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Department of Climate Change
GPO Box 854
Canberra ACT 2601

7th Floor, 12 St Georges Terrace
Perth, Western Australia 6000
Locked Bag N984
Perth, Western Australia 6844
Telephone: (61 8) 9325 2955
Facsimile: (61 8) 9221 3701
Email: chamber@cmewa.com
Website: www.cmewa.com

The Chamber of Minerals and Energy of Western Australia (CME) appreciates the opportunity to comment on the Australian Government's Carbon Pollution Reduction Scheme Green Paper, released in July 2008.

The CME is the peak resources sector representative body in Western Australia funded by its member companies who generate an estimated 95 per cent of all mineral and energy production in the State. The sector is diverse and complex covering exploration, processing, downstream value adding and refining of over 40 different types of mineral and energy resources across the State.

In broad terms, the CME has welcomed the Australian Government's decision to introduce a market-based emissions trading scheme to assist in addressing some of the challenges of climate change. The CME supports the key considerations raised in the submission to the Green Paper made by the Minerals Council of Australia (MCA). The attached submission raises several issues of relevance to the Western Australian resources sector intended to complement the MCA submission.

Please contact me direct if you wish to discuss any of the matters raised in the CME submission to the Australian Government's Carbon Pollution Reduction Scheme Green Paper.

Yours sincerely


Reg Howard-Smith
Chief Executive

SUBMISSION TO CARBON POLLUTION REDUCTION SCHEME - GREEN PAPER

The Chamber of Minerals and Energy WA

Mr Reg Howard-Smith

Chief Executive

11 September 2008

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Submission to Commonwealth Green Paper



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Perth, Western Australia 6000

Locked Bag N984

Perth, Western Australia 6844

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Facsimile: (61 8) 9221 3701

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Executive Summary

The Chamber of Minerals and Energy of Western Australia (CME) appreciates the opportunity to comment on the Carbon Pollution Reduction Scheme Green Paper (Green Paper) released by the Australian Government in July 2008. In broad terms, the CME supports the Australian Government's decision to introduce a market-based approach to address the challenges of climate change.

Of particular significance to the CME and its membership is the recognition by the Australian Government of the significant contribution to the Western Australian and Australian economies made by the resources sector and the importance of key export industries within this sector to the wellbeing of the national economy.

The CME supports the key considerations raised by the Minerals Council of Australia (MCA) in its submission to the Green Paper. Due to some specific issues related to the WA resources and energy sectors that differentiate the WA sectors from similar operations in the eastern states, the CME offers observations under this separate submission that will complement information contained in the MCA submission.

As the CME highlighted in a previous submission to the Garnaut Emissions Trading Scheme Discussion Paper, major future increases in the global supply of minerals and energy products are projected to be sourced from developing nations. It is highly unlikely that any of these competitor countries will adopt equivalent carbon costs in the near term. It follows that producers in such countries will become more competitive compared with their Australian counterparts once Australia adopts an emissions trading scheme because Australian producers will be unable to pass on the costs of the scheme to their customers. The tendency will be for Western Australian production to be displaced by production from developing countries. Not only will this lead to a loss of economic wealth for Australians, but it may also lead to an inferior environmental outcome should the displaced production be replaced by more emissions-intensive output overseas.

It is because of this real and substantial economic risk that the CME supports the proposal outlined in the MCA submission for a phased approach to full auctioning under an emissions trading scheme. Such an approach provides for a more effective national response to climate change by ensuring better alignment with the development and deployment of low emissions technologies and responses from other nations.

The CME sees several aspects as crucial to the effective design of an Australian emissions trading scheme:

- The introduction of an emissions trading scheme will compel structural change to the Australian economy and will require a steady rather than sharp transition.
- An emissions trading scheme ahead of a global response will harm, not benefit Australia's most competitive exporters. This is especially the case in the resources sector where competition is greatest from developing nations. Therefore a measured transition should be adopted until other countries come on board.
- An Australian emissions trading scheme should be aligned with the development and deployment of alternate low emissions technologies.
- Australia should demonstrate leadership in international Climate Change discussions, without exposing Australia to serious economic consequences.

Should the Australian Government not favour a phased approach to full auctioning (as outlined in the MCA submission) a number of changes will be required to the design of the proposed scheme to avoid adverse impacts on the Australian Economy. In brief, these include:

- Increasing the cap on (non-farm) Emissions Intensive Trade Exposed (EITE) industries.
- Providing for new investment in EITE industries outside the proposed cap.
- Reviewing the metric used for assessment of eligibility for EITE industries.
- Making greater provision for operations with special circumstances not accommodated in current scheme design based on commodity sectors.
- Implementing an effective price cap in the first 5 years.
- Including mining and energy sectors in fuel tax compensation arrangements.

Of particular concern to the CME is to ensure the Australian Government is fully aware of the diverse and unique nature of the Western Australian resources sector, the impact to the resources industry and remote regions, and to ensure these factors are taken into consideration in the design of an emissions trading scheme. If they are not taken into account, there is a significant risk the proposed emissions trading scheme will have severe and perhaps unintended consequences on the resources sector in Western Australia and on the broader economy and community.

The Western Australian economy is very energy intensive due to its size, dispersed population, energy and mineral resource endowment and a significant amount of downstream processing.

The Western Australian economy also differs from the national economic structure. In WA the resources sector makes up nearly 30 per cent of industry income compared with less than 8 per cent at the national level. This sector is a major contributor to emissions due to the remote locations, energy intensive processes, export energy levels, and investment in secondary mineral and energy processing.

The structural difference is apparent in the emission levels. While Australia has seen an expanding economy with reduced emissions, Western Australian levels are rising. Penalties on carbon emissions will thus have more impact on the Western Australian economy than on most other States.

This submission seeks to highlight the following key features of the WA resources sector:

- Structure of the WA Energy Market, influenced by such factors as remote location and limited access to energy sources
- Energy intensity of the WA economy due to a broad range of factors including its size, a highly dispersed population, energy and mineral resource endowment and the amount of downstream processing
- International trade exposure and market characteristics
- Social importance of the resources sector to WA and its impact on the WA Economy, regional development, investment and employment

1. Introduction

The CME is the peak resources sector representative body in Western Australia. Member companies generate an estimated 95 per cent of all mineral and energy production in the State. The sector is diverse and complex covering exploration, processing, downstream value adding, refining and exporting of over 40 different types of mineral and energy resources.

The resources sector underpins the Western Australian economy. In 2006/2007, the WA resources sector accounted for approximately:

- \$53.1 billion in production value (eg. iron ore \$15B, nickel \$8B, alumina \$4.7B, LNG \$4.2B and gold \$4.1B)
- 86 per cent of the State's merchandise export income
- 30 per cent of the State's Gross State Product
- \$2.2 billion in State Royalties
- Direct employment of approximately 62,000 people
- Direct and Indirect Employment of approximately 244,000 people

More than \$102 billion of resources projects are also either planned for underway in WA¹.

The trade exposed and competitive nature of the WA resources sector makes it highly sensitive to changes in a wide range of factors including operating costs, capital costs, government imposts, political stability and sovereign risk. For these reasons the impost of a carbon cost on the sector needs to be weighted carefully against the potential to shift investment and jobs to less carbon restrained countries.

In broad terms, the CME has welcomed the Australian Government's decision to introduce a market-based emissions trading scheme to assist in addressing some of the challenges of climate change. The CME supports the key considerations raised by the submission to the Green Paper made by the Minerals Council of Australia (MCA). This submission raises several issues of relevance to the Western Australian resources sector intended to complement the MCA submission.

2. Overview

The CME endorses the ideal of Australian leadership in addressing the challenges of climate change, the efficient use of energy and the desirability of greenhouse gas reductions. The key goal for the Australian resources sector is to meet the global need for energy and mineral supplies without increasing environmental harm and while remaining internationally competitive. Informed leadership will take into account the significant economic value at risk and the disincentive to new investment in the absence of a globally harmonised policy framework.

The CME endorses a comprehensive scheme that covers the full spectrum of energy consumers and emission activities. The objective of reduced carbon emissions will be most effectively met when all industry sectors contribute to this goal.

¹ Source: Department of Industry and Resources Statistics 2006/2007 and 2007.

The CME supports the principle of a national market based scheme to drive a shift to a lower carbon world. Australia can potentially play a valuable role in the development of carbon mitigation technology and policies that balance economic development and responsible environmental management.

The challenge is to demonstrate leadership and innovation while minimizing the adverse economic and social impacts associated with significant increases in energy costs. The small contribution Australia makes to global emissions (<2 per cent) does not justify disruption to our economy.

This submission argues for an orderly and measured transition to a carbon constrained economy with time for markets to operate effectively and adjustment assistance to those sectors of industry and the community that are adversely affected by the cost increases. The lack of enthusiasm from the largest emitting countries for carbon emission reductions suggests we will be in the minority and any reductions may only lead to a loss of competitive ability with no meaningful gain in environmental standards.

3. CME Support for MCA Submission

The CME supports the key considerations raised in the submission to the Green Paper made by the MCA.

The MCA submission supports the introduction of an emissions trading scheme calibrated with a genuine global response to emissions reductions and the development and deployment of low emissions technologies.

As with the CME, the MCA is concerned that the scheme advanced in the Green Paper does not reflect the rate of adoption of similar measures overseas and the impact will be negative for the Australian economy with a negligible reduction in global emissions. The MCA submission argues that full auctioning of permits from the scheme's inception is too demanding and will lead to Australian companies paying the highest carbon prices in the world.

The MCA proposes a phased approach with the permit auction proportion gradually increased overtime in response to international commitments. This will permit Australia to influence the international debate while allowing firms to adapt in a measured transition.

The MCA submission outlines the industry concerns with the emissions trading scheme proposed in the Green Paper, notably that full auctioning of permits requires substantial adjustment assistance to firms unable to pass on the additional costs. This necessitates a complex set of administrative processes to define and compensate such firms, communities and households while retaining the core objective of lower emissions.

The MCA submission highlights a range of concerns in relation to the proposed scheme as outlined in the Green Paper, notably:

- The 20 per cent permit allocation to industry is arbitrary and far too low
- New investment in EITE industries should be outside the cap
- A two year price snapshot for revenue is not representative
- There will be many special cases that fall outside the proposed guidelines but justify assistance (eg. Gold industry is unable to pass on the costs)

Other changes proposed in the MCA submission include:

- A sensible price cap
- Non-discriminatory fuel taxes
- Government support for low emission technology research and development
- Complementary policy measures
- Abandoning Renewable Energy Targets
- State and Commonwealth cooperation to eliminate distortionary initiatives

The CME draws your attention to the MCA submission for more detail.

4. Western Australian Resources Sector

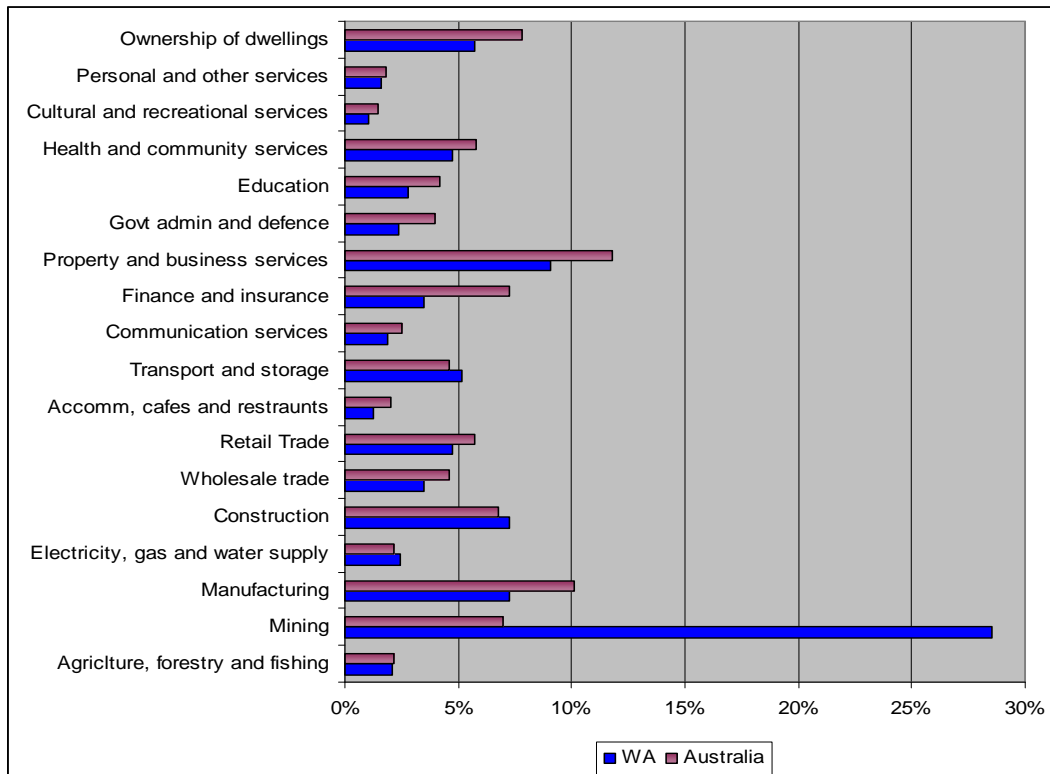
The structure of the Western Australian economy is significantly different to the national economy. The WA resources sector makes up nearly 30 per cent of industry income compared with less than 8 per cent at the national level. The State is an energy intensive economy due to a broad range of factors including its size, a highly dispersed population, energy and mineral resource endowment and the amount of downstream processing resulting from 60 years of government policies promoting secondary processing of natural materials.

With only 10 per cent of the Australian population, WA accounts for 37 per cent of goods exported and 12 per cent of the Nation's economic output. Further indicators of the WA significance at the National level based on 2007 data include:

- 62 per cent of the national mining capital expenditure
- 50 per cent of Australia's total value of mineral and petroleum sales
- 71 per cent of Australia's oil and condensate production

The mining sector in WA includes a substantial amount of downstream processing. The following graph illustrates the strong value-add nature of the WA mining industry as significantly different to the National average. Furthermore, the gross value add in the WA mining sector is higher than any other industry sector.

Industry sector gross value added (2006-07)



Source: ABS, National Accounts State Accounts, Cat 5220.0, 2006-07.

Western Australia has a strong resources sector that underpins the economy. This sector is highly trade exposed and keenly competitive. Most companies operate internationally and make decisions on investment that reflect a wide range of factors including operating costs, capital costs, government imposts, political stability and sovereign risk. A carbon cost will impact significantly on these

decisions. Investment and jobs will shift to less carbon restrained countries if there is a significant cost penalty in Australia.

4.1 Social Importance

Over the past decade strong international demand and government endorsement has seen the resources sector expand dramatically. This has driven inward migration, high employment, high wages and a dependence on this sector for economic and social wellbeing.

The resources sector drives the regional and remote population distribution of the State. With the contraction of the pastoral industry these communities have become increasingly dependent on the mining and energy resources sectors.

In terms of employment, in 2006-07, over 62,000 people were directly employed by the sector with 244,000 employed directly and indirectly.

Mainly regional and remote communities are also reliant on the resources sector for their energy supply. Many geographically remote operations are unable to connect to a central grid and have developed stand-alone energy generation. Some larger companies then distribute their surplus energy into local networks contributing to the overall state energy supply.

The State Government is also a major beneficiary of payments by the resources sector with royalties alone paid to Western Australia of nearly \$2 billion in 2007.

Resources companies are also actively engaged in implementing programs of significant spending in areas that support indigenous employment and community development including:

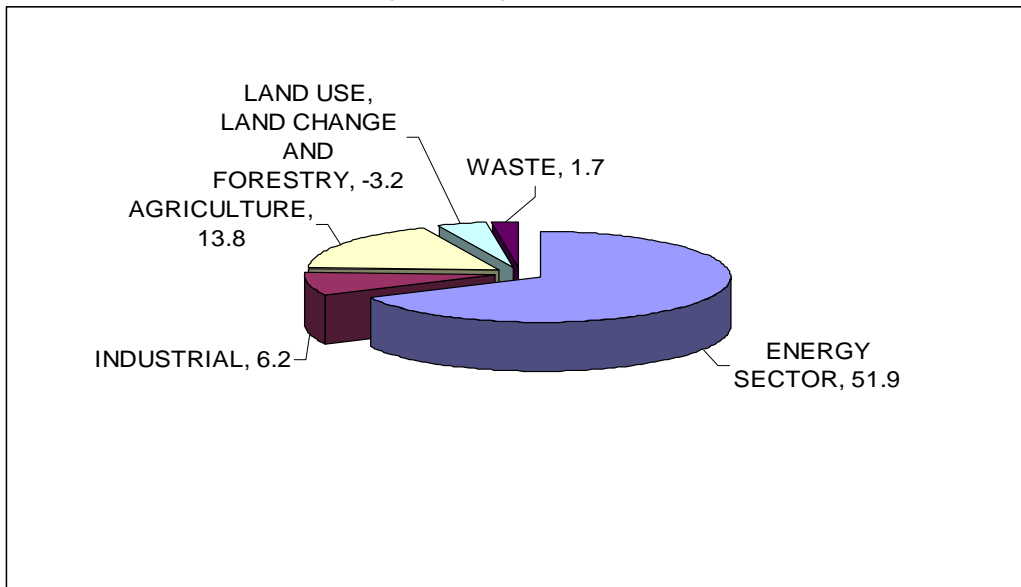
- Education and Training
- Community Projects and Development
- Business Development
- Employment

4.2 Emissions Intensity

The dominance of the resources sector in the Western Australia economy drives the State's emission profile. Western Australian emissions in 2006 were estimated at 70.4 million tonnes representing over 12 per cent of the Australian total.

Similar to the National contribution, the bulk of emissions in WA were generated in the energy sector (73 per cent).

Western Australian emissions by industry (million tonnes)



Source: Department of Climate Change, State and Territory Greenhouse Gas Inventories 2006.

The Australian emissions profile is different from many developed economies because a significant proportion is generated in the production of energy and raw and processed materials for use in other countries. An example of this in WA is the development of LNG export projects. These projects have been one of the most significant drivers of emissions growth in Western Australia; however, this low emission fuel is then exported for power generation in overseas countries, contributing to lower global emissions overall.

4.3 Trade Exposure

Western Australia is an export dominated economy and a major contributor to Australian exports. The WA mining and petroleum sectors contributed 86 per cent to the State merchandise exports in 2007 representing 37 per cent of total national merchandise exports.

In 2006, the Western Australian resources sector provided;

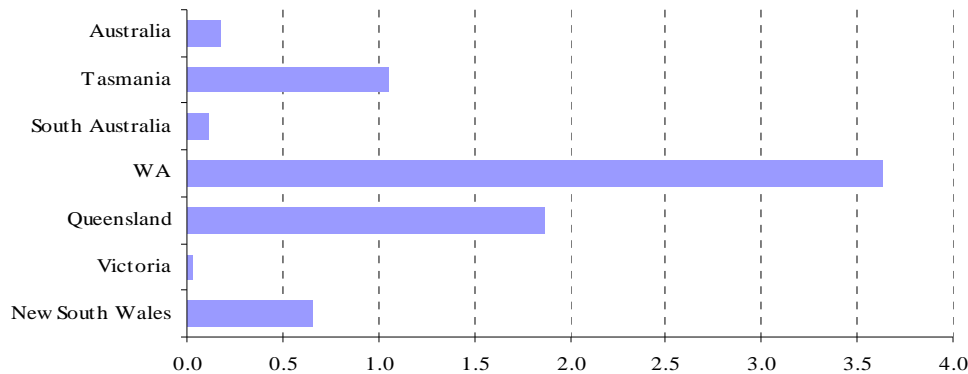
- 35% of world zircon production;
- 33% of tantalum production;
- 29% of rutile production;
- 20% of ilmenite production;
- 18% of iron ore production;
- 17% of alumina;
- 15% of diamonds;
- 13% of nickel;
- 8% of LNG;
- 7% of gold and
- 4% of salt²

Reliance on export markets has provided the foundation for State growth but it has also made the State particularly vulnerable to changes in world markets and

² Source: CME, Expanding Horizons 2007.

changes in government policy that affect international competitiveness. Australian Bureau of Agriculture and Resource Economics (ABARE) estimated that a 10 per cent change in the level of production in the minerals and energy sector would cause a corresponding change of 3.6 per cent in the Western Australian Gross State Product. The following graph demonstrates the varying impacts a 10 per cent increase in production would have on each state. This comparison highlights the large contribution the minerals and energy sector makes to the WA economy.

Forecast macroeconomic impacts of a 10 per cent increase in minerals production



Source: ABARE, Mineral Exploration in Australia (2002)

4.4 Energy

Western Australia used 916 Petajoules (PJ) of energy in 2006-07 representing 16 per cent of national consumption. In general terms, representing only 10 per cent of the national population, WA is energy intensive.

Growth in energy consumption in Australia has generally remained below growth in GDP indicating a longer term decline in the 'energy intensity' of the economy. This is attributed to improvements in technology, fuel switching, and the relative growth of less energy intensive sectors such as commercial and services industries.

Western Australia, however, has seen strong economic and population growth and rapid expansion of energy intensive industries such as mining, leading to a 13 per cent increase in energy consumption in 2006-07. This made the State the largest single contributor to national energy consumption growth.

Western Australia is a large exporter of petroleum products including large volumes of liquefied natural gas to North East Asia. The value of oil and gas production increased from \$10.4 billion in 2000 at an average rate of increase of 7 per cent a year for the past 7 years. In 2006-07 oil exports rose by 17.7 per cent, while LNG showed the strongest growth in energy exports in Australia, rising by 21.6 per cent. Five new LNG projects are under consideration suggesting a continuing strong rate of growth.

As a sector, mining is Australia's fourth largest energy consumer behind electricity generation, transport and manufacturing. In Western Australia, mining occupied second place just behind the manufacturing sector with both consuming over 40 per cent more energy than the electricity sector.

Australian energy consumption, 2006-07

	Quantity PJ	Proportion %
Agriculture	13.2	1.4
Mining	228.5	24.9
Manufacturing	262.0	28.6
Electricity	163.5	17.8
Transport	169.3	18.5
Other	79.5	8.7
Total	916	100

Source: ABARE: Energy Update 2008

A substantial proportion of the manufacturing sector and electricity generation is dedicated to supplying mining and mineral processing.

Mining and mineral processing companies have a heavy reliance on diesel, particularly high in remote areas as there are no ready alternatives.

The only coal produced in Western Australia at present is in the Collie area in the South West. Most is used in base load power stations operated by government owned utilities. Collie coal is also used in private power stations, cement and lime kilns and in synthetic rutile production. Coal fired generation is the basis of the South West Interconnected System that powers the domestic network.

4.5 Stranded / Isolated Assets

Stranded and isolated assets may be created as older high emission technology will be economically incompatible with a low emissions economy.

An example where this may occur is with earlier generation coal fired power stations and their captive coal mines. These mines may require assistance. Due to coal quality constraints these captive mines do not have access to alternative markets in Australia or overseas. Unfortunately these coal mines are unlikely to qualify for permit allocation as they would not reach the threshold for emissions intensity. Their significant loss in value would reflect the reduced output or closure of the associated 'strongly affected' power station rather than a carbon cost for their own emissions.

There is a need on energy security and investment certainty grounds for a transitional allocation of permits and regional assistance to compensate strongly affected assets (including generators and captive coal mines) for loss in net present value that companies suffer from the introduction of an ETS.

Another example would be remote gold operations using diesel-fired power. A carbon cost could make the cost of production for these operations non-economical. As a result the gold reserves would become less valuable creating a loss for the companies involved. It may follow that these companies would seek compensation from the Commonwealth Government as it was a regulatory change that created the loss.

5. WA Case Studies

A forced linkage of 'trade exposure' and 'emissions intensity' fails to allow proper consideration of the full impact of a carbon reduction scheme on a company.

The emission intensity of an industry must also take into account the degree of vertical integration - all energy used in the manufacturing process including chemical inputs and mining, processing and refining costs.

Six commodities have been chosen to demonstrate the impact of a carbon price on the resources sector. They illustrate the complexity and the issues that need to be addressed in achieving an effective scheme. Many of the companies that contributed the industry case studies represented here have provided direct comment on the Green Paper. Please refer to individual submissions for more detail.

5.1 Liquefied Natural Gas

Western Australia has three liquefied natural gas plants and a fourth under construction. The value of LNG production in 2007 was \$4.4 billion. The North West Shelf Joint Venture project competes with LNG producers in a number of countries for sales on international markets. It is clearly trade exposed.

Under the current proposal companies emitting more than 1,500 t CO₂-e/\$mil revenue will qualify for a proportion of free permits. A number of industry representatives have suggested that the LNG industry may not qualify for free permits based on these threshold levels and the considerable capital invested in current LNG projects in WA to lower their emissions signature. However, the Green Paper suggests that oil and gas extraction may qualify.

LNG production costs depend on the cost of natural gas recovery (feedstock), the cost of liquefaction, the cost of shipping and any credits for extraction and sale of liquid hydrocarbons and liquefied petroleum gases (LPG's). Costs are commercially sensitive.

The North West Shelf Project is the largest resource project in Australia and enjoys a strong reputation on world markets for reliability. It operates in an exceptionally remote location, has high cost structures, and it faces strong competition from many international projects to secure markets.

New plants are under consideration in Australia and other countries including 18 being considered on the African continent and 12 in the Middle East. Any cost increase in Australia will be weighed against the advantages and disadvantages of alternative international locations. Few alternatives face a similar cost imposition at this stage and hence there is real potential to see increased production capacity move to other countries. A perverse outcome of decreased investment in LNG may see overseas countries burn more coal.

5.2 Alumina

Alumina is produced in four refineries in Western Australia with production of 12 million tonnes in 2007 valued at \$4.7 billion. Some alumina is transported to Victoria and Tasmania for refining; however, most is exported from Australia to

international locations with low energy costs. In 2007, an estimated 81 per cent of alumina produced in Australia was exported. International competition in alumina production is keen and expansion depends on favourable financial and political environments.

Energy is a major cost component in an alumina refinery. Electricity is needed for crushing and screening and pumping operations while steam is needed as a heat source. The Western Australian refineries use natural gas, grid electricity and their own coal and gas fired electricity. Diesel is an alternative fuel, albeit far more expensive than coal or natural gas.

The Australian alumina refineries are among the most efficient in the world and rank well in operating cost performance. They are very efficient users of gas and coal due to their high input cost and on-site co-generation of steam and electricity.

The Green Paper suggests that alumina refining will fit into the 60 per cent free permit allocation category; however, the length of time that this rebate will be provided is uncertain. Despite the refining of alumina qualifying for permit allocation, a carbon price will still add 3-5 per cent to the cost of production. In an industry driven by worldwide cost competition, this is a significant impost.

Alcoa's refineries generate less than half the amount of greenhouse gases per tonne of product than equivalent Chinese refineries. A leakage of Australian production to China has the potential to double greenhouse gas output per tonne of production transferred overseas.

Both Alcoa and BHP Billiton are considering plans to increase alumina production in Western Australia. A cost increase of potentially 5 per cent will be weighed against the advantages and disadvantages of investment in alternative international locations. Few alternatives face a similar cost imposition at this stage and hence the potential to see increased production capacity move to other countries is real, particularly for new builds.

5.3 Nickel

Western Australia is a large nickel producer and exporter. Nickel and associated metal production in 2007 was valued at \$7.2 billion of which an estimated \$6.9 billion (95 per cent) was exported. With the beginning of production at the Ravensthorpe project in 2008, this export level will fall as concentrate output from here will be sent to Queensland for refining. Despite these sales, the industry remains export dependant.

All stages in the nickel extraction process involve substantial energy inputs including mining (often underground) with flotation plants, crushing, roasting, pressure acid leaching, smelting and refining.

The high temperatures and pressures needed for nickel ore production are energy intensive.

Energy for processing currently comes from natural gas, diesel and electricity depending on plant location and the processes involved. The technical solution for energy needs will thus vary with each site.

The Green Paper does not list nickel mining or processing activities and these presumably fall under the industry code for non-ferrous metals (1302). The estimated intensity, using 2000-01 national accounts, was only 571 tonnes of carbon dioxide equivalent per million dollars of revenue. Given the diversity of nickel processing activities and locations and the volatility of nickel prices, this average estimate is meaningless. It also draws into doubt the validity of using a two year window to determine industry average revenue.

Imposition of a carbon emission cost would see all nickel extraction and processing activities reviewed. New investment will be deterred in the more energy intensive processing stages. While no specific detail is available at this stage, the nickel smelting and refining stages for sulphide ores, and processing of laterite nickel ores are significantly more energy intensive than the mining operations for nickel sulphide ores and it is possible that future expansion of these processing activities would be deterred. That would significantly reduce the secondary processing of mined ores in Australia leaving concentrates to be exported for processing in less carbon constrained economies.

5.4 Heavy Mineral Sands

Western Australia produced \$756 million worth of titanium and zircon minerals in 2007. These were processed to varying degrees from concentrated minerals (synthetic rutile) to manufactured chemicals (titanium pigments and fused zirconium).

The Department of Industry and Resources estimates that the value of exports in 2007 was over \$800 million with industry output also coming from some minerals produced in other States. Sales within Australia appear to be minimal.

Western Australia is a major player in the world mineral sands sector. In 2007 WA contributed:

- 35% of world zircon production
- 29% of rutile
- 20% of ilmenite

Competition comes from a range of countries, including South Africa, Canada, Russia and India. With the exception of Canada, it is unlikely that any of these countries will apply meaningful carbon restrictions.

Unlike many other sectors, titanium minerals are not enjoying strong economic conditions and production values from Western Australia are falling. International competition remains strong.

The industry has a substantial energy requirement making it energy intensive. In addition to the dry and wet mill separation processes, synthetic rutile production uses coal in the kilns as a chemical reductant, rather than an energy source. The titanium pigment plants are also significant gas consumers. At this stage there is not an alternative for the coal usage.

The Green Paper does not include specific mention of this industry sector but industry advice suggests that synthetic rutile production will be eligible for 90 per cent permit allocation. Eligibility for titanium pigment and chemical manufacture is less certain.

Imposition of a carbon emission cost would see all heavy mineral sand extraction and processing activities reviewed. New investment will be deterred in the more energy intensive processing stages. That would significantly reduce the secondary processing of mined ores in Australia leaving concentrates to be exported for processing in less carbon constrained economies. The industry has been declining for some years in Western Australia with the focus of some companies switching to other regions. The carbon penalty may accelerate this transfer.

5.5 Gold

Australia contributed 10 per cent of the world gold production in 2007 and was the fourth largest producer. Western Australia produced and exported \$4.06 billion worth of gold in that year.

Australian producers have no market power and operate in one of the most trade-exposed global industries with no ability to pass on any cost increases.

Emissions intensity is dependent upon individual characteristics of a mining entity such as location, throughput, ore grade and the available energy sources such as grid power, captive generation diesel or gas. A milling circuit can use up to 50 per cent of the mines' total energy.

AngloGold Ashanti operations in Western Australia illustrate the variation in emissions intensity from 577 to 1,330 to 1,562 tonnes of carbon dioxide equivalent per million dollars in revenue. This suggests that one of the three projects qualifies for a permit rebate while two do not meet the threshold requirement. Under the current model proposed in the Green Paper, the gold sector industry average will apply making all three ineligible for permit allocation.

The cost impact will vary between projects in accordance with the emission intensity and fuel alternatives. The impact on more remote sites dependant on less 'carbon efficient' fuels such as diesel, will be higher and may exceed 5 per cent of the cost of production.

As an example, Anglo Gold Ashanti has stated that an emission trading policy could add costs of up to \$24 million per annum for the company in Australia. This was based on an assumed emissions cost of \$40 to \$50 per ounce of gold produced. This emission cost is estimated to represent a cost increase of about 13 per cent.

Australian gold mines operate in remote regions of the State. The projects operate profitability due to a combination of attractive gold grades and highly efficient mining and processing methods.

Lost production will see reduced industry income, fewer jobs, less investment and less regional development in a State that requires development opportunities away from the south west corner of the State.

5.6 Iron Ore

Western Australia produced 263 million tonnes of iron ore in 2007 valued at \$16 billion.

Australia is the third largest producer of deep sea traded iron ore in the world and the iron ore sector is a major contributor to the Australian economy. It is

emissions intensive relative to the majority of the economy with significant volumes of diesel fuel and electrical energy required to support mines, rail networks and shipping terminals in Western Australia. The sector is trade exposed with virtually all production exported from Western Australia into highly competitive world markets.

The industry cannot pass on increased cost of production as higher prices to customers in international markets to compensate for the impact of carbon pricing. However, the Australian iron ore industry is unlikely to be eligible for EITE assistance under the thresholds proposed in the Green Paper and will therefore bear a significant cost impost and some decline in competitiveness.

The iron ore industry was Australia's second largest commodity export industry in 2007. The sector employs more than an estimated 15,000 people and dominates development of the central Pilbara region of Western Australia. Any loss of market share to competing countries such as Brazil, India, China or South Africa due to an immediate price on carbon or uncertainty regarding the medium term trajectory combined with the cyclical nature of iron ore pricing would see fewer jobs, less investment and less regional development.

5.7 Other Sectors

Three other case studies illustrate the deterrent to new investment and the complexity of an administrative system to identify sensitive industries.

1. Western Australia has vast magnetite iron ore deposits. These have received little interest while the higher quality hematite ores have been mined and exported. Rising demand and high prices has seen renewed interest in these ores and at least five substantial projects are under investigation in the State. Magnetite ores require extensive upgrading before export and the process is energy intensive. A high carbon price would jeopardise magnetite project investment.
2. Another example of a very exposed commodity sector is downstream iron ore processing. Rio Tinto has built, with government innovation funding, a new generation pig iron plant at Kwinana. The Hlsmelt® plant is one of the most developed iron making technologies in the world with low emissions potential and supports reducing global emissions relative to traditional iron and steel making technologies. It is also trade exposed and unable to pass on cost increases to customers in international markets.

The Hlsmelt® method of pig iron making is a unique activity that doesn't fit into the green paper industry categories and its value lays in the future technology and global deployment opportunities that contribute to decarbonising global iron and steel making. Continued development of the technology at Kwinana is vulnerable to a carbon price. Government funding for a Low Emissions Technology Strategy would be necessary to support development of such step-change technologies.

3. The Dampier to Bunbury Natural Gas pipeline (DBNGP) is the largest gas transmission pipeline in Australia. The 1,400 Km length requires substantial energy to push the gas to market. Using the criteria of CO₂-e tonnes/\$ million revenue, in 2007 DBNGP had 1795 t CO₂-e/\$mil revenue, falling just short of qualifying for 90 percent of free permits if Strongly Affected

Industry criteria is applied. The most significant issue which the Green Paper presents for DBNGP is its ability to pass on costs. The owners have entered into long term contracts to underpin the DBNGP and the contracts have not anticipated a CPRS. Contracts of this nature that do not allow costs to be passed through will need to be specifically acknowledged in legislation. Failure to pass through the costs will significantly impact the DBNGP business.

6. Scheme Design

The CME supports, as outlined in the MCA submission, the phased introduction of an emissions trading scheme calibrated with a genuine global response to emissions reductions and the development and deployment of low emissions technologies.

The proposed scheme, as outlined in the Green Paper, requires substantial modification if it is to be effective without penalising efficient Australian producers while driving an increase in global emission levels as a consequence of a flight to less carbon constrained locations.

6.1 Narrow coverage

It is easy to target large industry to restrict the number of companies requiring permits. However, this needs to be balanced against a desire to have a broad community and industry response. Shielding sectors from the carbon price impact shifts the burden of reduction to those left in the scheme and delays the day of adjustment for those with exemptions. Protection also introduces risk for those excluded and intensifies the administrative workload associated with exemptions and adjustment schemes. The Chamber believes that a better approach is a broadly based scheme with a lower overall carbon price and a phased introduction.

6.2 Complexity and Lack of Certainty in EITE

As can be seen from the case studies described in this submission, the energy intensity varies enormously from site to site, in various stages of the processing pathway and between projects depending on energy sources. The introduction of a carbon penalty appears to particularly disadvantage secondary processing stages effectively undermining over 60 years of government policy and industry investment in Western Australia to develop value adding manufacturing industries.

The objective of providing adjustment assistance to the most “sensitive” operations is worthwhile. In practice, the measures needed to simplify the administration create a range of complexities that appear to overcome the key objective. The threshold levels proposed require simplification in terms of intensity measures, revenue determination and benchmark rates. The simplifications create significant boundary disparities that will pressure companies to strive to meet the requirements rather than reduce the emissions. The “once and for all” revenue determination based on a two-year window ignores the cyclical nature of commodity prices and penalises those currently at the high point in the cycle. It also assists those at lower price points.

Notwithstanding the administrative complexities, the level of compensation proposed is inadequate and of doubtful duration. The most critical issue is the lack of certainty for long run major resource projects. Such projects face uncertainty with:

- The total funds available for compensation - the arbitrary 30 per cent of permit revenue
- The rate of growth or reduction in EITE businesses
- The levels of abatement achieved by other EITE businesses
- The criteria for phasing out the EITE compensation over successive years
- Criteria for compensation being changed over time

Analysis shows that the criteria for the phase out of permit allocations is a significant factor in maintaining export competitiveness and the solution lies in a clear definition of comparable international action.

6.3 Risk and Reward Balance

As outlined in the MCA submission, the CME supports a phased approach to full auctioning as an alternative to a complex EITE scheme. A stepped introduction to permit acquisition would allow Australia to lead and shape the international debate while limiting the initial cost impact of the scheme on industry sectors and the broader economy. Under a phased approach to auctioning, covered firms would be required to purchase a relatively low proportion of their permits at the beginning with the proportion gradually increasing as the scheme is developed and as other nations adopt binding emissions reduction targets.

A phased approach would still raise significant revenue, enable time to sort out the complementary measures, and reduce the divisive debate over the classification of EITE industries.

6.4 Disincentive to Industry Investment

The Western Australian Government has used a number of policy initiatives to encourage secondary processing of resources in the State. One of these has been State Agreement Acts with the first approved by Parliament in 1948 - over 60 years ago.

These Agreements cover many mineral projects as well as oil and gas developments.

Most include specific provisions committing the developers to investigate and implement some form of resource processing. Two major projects that have come from these initiatives in the last decade include the BHP Billiton Direct Reduced Iron plant at Port Hedland and the Rio Tinto Hlsmelt® pig iron plant at Kwinana. These are a direct response to government policy initiatives and industry investment.

Secondary processing is often more energy intensive than mining and extraction processes and hence increases greenhouse gas emissions.

The State Agreement Acts continue while the projects remain and it will be challenging for the State government to reconcile the commitments under these Agreements with the desire to reduce carbon emissions. Again, this demonstrates the necessity to move cautiously on carbon limitations given the range of policies and legislative restrictions inhibiting rapid adoption.

6.5 Realistic Price Cap

The CME welcomes the Green Paper's support for a price cap. The primary purpose of a price cap or emissions fee is to limit excessive price volatility and place a limit on the aggregate economic damage.

The proposal that the cap be set at for use in exceptional circumstances runs counter to a key objective of limiting potential financial damage. The cap must be

set at a level that encourages behavioural change while not damaging the economy and investment in Australia.

The Chamber believes that the cap and trajectories need to reflect international effort in carbon reduction. The cap should be modest in the first few years, more rigorous in the medium term and provide certainty in the longer term to allow evaluation of major mineral investments that are frequently in excess of 15 years.

6.6 New Investment

The Government's preferred approach to include new project investment within the ceiling is an effective cap on investment growth at a time when the prospects for expansion of the minerals sector are strong.

International demand for commodities is not going to fall because Australia limits carbon output. Developing countries will simply go elsewhere for their raw material needs and production will shift to countries without carbon constraints. New investment in EITE industries should be outside the cap.

6.7 Equality of Treatment for Diesel Fuel

While transport is included in the Scheme, the reduction in fuel taxes for selected industries blunts the impact of inclusion. The exclusion of the resources sector from the cuts while retaining other industry sectors creates a distortion that is undesirable.

Exclusion of "off-road" use and rail penalise the resources sector. There is no compelling case for this inequality in treatment.

6.8 International Offsets

The Green Paper argues that liable entities should be able to meet their obligations by using eligible Kyoto units for compliance in the scheme.

The European Scheme is to allow up to 30 per cent of the 2020 target to be met by international offsets. EU emitters will also have access to a broader range of domestic offsets (e.g. transport, agriculture, and waste).

Many of Australia's resource companies now operate in many countries and it is sensible to allow emission targets to be met in the most cost-effective manner. International offsets provide one mechanism for such cost reduction.

7. Complementary Measures

The decision to adopt an emissions trading scheme is one of the most important national policy decisions taken for a long time. It is imperative that the key objective is not reduced by other policies or programs. It is vital that other policy measures complement the emissions trading scheme.

The view being expressed in this submission is the market for carbon credits will be so new and uncertain that it cannot be expected to function in a fully effective manner for some time. Coupled to this consideration is the view that even when they have been established for some time, markets cannot be relied upon to deliver the most desirable outcomes from a community or economy point of view. One example where the market will not deliver the most desirable level of investment is research.

7.1 Research Support

The Garnaut Review has argued that 'the public good nature of basic research and the positive externalities of innovation mean that simply establishing a price on emissions will not generate optimal levels of investment in technological change'.

The Garnaut Climate Change Review focused strongly on the need for research that addresses the specific needs of the coal-fired electricity generation sector, and specifically the development of carbon capture and storage technologies.

The Chamber strongly supports carbon capture and storage research, although their implementation may not occur for a number of years. Areas of research emphasis should include the development of low emissions energy sources, preparing industries for the changes, identifying and providing the information needed by industry, and facilitating the change processes.

Currently the Green Paper is missing any reference to the need for genuine research and development of truly innovative entry level technology. A national low emissions technology fund for research, development and demonstrations of low emissions technologies in parallel with an ETS would support innovative technologies for step changes in emissions levels.

There appears to be growing support for the adoption of geosequestration and biosequestration as major contributors to the required cuts in emissions. Part of this appeal is that they could achieve significant emissions reductions without the need for costly change in the nation's energy infrastructure.

The capture and storage of carbon should best be seen as one of a range of potentially useful mechanisms to assist the transition to a future carbon efficient energy system.

7.2 Renewable Energy Targets

In the Chamber's view the Government should phase out its renewable energy targets or integrate them into the reduction scheme. The new business environment should be centred on the emissions trading system, with government assistance for research and adjustment providing support to that central policy

instrument. Mandatory renewable energy targets will bias investment away from a least cost solution.

The Chamber also urges the Commonwealth Government to work with its State and Territory Governments to rationalise State Government climate change related policies. This includes current requirements from some State environmental agencies that seek offsets to greenhouse emissions.

A potential cost for carbon, even \$40 a tonne, will generally not be enough to make renewable energy sources competitive with conventional sources of energy. The Government's policy is to have renewable energy contributing 20 per cent of all Australia's energy needs by 2020. This target has come under criticism from a number of sources arguing that implementation of the target will make reducing greenhouse gas emissions significantly more expensive.

The MCA also argues that a renewable energy target becomes redundant with implementation of an emissions trading system. The emissions trading scheme sets the paradigm within which industry is to work and then it should be left to industry to make decisions as to how best to work within that paradigm. The cumulative effect of a carbon price and higher electricity costs associated with increased renewable sources will have significant negative implications for business.

One of the options being explored in Western Australia is solar thermal electricity generation in the Pilbara, with the strong backing of resource companies. A separate proposal is being sponsored by an international investor. Given these recent announcements financial support to boost research in the area of solar power is likely to attract more interest than previously. The announcements of these projects indicate that the economics of islanded renewable energy in some locations are becoming more favourable.

7.3 Adjustment for Regional Communities

The proposal in the Green Paper for a Climate Change Action Fund (CCAF) (providing support to specific firms, workers and communities) is strongly supported. In WA many remote regions do not have alternative energy sources; the proposed CCAF could assist remote and regional communities and industries to transition to lower intensity energy sources. However, the concern is that many small, medium and even large sized firms will escape the notice of a national scheme. Firms with a local focus or those specifically tied to energy and resource industries are unlikely to be sufficiently significant to win direct assistance under a Commonwealth scheme.

Regional communities in Western Australia have become increasingly dependent on the mining and energy resources sector. The contraction of the pastoral industry and the challenges faced in traditional agriculture mean that the commercial backbone for regional areas has become the mining and energy sectors.

An ETS, in the absence of other complementary measures, can be expected to reduce the further processing of minerals within Australia. The industry will concentrate on those forms of mineral extraction that involve a minimum of processing. The result will be reduced employment and especially reduced employment in regional and remote areas. This can be expected to have a significant impact on the commercial and social fabric of many regional towns and communities.

8. Conclusions

The CME endorses the ideal of Australian leadership in addressing the challenges of climate change, the efficient use of energy and the desirability of greenhouse gas reductions. Chamber membership is supportive of a national market based scheme to produce a lower carbon world.

The Chamber endorses a comprehensive scheme that covers the full spectrum of energy consumers and emission activities.

The key goal for the Australian resources sector is to meet the global need for energy and mineral supplies without increasing environmental harm, while remaining internationally competitive.

The Western Australian economy is energy intensive due to its size, dispersed population, energy and mineral resource endowment and the amount of downstream processing resulting from 60 years of government policies and industry investment.

The Western Australian economy is structured differently to the national economy. The resources sector makes up nearly 30 per cent of industry income compared with less than 8 per cent at the national level. This sector is a major contributor to emissions due to the remote locations, energy intensive processes, export energy levels, and investment in secondary mineral and energy processing.

The structural difference is apparent in the emission levels. While Australia has seen an expanding economy with reduced emissions, Western Australian levels are rising.

Penalties on carbon emissions will thus have more impact on the Western Australian economy than on most other States.

The challenge is to demonstrate leadership and innovation while minimizing the adverse economic and social impacts associated with significant increases in energy costs.

Patterns of energy use are deeply entrenched and the impacts of an emission reduction scheme will be significant. Many remote projects do not have the energy options available to more established regions. De-carbonizing these projects and local economies will be a very challenging task.

This submission argues for an orderly and measured transition to a carbon constrained economy and adjustment assistance to those sectors of industry and the community that are adversely affected by the cost increases.

The resource and energy sectors have contributed a great deal to the expansion of the Australian economy over the last few decades. The continuing demand for our minerals and energy sources will see further expansion in the absence of any significant changes in government policy. Five new LNG projects are being evaluated for Western Australia involving an investment almost certain to exceed \$100 billion. The inclusion of projects such as these under the cap will stifle investment and may lead to increased global emission levels as companies invest in less carbon-constrained countries.

We are making decisions about a new scheme in the absence of meaningful cost impact information. This is not possible before the Commonwealth economic modelling is completed and the time allowed after that before making long term decisions is far too short.

On the basis of the information available, full auctioning of permits from scheme inception, a high price cap and uncertain reduction targets will impose costs and investment uncertainty on Australian firms that are out of proportion to the Australian contribution to global emission levels.

Inclusion of new projects under the cap will stifle new project investment and may lead to increased global emission levels as companies invest in less carbon-constrained countries.

The Chamber supports a more measured scheme implementation with broader scheme coverage. Reductions to the small contribution Australia makes to global emissions does not justify disruption to our economy. A high carbon cost will impact significantly on investment and jobs will shift to less carbon restrained countries if there is a significant cost penalty.

If the scheme proposed in the Green Paper is to be introduced, the following changes are vital:

- A higher permit allocation to industry than the low 20 per cent
- Adjustment support should account for the capacity to pass on cost increases, impact on the bottom line over a medium term and flow-on impacts
- A sensible price cap
- Non-discriminatory fuel taxes
- Government support for low emission technology research and development
- New project investment outside the cap
- Complementary policy measures
- Abandoning Renewable Energy Targets
- State and Commonwealth cooperation to eliminate distortionary initiatives

Industry has much to offer to government in the development of this important initiative. The Chamber advocates time to allow industry to meaningfully contribute to the process; and for Government to fully consider industry's response.