

1.1 Scope

The Queensland Government has a strong commitment to position Queensland, not only as an important global supplier of raw materials, but also as a preferred location for adding value to minerals and energy resources through processing and manufacture.

This Government therefore welcomes the Inquiry by the House of Representatives Standing Committee on Industry, Science and Resources into Increasing Value-Adding to Australian Raw Materials. This Inquiry provides an important opportunity to recognise the contribution of value-adding to Australia's national economic performance and living standards. More importantly, the terms of reference for the Inquiry will allow a focus on issues impacting on value-adding, and provide a stimulus for a competitive environment to encourage increasing value-adding to Australian raw materials.

The issues confronting increasing value-adding to Australia's raw materials are well recognised and require the efforts of both Commonwealth and State Governments to develop a national strategy to overcome impediments and capitalise on opportunities.

The Queensland Government has the following stated priorities to provide a strategic direction for the State. These are:

- More jobs for Queenslanders;
- Building Queensland's regions;
- Skilling Queensland – the Smart State;
- Safer and more supportive communities;
- Better quality of life;
- Valuing the environment; and
- Strong Government leadership.

These priorities are aimed at:

- Generating higher quality and higher skilled employment opportunities;
- Diversifying and strengthening the State economy; and
- Optimising the use of the State's resources in a sustainable way.

Of particular relevance to this Inquiry is the Queensland Labor Government's 1998 New Directions Statement which included a commitment to encourage further value-adding to this State's substantial mineral resources.

Mining and value-adding through processing of minerals are important economic activities in Queensland, with this sector showing a combined average growth of about 17% per year over the past decade. Whilst companies operating in Queensland

produce substantial quantities of mineral concentrates, only a portion of these concentrates are refined to metal. Further transformation of metal into consumer products and components is extremely limited, occurring only on a small scale to predominantly supply local markets. Yet the latter two stages of resource processing produce the highest level of value-adding and have the greatest potential for employment and economic growth, especially in regional Queensland. It is also the area which has the most opportunity to develop a sustainable advantage through the development and application of intellectual property.

The Queensland Department of State Development (State Development) and the Queensland Department of Mines and Energy (DME) are currently undertaking a joint initiative to promote value-adding within the minerals and metals sectors in Queensland through further downstream processing and manufacturing. This initiative has highlighted a number of issues at both the Commonwealth and State levels which impact on value-adding prospects.

This Queensland Government response to this Inquiry is largely based on the current value-adding to minerals initiative of the State Government. A range of recommendations is being submitted to the Inquiry addressing those issues which are considered to have the most significant impact on value-adding in this sector.

1.2 Definition of Value-adding

For the purposes of this submission, value-adding to minerals broadly encompasses initial processing through to high value, elaborately transformed manufactured products. However, it is recognised that other forms of value-adding also occur. These include mine site processing, beneficiation, and the application of mineral processing services to enhance value-adding.

Both processing and manufacturing can be separated into several stages. Firstly, processing involves purification of the mineral through beneficiation, usually undertaken at the mine site, to separate the mineral from extraneous material to produce an ore concentrate. This is followed by further separation into individual mineral components, transformation of that mineral chemically and/or physically to new or altered compounds, and, where applicable, reduction to the element. Reduction to metals involves processes such as smelting, electrowinning or hydrometallurgy. Finally, manufacturing includes stages of prefabrication, fabrication, and elaborate transformation, using the products of minerals processing.

There are very few instances of all three stages being undertaken in Queensland. Examples include the transition of:

- bauxite to alumina to aluminium metal to extruded window frames;
- mineral sands to zircon to ceramics;
- copper ore to copper concentrate, on to metal and cast copper products; and
- zinc ore to zinc concentrate, on to refined zinc and use of zinc metal products.

The availability of mineral resources and natural gas for energy and as a chemical feed stock provides opportunity for expansion of the minerals processing and related

value-adding industries in Queensland, particularly around key development nodes of Gladstone, Rockhampton, Townsville and Mount Isa.

1.3 Inquiry Terms of Reference

The Minister for Industry, Science and Resources has asked the House of Representatives Standing Committee on Industry, Science and Resources to inquire into and report on the prospects of increasing value-adding to Australian raw materials. The Standing Committee plans to carry out an evaluation of the current state of value-adding in Australia and its international benchmarks. This is expected to provide a base from which to evaluate the following topics:

- Incentives and impediments to investment;
- Intellectual property rights;
- National /International marketing factors which may encourage or hinder Australian value-adding;
- Government intervention, both nationally and internationally;
- The location of value-adding industries and projects in regional Australia;
- Resource licensing/permit arrangements;
- The impact of vertical integration within particular industries; and
- The Australian skills base and any associated impediments.

The Queensland Government submission addresses each of the terms of reference outlined above in the body of this report. Section 2 of this report details the location of value-adding industries and projects in Queensland as well as the stages of value-adding undertaken and the potential for further processing. Section 3 examines a range of incentives for and impediments to value-adding including intellectual property rights, market access, vertical integration, exploration and mining tenures, greenhouse issues and Commonwealth taxation policy and transportation issues. Section 4 addresses government assistance and investment drivers. Recommended actions for the Standing Committee to consider are detailed within the above sections and listed in the Executive Summary of this report.

2. VALUE-ADDING TO MINERALS IN QUEENSLAND

2.1 Background

A very detailed overview of fifteen minerals and energy commodities considered to be the most important in Queensland was undertaken to examine the current status of mining and concentration of the ore, as well as the extent of both processing and manufacturing occurring for each mineral. This *Overview of Value-Adding to Queensland Minerals April 1999* is at Attachment I.

Attachment I was also used as the basis for deriving Table 2.1, **Queensland – Commodity Value-adding**. This table demonstrates stages of value-adding undertaken in Queensland, indicated by shaded areas. Potential exists across all mineral industries in Queensland to increase the extent of processing prior to export

and to move further down the value-adding chain. As can be seen from the table, this potential varies significantly across the sector.

To better analyse mining, processing and manufacturing in the value-adding chain, the latter two sectors have been subdivided into stages to indicate either sequential change or increases in processing and manufacturing activities. Although it is difficult to accurately categorise these changes for all commodities, and opinions vary as to that choice of category or subdivision, this was found to be the best fit for this exercise.

This overview is supplemented by a detailed industry brief on minerals processing which is at Attachment II – *State Development Industry Brief – Minerals Processing*.

2.2 Value-Adding Capabilities

Light metals: Queensland has the potential for a world class light metals industry, based on aluminium, magnesium and titanium. The State has one of the world's largest magnesite deposits and current pilot plant production of magnesium metal, with well advanced plans for commercial magnesium metal production. There is a well established aluminium industry at Gladstone, with the probability of further expansion with a new alumina refinery. Queensland also has a history of titanium minerals production through the minerals sands industry, with a new titanium minerals source currently under development at Goondicum.

The Queensland Government Light Metals Strategy is pursuing a goal of establishing a world class light metals centre. Queensland has a well developed technical infrastructure with R&D centres such as the Queensland Centre for Advanced Technology (QCAT) and the Centre for CAST Metals Manufacturing (CASTmm).

Base metals: Of particular relevance to Queensland are the base metals – copper, lead, zinc, nickel and to a minor extent, cobalt. World class resources exist, particularly in the State's northwest. However, the remote location, limited infrastructure, energy availability and costs affect value-adding opportunities in this region. A major zinc refinery has recently been established in Townsville processing zinc concentrate from the northwest.

Nickel and cobalt lend themselves to further processing opportunities. In particular, nickel is of interest, given recent advances in process and extraction technology with significant operating cost reductions and the proposed development of the Marlborough Nickel Project.

Precious metals – silver and gold: While Queensland is Australia's second largest gold producer, there has been no significant value-adding to both silver and gold. The main possibilities appear to be in further refining, coinage or jewellery manufacture for both gold and silver, with possible chemical/photographic interest in silver chemicals.

Energy: Queensland is well endowed with resources in the energy sector – coal, coal seam gas, oil shale, petroleum oil and gas.

For **coal**, value-adding is a priority. Efforts also have been concentrated in the development of new market opportunities in coal blending, more efficient coal beneficiation/washing, whilst coal gasification, ultra clean coal, and petrochemicals are in varying stages of realisation.

The **gas** strategy of the Queensland Government involves increasing access to natural gas. The development of a coal seam methane industry based on the State's substantial reserves would provide both an energy source and starting point for petrochemicals, explosives, and fertilizers.

Oil shale developments in this State offer a new source of hydrocarbon raw materials adding significantly to Queensland resource development potential. **Petroleum** from southern and southwest Queensland is refined in Brisbane and represents an important resource for a number of possibilities for value-adding.

Industrial minerals: In Queensland, industrial minerals have shown strong investment in exploration and downstream processing to cater for the domestic and export markets. Particular avenues have included kaolin clay from Cape York for the paper and ceramics industries, phosphate rock from northwest Queensland for fertilizer manufacture, and magnesite for refractories. Others include magnetite for coal washing, abrasives, rare earths, titanium minerals and zircon from mineral sands, titanium for pigment opportunities, and zircon for advanced ceramics and ceramic glazes.

Research and development in clay minerals is one area attracting attention from universities, other research institutions, and industrial minerals companies. Another is the search for prospective methods for opal exploration, with the aim of mining, processing, tourism and outback revival.

Queensland - Commodity Value-Adding

* SHADED AREAS INDICATE STAGES UNDERTAKEN IN QUEENSLAND

TABLE 2.2

Commodity	Primary Commodity/ Mining	Product at each stage of Value-Adding					
		Processing			Manufacturing		
		Stage 1	Stage 2	Stage 3	Prefabrication	Fabrication	Elab Fabrication
Minerals							
Aluminium	Bauxite at Weipa	Bauxite -alumina extraction	Alumina 95% metal, 5% as ind. mineral for abrasives, chemicals, etc.	Aluminium – Toll smelt in 3 potlines at Boyne Smelter; Comalco + others in preference%	Slabs, Billets, Ingots and rod; Alloys	Sheet and strip aluminium; Extruded sections, shapes, profiles	Welded structures: Ships, boats; Building components;
Magnesium	Magnesite at Kunwarara	Calcined, deadburned magnesia (MgO)	Electrofused magnesia				
Titanium	Mineral Sands - North Stradbroke Island	Ilmenite & rutile from heavy mineral sands concentrates					
Copper	Copper sulphide - NW Qld	Copper concentrates	Blister copper	Anode castings	Electrowin and refined copper	Cast Copper Products	
Lead	Lead sulphide ores - NW Qld	Lead concentrates	Lead bullion				Wet cell batteries
Zinc	Zinc sulphide ores - NW Qld	Zinc concentrates		Refining of zinc at the 170 000 tpa Sun Metals Zn refinery, Townsville		Zinc Oxide Galvanised iron and steel Alloys	
Nickel	Nickel ore imported from Indonesia, New Caledonia			QNI's Yabulu Ni refinery processes 3.3 Mt imported ore pa. for output Ni/Co 30,000 tpa	Stainless Steel (SS) castings (from imported SS ingots)	Stainless Steel tube (from imported SS sheet)	Stainless Steel <ul style="list-style-type: none"> • building components catering equipment • industrial equipment - vessels, process equipment, screens, wire screens • transport equipment • electrical equipment, electronic components
Limestone	Limestone - High quality resources (2Mt produced 1997-98)	CaO: Lime plants East Coast, Nth Qld.			<ul style="list-style-type: none"> • Cement - QCL at Gladstone; • Glass - bottles at ACI, Brisbane; • Acid Neutraliser – Slaked lime at QAL, Gladstone (140000tpa) 		

Zircon	Mineral sands (North Stradbroke Island)	Heavy mineral sands concentrates	Zircon – foundry sand, foundry mould facing		• Refractories; abrasives, ceramics	Zircon alumina ceramics (ZAC at SEPR (Australia))	
Silver	<ul style="list-style-type: none"> • Silver-lead-zinc ores from NW Qld; • Byproduct of gold prod. Nth Qld, copper-gold prod NW Qld 	Silver in lead concentrates, gold concentrates	Silver in lead bullion, gold bullion				
Gold	Gold from many ore types – mainly Nth Qld, some copper-gold in NW Qld	Gold concentrates	Gold bullion				
Energy							
Coal	Mostly open-cut mining – Bowen Basin in Nth, Central Qld; Also Surat, Moreton Basins in SE Qld	Coking coal; thermal coal selected; coals washed	Coal blending		Coke manufacture at Bowen (MIM) AEL proposed coke project; Merchant coke project		
Gas	<ul style="list-style-type: none"> • Natural gas in Southern & SW Qld; • Coal seam methane gas in Bowen Basin coal, Denison Trough coal 	Separation at gas field plant of nat. gas, LPG, CO ₂ , water (Ballara for nat. gas)	Reticulation systems				<ul style="list-style-type: none"> • Petrochemicals, explosives (ammonium nitrate); • Fertilizers (Urea and input into phosphate fertilizers (MAP, DAP)) • Sodium cyanide • Methanol
Oil shale	Major deposits at Stuart, Rundle (near Gladstone) & Yaamba, (north of Rockhampton); Stuart to be selectively mined & blended			4500 bpsd demonstration plant for production of shale oil			
Petroleum oil	Oil/gas fields in Southern & SW Qld (Cooper, Eromanga Basins)	Refining at Bulwer Island (BP, Lytton (Caltex) refineries)				Refined products – lubricants, solvents and fuels	

3. VALUE-ADDING CHALLENGES

3.1 Background

During the first half of 1999, a major study was undertaken by the Queensland Government to examine issues impacting on value-adding to minerals in Queensland. Research identified numerous opportunities and constraints facing development of processing and manufacturing industries downstream from the State's mineral exploration and mining activities. An Issues Paper was prepared as a basis for a targeted industry consultation program and this is at Attachment III – *Issues Paper June 1999, Value-adding (Minerals) – Queensland*.

The consultation program involved over forty interviews with representatives from national and international mining and manufacturing companies, engineering and construction firms, academics and technologists, consultants and investment specialists. Interviewees generally represented their organisations as Chief Executive Officer, Manager Director or Directors of Business Development or Technology. The Issues Paper received strong support as an accurate reflection of the current business climate and most interviewees were able to provide constructive comments on issues impacting on Queensland and Australia's ability to attract value-adding projects.

Companies and organisations involved in the consultation process indicated many positive aspects of conducting business in Queensland. Access to world-class and world scale mineral resources in areas like the Carpentaria-Mount Isa Minerals Province and the development of key industrial centres such as Gladstone, Rockhampton and Townsville were seen as important competitive strengths for the State. Queensland's skilled and educated workforce supported by existing world class R&D facilities were often cited as strengths to be retained and enhanced. There was a high level of awareness of Queensland's Light Metals Strategy and this was put forward as a good example of collaboration between industry and government. The commitment Queensland has made to development of a magnesium industry by supporting research and development in new processing technology was seen as a good model for industry development through facilitating the value-adding process.

The focus during consultation generally related to the broader challenges facing further development of downstream activities in Queensland. It must be pointed out that many of the barriers or challenges raised were recognised as matters of Commonwealth responsibility rather than of direct concern for the Queensland Government. Examples include business taxation reform, overseas market access, cabotage, export freight rates and international greenhouse emissions obligations. These issues will be addressed further in this submission.

The minerals processing industry in Australia is internationally competitive and well placed to progress into the future. However, a high level of concern was expressed regarding the long-term decline in global commodity markets and the resulting cost pressure on commodities such as metals, concentrates and refined products. The pursuit of value-adding through the application of intellectual property in all stages of

processing was suggested as important for counteracting any contraction in the mining industry.

A summary of issues raised during industry consultation, and relevant to this Inquiry are listed below. This listing does not reflect the weighting afforded to each issue, or the order of importance and represents the views of interviewees only. Further analysis of the responses does however highlight those which emerged as important factors requiring the attention of this Inquiry. These issues are discussed in detail in the following sections.

Summary of Issues Raised during Industry Consultation	
<p><i>R&D is essential to compete</i> <i>High level of skills</i> <i>Integrate mining & processing for efficiencies</i> <i>Value-adding should include services sector</i> <i>Cabotage is a problem</i> <i>Greenhouse not a negative – baseline shifting</i> <i>Market access/tariff barriers problem</i> <i>Quality resources are essential</i> <i>Low cost energy is essential</i> <i>Exploration budgets reducing</i> <i>Miners are not investing in downstream activity</i> <i>Access to land and Native Title</i> <i>Lack of visionaries & entrepreneur development</i> <i>Community does not value industry's role</i></p>	<p><i>Small domestic market in Australia</i> <i>Slow economic reform</i> <i>R&D tax concessions</i> <i>Freight costs are too high</i> <i>Lack of infrastructure especially in remote areas</i> <i>Exports competitive in high value added niche items</i> <i>Greenhouse/carbon tax problem</i> <i>Labour productivity has to improve for mining</i> <i>Industrial relations</i> <i>Accelerated depreciation to attract investment</i> <i>Tax concessions for exploration</i> <i>Gas market</i> <i>Water availability</i></p>

3.2 Intellectual Property and Skills

Industrial competitiveness today is influenced more than ever before by a nation's science and technology capabilities. OECD comparisons of science and technology expenditure, as a percent of GDP, find that countries with a positive balance of trade in high growth industries are those which make substantial investments in research and development.

Technically advanced companies are based in Queensland. There is a skilled and educated workforce, with expertise in metallurgical, construction, chemical and process engineering. Technology infrastructure and research and development resources are world class with the Queensland Government adopting a strategy to ensure that existing R&D activities are retained and enhanced. For example, a proposed Australian Light Metals Research Centre within the Brisbane Technology Park will complement existing CRC's and private sector research laboratories.

The most consistent theme, which emerged from the consultation process, was that new technology and strong R&D based development strategies are essential to compete across all stages of the value-adding process. This includes new mining methods to decrease costs and reduce process stages. For example, the application of

acid leach technology is expected to deliver a significant reduction in nickel processing costs. The importance of industrial design and automation were cited as providing a competitive edge in manufacturing.

The development of indigenous intellectual property is a significant factor underpinning the competitive position of Australian companies operating in global markets. Both government and industry must contribute to the development of a strong R&D culture which values the development and application of intellectual property in increasing value-adding to Australian raw materials.

A key conclusion of the Queensland Government study was that governments must recognise the importance of innovation and technology as key elements for maintaining a sustainable advantage against global competitors. They also provide opportunity to value-add at each stage from mining to manufacturing through research and development, intellectual property rights, technology adoption, design, capacity utilisation and organisational practices.

During discussion on research and development issues, many respondents commented that there was an urgent need for the Commonwealth to consider increasing the level of R&D assistance as opposed to current policies which have resulted in a decline in R&D expenditure in this sector.

Commitment to R&D – QCAT and CASTmm

The Queensland Government recognises the need for the development of a supportive R&D infrastructure to nurture the development of the minerals and light metals industry sector.

The Queensland Centre for Advanced Technology (QCAT), located at Pinjarra Hills, is a joint venture between the Queensland Government and CSIRO to establish a world class research facility for the mining, energy and manufacturing industries. QCAT hosts several CRC's and undertakes research into mineral exploration, geophysics, coal mining and processing, mineral mining and processing, minesite rehabilitation, alloy development and foundry technology.

The Centre for CAST Metals Manufacturing (CASTmm) is Australia's leading provider of technology to the light metals industry. CASTmm is a Cooperative Research Centre that is supported by a number of leading Australian research groups including the CSIRO, University of Queensland, the Queensland Manufacturing Institute and corporate sponsors.

RECOMMENDATIONS

That the Commonwealth Government:

- 1. Recognise the importance of the development of intellectual property as a key element for maintaining a sustainable advantage across all stages of the value-adding process and providing a competitive edge against global competitors;***
 - 2. Consider assistance measures that genuinely target R&D through tax concessions or sectoral development assistance such as that applied to the light metals strategy;***
-

3.3 Market Access

Australia can accrue significant long-term benefits in line with Asia's economies predicted to return to increasing growth. This will increase their consequent demand for metals over the next two decades. Allied with changing patterns of metal usage and materials consumption, this factor will accelerate the introduction of advanced technologies.

Tariff issues are still of concern for Australian export industries. Tariffs on exports of minerals and mineral products into the Asian market typically escalate with the degree of processing creating a bias towards the export of raw materials at the expense of more processed minerals. This effectively restricts the export of elaborately transformed products from Australia and may inhibit export-based manufacturing opportunities.

An Australian Bureau of Agricultural and Resource Economics (ABARE) research report has found that "*tariffs on highly processed minerals in the region are around six percent higher than on ores and concentrates while elaborately transformed metals attracted tariffs around 15 percent higher*". In contrast, average tariffs in industrialised countries, e.g. USA and the EC were found to be lower at every stage of processing. Under the Uruguay Round of Multilateral Trade Negotiations, countries have until the year 2020 to reduce tariffs to minimal levels. Australia has complied with this requirement since 1996. However, countries in the Asian region are not expected to reduce tariffs significantly in the short term.

The use of non-tariff border measures also followed similar patterns, increasing in frequency with the degree of processing. These non-tariff border measures, such as import licence restrictions, foreign exchange controls and import quotas, reinforce the protection provided by the tariff structure, particularly against imports of processed commodities. Maximising local value-adding opportunities will most likely depend on continued negotiations on access to markets in spite of tariff and non-tariff barriers.

RECOMMENDATION

That the Commonwealth Government:

- 3. Examine the barriers to accessing Asian markets with a view to developing initiatives targeted at gaining better access for Australian exporters of value-added products;*
-

3.4 Vertical Integration

A number of mining companies with significant interests in Queensland were interviewed to confirm their corporate position regarding investment in vertically integrated activities. In the current climate, the investment strategies of these mining companies do not appear to include investments outside their core business of mining. Priorities included development of existing mines, improved mining methods through R&D and productivity improvements. There is a strong level of understanding that the mining industry culture and that of processing and particularly manufacturing are very different. Some mining companies have also had unprofitable experience in areas outside mining and would be most reluctant to consider investment opportunities downstream at this stage.

Mining Companies – Vertical Integration and Shareholder Value

...Another influence that is affecting the decision-making of companies in the mining and metals industry is the concept of shareholder value. Shareholders want to see their companies fully committed to enhancing the value of their shares, despite a bear market for metals prices. For many the emphasis is on radical cost-cutting programs and focussing on core assets rather than empire-building.¹

1. Metal Bulletin 7 December 1998

RECOMMENDATION

That the Commonwealth Government:

- 4. Encourage an investment environment which attracts global companies with the capability to undertake development projects based on adding value to Australian mineral resources;***
-

3.5 Exploration, Mining Tenures and Native Title

The consultation process confirmed that there is currently a decline in the level and expenditure on exploration in Queensland. While this can generally be described as a worldwide trend due to depressed commodity prices, there are particular issues unique to Queensland and Australia.

The mining industry respondents requested a more robust and efficient process to deal with native title issues. The current situation of uncertainty has resulted in a stalling of exploration activity while the resolving of native title processes has taken longer than industry anticipated.

Access to land for exploration and mining is critical. In this regard, the key issue is the introduction of practical native title legislation. The Queensland Government has

passed amendments to the *Mineral Resources Act 1989* (the Alternative State Provisions (ASPs)) which are complementary to the Commonwealth *Native Title Act 1993* (NTA) as amended in 1998. These ASPs are subject to the approval of the Commonwealth Attorney-General and provide alternative procedures to the Commonwealth's Right to Negotiate procedure for grants of exploration and mining tenures. The Queensland Government has requested determinations from the Commonwealth Attorney-General in respect of the ASPs. It is expected that the determinations by the Commonwealth Attorney-General will be forthcoming in the first quarter of 2000.

The entitlements of native title holders under the ASPs, and therefore the complexity of the procedures for future grants of exploration and mining tenures, necessarily reflect the likely impact of activities authorised by the exploration or mining tenure and the type of underlying land tenure. Whilst the scope of the State's ASPs are constrained by the Commonwealth NTA, they do provide explorers and the Government with simpler and less costly procedures than under the NTA and are designed to enable most exploration permits to be granted within much shorter time frames than the Right to Negotiate process. The operational effectiveness of the ASPs will be monitored.

It was also suggested that the downturn in exploration in Australia could be addressed through the application of tax concessions to mining exploration expenditure. The cost and risk associated with mining exploration has increased in recent years in line with the downturn in Government geological surveying. Government assistance in the collection and collation of data may assist in reducing these costs. New technology associated with exploration could be explored to improve the accuracy of locating ore bodies.

The Queensland Government is also reviewing existing mining lease application arrangements with a view to encouraging project proponents to examine value-adding opportunities as part of the mining project.

Comments on exploration

...It is interesting to note that Canada has not suffered exploration cutbacks as severe as in many other countries. Canada is one of the richest western countries in terms of natural resources and many domestic mining companies have made the decision to stay at home¹. Canada offers a 125% tax concession for exploration.

...According to the Australian Drilling Industry Association, more than \$100 million worth of exploration equipment in Queensland is idle because of native title constraints and commodity prices².

1. *Metal Bulletin* 7 Dec 1998
2. *Courier Mail* 13 Sept 1999

RECOMMENDATION

That the Commonwealth Government:

- 5. Examine mechanisms to stimulate mineral exploration through the application of incentives such as tax concessions;*
-
-

3.6 Greenhouse

The international business environment has changed dramatically as a result of the UN sponsored Buenos Aires and Kyoto agreements on climate change, with the corporate sector anticipating that international agreements to reduce or contain the growth of greenhouse emissions will result in constraints on corporate emissions. In addition, the corporate sector is under pressure to voluntarily reduce emissions through such programs as Greenhouse Challenge and in response to "triple bottom line" considerations and community pressure for "greener" production.

Business uncertainty has been created by ongoing international negotiation of aspects of the Kyoto Protocol, including the supplementary flexibility mechanisms which would facilitate use of credits earned in, or purchased from, other countries. Energy-intensive and greenhouse-intensive industries have been particularly affected by this policy uncertainty. A further level of uncertainty has been created in Australia by the indeterminate nature of our 1990 base level emissions, which in turn determines the size of our emissions containment task and the stringency of measures required to meet our Kyoto target.

During consultation, the response to the greenhouse issue reflected the level of uncertainty resulting from the Kyoto Protocol. Some respondents saw opportunities such as new environmental friendly production to replace "dirty" producers in other countries, while others suggested a cautious approach to value-adding projects involving potential greenhouse emissions. It was apparent that respondents are watching the emergence of these greenhouse issues and the likely impact on future value-adding opportunities.

The government sector, too, has been affected by greenhouse uncertainties, with national governments constrained from making definitive policy decisions by ongoing international negotiations and lags in the technology for emissions/sequestration measurement, accounting and verification.

There is the possibility that Australia may have an international advantage in energy-intensive and greenhouse-intensive industries and that greenhouse abatement outcomes for the world would be optimised by locating these industries in Australia. However, this proposition cannot be properly tested while only part of the world is subject to greenhouse gas abatement requirements and decisions taken in the next decade or so to locate industries in unaffected countries could jeopardise Australia's ability to attract/retain these industries. The dilemma, therefore, is how to optimally adjust to the current Kyoto policy environment, without undermining optimal

adjustments to post Kyoto environments. Governments could exercise some influence in the face of this dilemma by taking a strategic approach to sharing the Kyoto adjustment burden, but this would not be easy in light of conflicting demands for adjustment assistance.

RECOMMENDATIONS

6. *Until the international policy environment becomes more settled and there is a clearer idea of the magnitude of the task faced, the Australian Government's approach should continue to:*

- *engage in the international negotiations with a view to producing outcomes favourable to Australia;*
 - *undertake and promote no regrets abatement measures;*
 - *analyse the cost and benefits of major potential adjustment mechanisms such as emissions trading; and*
 - *promote the investigation of potential greenhouse investment opportunities, principally through the Clean Development Mechanism and promotion of renewable sources of energy.*
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3.7 Commonwealth Taxation Issues

Taxation policy was a major issue raised during the consultation program. The three key areas within taxation policy which were of most concern to survey respondents were the impacts of accelerated depreciation, immediate deductibility of exploration expenditure and research and development tax concessions.

In respect of issues related to mining, the Ralph Review of business taxation recommended:

- Retention of immediate deductibility for exploration expenditure;
- Allowing deductibility for certain blackhole expenditures;
- Retention of the 125% R&D tax concession;
- Abolition of the accelerated depreciation allowance.

The recommendations of the Ralph Review in relation to deductibility for exploration expenditure, certain blackhole expenditures and the retention of the R&D tax concession will assist in the development of the value-adding to minerals sector. However the value of the R&D tax concession is affected through the reduction in the general business taxation rate.

The abolition of the accelerated depreciation allowance for companies with turnovers of over \$1 million will adversely affect major project developments. The proposed system under which depreciation rates will be determined directly by the effective life of the investment asset will tend to disadvantage, and put at risk, large, long-life mining and energy projects (eg the proposed PNG to Gladstone gas pipeline) which have a long economic life and high up front costs.

The Commonwealth has recognised the potential negative impact of the removal of the accelerated depreciation provisions by considering such projects in the context of an expanded Strategic Investment Coordination process, including consideration of the option of targeted investment allowances. However, the replacement of a uniform and consistent approach to decision making with essentially an ad hoc approach will cause difficulties for proponents of major projects and State/Territory Governments

It is recognised that there is a proposed Senate Inquiry into the Government's response to the Ralph recommendations. It is therefore not possible to forecast the composition of the final package or the impacts on specific industry sectors.

RECOMMENDATION

7. *In regard to taxation reform it is recommended that*

- *Accelerated depreciation should be retained for significant projects;*
- *Adequate taxation concessions are maintained for research and development of new technologies for value-adding to mineral resources.*

3.8 Infrastructure

State governments and service authorities, as traditional providers of infrastructure, are often called upon to fund the infrastructure for new projects and carry any holding costs. Although attempts are made to recover these costs from the developer, in many instances projects do not proceed because they are not able to absorb the cost of the surplus capacity required for the community and future growth.

Difficulties in providing services infrastructure for large value-adding projects in remote areas and regional areas with little urbanisation include:

- absence of any existing infrastructure or very small scale infrastructure which is unsuitable for major expansion;
- the need to oversize any new infrastructure to provide for future expansion of the project or additional projects. Oversizing attracts holding costs which cannot be carried by the project or the community;
- existing infrastructure providers do not have the financial capability to fund or borrow for unplanned large expansions; and
- microeconomic reform of ports, coastal shipping and rail, despite improvements in some sectors, had not delivered conditions comparable to international standards.

As the Commonwealth Government is the major beneficiary of taxation revenues generated by large value adding projects, it is in their economic and financial interest to provide financial assistance to State and Territory Governments to offset some of these holding costs in anticipation of the financial benefits accruing from such developments.

Australia has a very large vertical fiscal imbalance (VFI): the Commonwealth accounts for 57 percent of government outlays, but controls almost three-quarters of government revenues.¹ The major factor contributing to VFI is the Commonwealth's dominance of the nation's broad-based growth taxes.

The Commonwealth's control of broad-based growth taxes means that it benefits from value-adding investments (infrastructure, processing plants etc) to a far greater degree than the States. Impact assessments of major projects in Queensland typically show the increases in Commonwealth revenue are least tenfold greater than State revenue. Thus while the States might encourage the development of value-adding industries, the Commonwealth is likely to gain a disproportionate revenue benefit.

Moreover, this outcomes is unlikely to be significantly affected by providing the States with the GST revenue for two reasons:

- income tax receipts form the major revenue benefit to the Commonwealth; and
- value-adding industries are often export-orientated and therefore their activities will often be GST free, which provides the State with no additional revenue.

The provision of infrastructure is an important component of regional development and assists to provide sustainable, long term employment. Investment in infrastructure linked to a major value adding project can arrest regional decline related to centralisation of services to major centres and its impact on rural based economies.

An important initiative of the Queensland Government has been to establish the Gladstone State Development Area to reduce the cost of infrastructure services, provide planning certainty for major resource processing projects, minimise environmental impacts and provide suitable serviced land. Investigation of a similar area near Townsville is well advanced.

Widespread concern has been expressed by representatives of the resources processing industry about the cost of freight, particularly export and general freight. Comments were also made that microeconomic reform of ports, coastal shipping and rail, despite improvements in some sectors, had not delivered conditions comparable to international standards. An adequate, cost effective logistics system is essential if Australia is to overcome the constraints arising from its small population and domestic market and the large distances between markets.

A major community concern with microeconomic reform has been the loss of employment caused by revised work practices, new technologies and exposure to international competition. However these adverse impacts should be balanced against the benefits of new projects which will create jobs which are sustainable in a global environment in the longer term.

Particular transport infrastructure issues raised during consultation included:

¹ P. Costello, 1999-2000 Budget Paper No. 3: Federal Financial Relations 1999-2000, p.15.

Rail: Industry perception is that except for the transportation of bulk minerals like coal which has dedicated infrastructure and highly efficient shipping arrangements, rail costs are not competitive with competing locations overseas. General cargo and smaller volume consignments appear to attract significantly higher freight costs.

This perception is supported by the Draft Report on Progress in Rail Reform released by the Productivity Commission in March 1999, which notes that "in 1997, Australia's freight rail system had a productivity level half that of the United States and about 35% below that in Canada in 1996."

However the report indicates that the productivity of QR improved at 8% per annum from 1989/90 to 1996/97 ranking second among Australian railways and the Australian rail freight system is improving at twice the rate of their North American counterparts. The lack of scale and density in freight was cited as the major factor contributing to lower productivity.

Road: Apart from the inconvenience of the lack of road infrastructure to remote projects, there was general satisfaction with the existing road infrastructure.

Shipping: Coastal shipping is very expensive and a major deterrent to investment in new projects. Shipping services were described as limited and very expensive for low volume and general freight. This adversely impacts on export oriented markets. Under present arrangements, it was not considered cost effective or timely to ship containers from regional ports because of low shipping frequencies, lack of container handling facilities and high costs.

Planning and Integration: There is no State or National strategy or plan for freight. There is a competitive need to maximise the efficiencies of existing networks and infrastructure and logistics chains should be encouraged to provide cost and efficiency benefits.

RECOMMENDATIONS

That the Commonwealth Government:

- 8. Provide financial assistance to State and Territory Governments to offset the cost of infrastructure for major development projects;*
 - 9. Reduce coastal shipping costs;*
 - 10. Continue to support initiatives which provide equitable access to public infrastructure;*
 - 11. Expand its current "Supermarket to Asia" focus on transport logistics to embrace supply chain issues for manufacturing and mining;*
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4. GOVERNMENT ASSISTANCE AND INVESTMENT DRIVERS

4.1 Government Assistance

A recent examination of Queensland State Government activities impacting on value-adding to minerals indicates significant support is provided to this sector in areas of infrastructure, research and development, project facilitation and investment attraction.

The State's Light Metals Strategy demonstrates a successful co-operative approach between State and Commonwealth Governments and industry to develop a globally competitive light metals industry. This approach received strong support during consultation. In fact, the consultation process revealed that most companies across the stages of value-adding saw the need for governments at both state and national levels to demonstrate a stronger commitment to research and development

The Commonwealth Government does not appear to have any assistance programs specifically aimed at adding value to metallic minerals, apart from the light metals strategy. However, generic assistance measures such as Customs Policy By-Laws, R&D assistance and investment assistance are available to this industry sector.

Of particular importance to Queensland, was the Commonwealth Government's decision in 1991 to provide \$20million of R&D assistance to magnesium metal production technology and to oversee a national light metals strategy.

Issues of leadership and vision for development of downstream minerals activities were of key concern to many respondents. In this regard, there was strong support for government stimulating growth through specific mineral development and investment attraction strategies. It was suggested that government-industry collaboration is a far more effective way of ensuring long-term project developments than the provision of direct financial incentives. Respondents saw the former as much more cost effective and more meaningful in government commitment than a one-off payment.

During the development of the Queensland Government study, a report "From Mineral Resources and Manufactured Products – Towards a Value-Added Minerals and Metals Strategy for Canada", was sourced. This report advocates new government/industry initiatives for value-adding to minerals in Canada.

The Queensland Government, through its initiative, is strongly committed to encouraging further value-adding across the minerals and metals sector. To maximise Queensland and Australia's opportunity for further value-adding in this sector, the Queensland Government strongly recommends that a national strategy be developed with reference to the current Canadian initiative.

RECOMMENDATION

That the Commonwealth Government:

12. Develop a national strategy for value-adding to minerals.

4.2 Investment Drivers

In order to develop the long term viability of an Australian minerals value-adding sector, access to quality resources is essential. Issues impacting investment in exploration, mining and resource development have been discussed previously in this report.

Various studies by government agencies have been commissioned in an attempt to identify investment drivers or factors determining investment decisions by major resource processors. Factors appearing to be important in the viability and location of mineral processing facilities, particularly for Australian based companies, include:

- transport costs;
- cost of power;
- cost and availability of infrastructure;
- cost effective access to resources;
- environmental regime/regulations;
- community acceptance; and
- industrial relations.

For a viable project it is necessary to be cost competitive and have access to markets, technology and a resource. Cost is generally the key factor for commodity development eg aluminium and base metals, where the technology is commonly known, fully developed and widely practised. In contrast, with differentiated products eg high value base metals such as magnesium, intellectual property most often is tightly held. This provides a protective high cost barrier to entry for new companies who need to acquire new technology.

It is generally considered that Government incentives alone are not a key driver in influencing location decisions for major investment projects. Perceived speed of decision making (including predictable approval time frames and minimal risk outcomes), agency project handling and facilitation efforts, and availability of suitable land for large projects are cited as key criteria for short listing locations for projects.

Investment drivers impacting on the location of higher value-added manufacturing facilities in this sector have not been extensively studied. Historically, the development of Queensland's resource processing sector has concentrated on the earlier stages of mining and processing. However the development of a downstream processing and manufacturing sector based on the State's substantial mineral resources is a key priority of the Queensland Government.

In summary, it is important that government provide a competitive business environment where the most important factors affecting investment decisions such as globally competitive infrastructure, access to resources and appropriate business and environmental regulations, are recognised as having a significant impact on Australia's ability to attract investment in further value-adding.

5. CONCLUSION AND RECOMMENDATIONS

The Queensland Government submission to the inquiry is based largely on the results of its most recent study into advantages and impediments affecting further value-adding to minerals in Queensland.

The study found that potential exists across all minerals industries in Queensland to increase the extent of processing prior to export and to move further down the value-adding chain.

An analysis of key issues such as intellectual property rights, market access, vertical integration, exploration and resource permits, transportation, greenhouse issues, and commonwealth taxation policy, indicated a number of impediments to further value-adding.

In addition, a high level of concern was expressed regarding the long term decline in global commodity markets and the resulting cost pressures on commodities such as metals, concentrates and refined products.

A number of recommendations are suggested for Standing Committee consideration which fall within the Commonwealth Government's sphere of influence and impact positively on the climate for further processing. These recommendations are aimed at removing impediments and providing a stimulus for a more competitive environment to encourage increasing value-adding to Australian raw materials.

RECOMMENDATIONS

The overarching outcome required by the Queensland Government is a commitment by the Commonwealth Government to a national strategy to provide a competitive climate to attract further investment into value-adding in the minerals sector. A range of recommendations has been developed addressing the Inquiry's terms of reference.

The Queensland Government requests that the House of Representatives Standing Committee give consideration to the following recommendations:

- ***Intellectual Property***

1. **Recognise the importance of the development of intellectual property as a key element for maintaining a sustainable advantage across all stages of the value-adding process and providing a competitive edge against global competitors;**
2. **Consider assistance measures that genuinely target R&D through tax concessions or sectoral development assistance such as that applied to the light metals strategy;**

- ***Market Access***

3. **Examine the barriers to accessing Asian markets with a view to gaining better access for Australian exporters of value-added products;**

- *Vertical Integration*
- 4. Encourage an investment environment which attracts global companies with the capability to undertake development projects based on adding value to Australian mineral resources;
- *Exploration*
- 5. Examine mechanisms to stimulate mineral exploration through the application of incentives such as tax concessions;
- *Greenhouse*
- 6. Until the international policy environment becomes more settled and there is a clearer idea of the magnitude of the task faced, the Australian Government's approach should continue to:
 - engage in the international negotiations with a view to producing outcomes favourable to Australia;
 - undertake and promote *no regrets* abatement measures;
 - analyse the cost and benefits of major potential adjustment mechanisms such as emissions trading; and
 - promote the investigation of potential greenhouse investment opportunities, principally through the Clean Development Mechanism and promotion of renewable sources of energy.
- *Commonwealth Taxation Policy*
- 7. In regard to taxation reform it is recommended that
 - Accelerated depreciation should be retained for significant projects;
 - Adequate taxation concessions are maintained for research and development of new technologies for value-adding to mineral resources.
- *Infrastructure*
- 8. Provide financial assistance to State and Territory Governments to offset the cost of infrastructure for major development projects;
- 9. Reduce coastal shipping costs;
- 10. Continue to support initiatives which provide equitable access to public infrastructure;
- 11. Expand its current "Supermarket to Asia" focus on transport logistics to embrace supply chain issues for manufacturing and mining;
- *Government Assistance*
- 12. Develop a national strategy for value-adding to minerals.