



Working to get the ETS right for Australian
industry, exports, investment and jobs

AWU RESPONSE TO GREEN PAPER

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“Working to get the ETS right for Australian industry, exports, investment and jobs.”
AWU response to the Green Paper

The Australian Workers' Union 2008

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Executive Summary

The Australian Workers' Union (AWU) looks toward a thriving future for members under a global emissions trading scheme (ETS). Lowering the environmental impact of energy intensive production is a significant challenge facing the world. Australia has a special interest in this challenge because of economic and technical strengths in minerals, metals and other materials processing and manufacturing.

As a consequence, the AWU is working constructively to ensure that emissions-intensive, trade-exposed (EITE) industries remain in Australia, participate in our own ETS efficiently and fairly and thrive. As we make the transition to the global ETS we need to retain our industries rather than lose them offshore. That's the responsible position to take.

This submission, responding to the Government's Green Paperⁱ, builds on a number of policy recommendations contained in the AWU's Position Paperⁱⁱ published in July 2008. In addition to providing more detail on initiatives, in particular regarding our idea of developing a carbon insurance scheme for affected workers in the EITE sectors, this submission also looks at the best way of calculating assistance to our industries, a comprehensive approach to including all emissions - including direct and indirect - in these calculations and which recognises past, current and future investment in these sectors.

The AWU has been conscious of the need to develop our understanding of these issues for some time. We were proud to have debated climate change at our Biennial 2007 National Conference, and to hear an address from Australian of the Year Tim Flannery. The Conference was a milestone for the union in addressing head-on the opportunities and challenges relating to the introduction of an ETS. This debate was also aimed at assisting to inform the ALP's climate change policy prior to the last federal election. The AWU has therefore adopted a proactive and constructive approach to these issues and been at the forefront of them. Our members are expecting us as their representatives to do nothing less.

This paper outlines the analysis undertaken by the AWU in cooperation and consultation with a range of affected industries in key parts of the EITE sector, with a particular focus on those sectors which have had less of the spotlight to date including manganese, plastics, paper and LNG. The paper illustrates the impacts of policy change facing our industries and offers the Government a number of policy suggestions to address them in the transition to a global ETS. Our aim is to maintain the competitiveness of our industries, and maximize future employment opportunities including in new industries in a carbon constrained economy.

Critical to the future for all of our industries is a sustainable source of energy which would remove the bulk of indirect emissions. This requires energy supply sourced from sustainable base load supplies including geothermal and solar. In addition, LNG will play an important role as a transition fuel for a number of our industries.



This raises the important issue of incentives for new energy sources to position the economy on a sustainable carbon constrained path, including the required essential infrastructure investment. Progress in this direction will free our industries of a range of carbon constraints and allow them to thrive under a future global ETS framework. Such progress would be the focus of international attention and would serve to ensure these essential industries undertake production in Australia more efficiently and with the least environmental cost than in any other location in the world.

Introduction

This submission addresses issues in the green paper with relevance to the AWU, our industries and workers. The submission has benefited from the input from a range of industries in addition to on-going feedback and consultations with the government, in particular with the Minister for the Environment and Water, Senator, the Hon Penny Wong.

The AWU is grateful for this input and advice and for the opportunity to make this further submission. The AWU is pleased to offer this submission for the consideration of the government as it moves to develop its white paper and exposure draft of the legislation. The AWU recognises the government wants to get the scheme right for Australian industry, exports, investment and jobs. This is important in order to not disadvantage our internationally competitive industries. To its enduring credit, the Rudd Labor Government has taken up the challenge to provide leadership to the nation on these issues. This submission is divided between the relevant AWU sectors of aluminium, steel, cement, plastics, paper and LNG.

The submission paper has been informed by a wide range of sources, in particular the discussions from the AWU Round Tableⁱⁱⁱ with business on 23 July and analysis undertaken by affected EITE industries which has supplemented work undertaken by the Business Council of Australia (BCA), various unions, the ACTU and our own analysis. What is clear from this exercise is the genuine intent of stakeholders to participate in the consultation process in a constructive way to assist in informing the government's policy development challenges.

The engagement by the AWU has been guided by a number of principles:

- 1) The AWU anticipates a future for Australia's EITEs in a global ETS and policies concerning the implementation of the domestic ETS should promote this outcome;
- 2) In the absence of a global emissions trading market and price for carbon emissions, by establishing a domestic carbon price, Australia's ETS automatically disadvantages emissions intensive trade exposed industries (EITE). It does this because foreign competitors to our exports and foreign suppliers of imports to Australia do not face a carbon price, putting our industries at an automatic competitive disadvantage. The size of this price disadvantage is measured by the carbon price set by the government.
- 3) Our workers in our industries that cover the EITE sectors are at risk and as a consequence, we require some guarantees in the form of free permits that we call carbon insurance in the event that our companies take their production away from Australia and relocate offshore. The potential loss of jobs in our steel, aluminium, petrochemicals and plastics, paper and cement industries are large.

- 4) Promotion of cooperative models with unions and industries in the affected sectors in order to be fully aware of the nature of the EITE industries, progress made in energy and production efficiencies (our industries are already best in class in a range of areas); the potential cost of getting the policy design wrong in lost production, investment and jobs; and with our help ways available to improve scheme design and operation that would see industries grow under the ETS.

Carbon leakage

Both the Garnaut Climate Change Review and Carbon Pollution Reduction Scheme Green Paper acknowledge that emission intensive trade exposed (EITE) industries represent a special case.^{iv} In our recent Position Paper, the AWU outlined its primary concern with domestic emissions reduction schemes – the probability of carbon leakage in the form of lost investment and jobs in the absence of a global carbon price and market.^v The prospect of major industries relocating to countries free of carbon constraints in the form of prices or taxes is present and real.

Australia's EITEs industries are estimated to be responsible for at most 0.6% of world emissions, yet they are often less emissions intensive than their overseas competitors. As outlined in our Position Paper, risking Australia's EITE industries will not help address global warming and will likely make it worse.

Australia will lower its emissions in large part by exporting them to other countries i.e. there will be no price signal to use less cement or steel (as under a world scheme); we will simply import our growing needs rather than meet them locally.

A few of our members' activities illustrate the challenges for the EITE industries:

- Excess capacity in SE Asia and China was estimated to be more than 20 times Australia's demand for cement in 2007^{vi}. Australian demand could be easily met by this extra capacity.
- The 2007 Australian smelter PFC emissions from aluminium production were 0.26 tonnes CO₂ equivalent per tonne of aluminium compared to 0.7 per cent globally in 2006. This result has been achieved through sound potroom management and technology change.^{vii} Lost production to China would result in twice the level of emissions for the same quantity of aluminium produced.
- Since emissions trading was introduced in the EU to the start of 2008 there have been more than 3 million tonnes of printing and writing paper mill capacity closed in the EU, much of it in companies expanding in Eastern Europe and Asia. Imports of paper into Australia would increase and domestic production fall as paper producers are price takers and heavily trade exposed to SE Asian competitors in particular.^{viii} This, despite the fact the carbon intensity has reduced by 14 per cent in 6 years (in the case of Australian Paper).

'Trade exposure' is well recognised:

The circumstances of EITEs and the risk of "carbon leakage" are a common feature of current and future trading schemes. Proposals in the green paper are only one option:

- **The European Union Emissions Trading Scheme (EU-ETS)** recognises that, even with the introduction of permit auctioning under Phase III, free allocations will be made to "...installations in sectors judged to be at significant risk of 'carbon leakage,' meaning that they could be forced by international competitive pressures to relocate production to countries outside the EU that did not impose comparable constraints on emissions...".

The EU Commission will, by 2010, determine "... which sectors are concerned, taking into account the extent to which the sector concerned is able to pass on the cost of the required allowances in product prices without significant loss of market share to less carbon efficient installations outside the EU. In this respect, the Commission will assess ... the cost of allowances compared to production cost and the exposure to international competition. Installations in these sectors will receive up to 100% of their allowances for free..." European Union – Emissions Trading Scheme Q&A on Phase III – www.europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/35)

- The North American **Regional Greenhouse Gas Initiative (RGGI)**, while initially only covering electricity generation, recognises the imperative of preventing 'emissions leakage' from jurisdictions outside the Scheme; *Initial Report of the RGGI Emissions Leakage Multi-State Staff Working Group to the RGGI Agency Heads*. March 14, 2007 (www.rggi.org/docs/il_report_final_3_14_07.pdf)
- The **Garnaut Review** recognises that "...some industries rely significantly on emissions-intensive production processes, and are substantially unable to pass costs of emissions through to customers because price of commodity or good is determined on international markets...". Garnaut recognises that "...transitional financial assistance (possibly in the form of free permits) should be provided to account for distortions arising from major trading competitors not adopting emissions limits (or pricing) Garnaut Climate Change Review. 2008. *Emissions Trading Scheme Discussion Paper* – March, p. 8
- The Australian multi-State **National Emissions Trading Taskforce (NETT)** has proposed that a national ETS should include an "...annual free allocation of permits to trade-exposed, emissions intensive industries ... until their competitors in other nations face commensurate emissions constraints..." The NETT proposals advocate an allocation that would vary according to the firm's output. National Emissions Trading Taskforce. *Possible design for a national greenhouse gas emissions trading scheme: Final framework report on scheme design*. December 2007. p. 49
- The **Task Group on Emissions Trading** proposed free permits to EITEs calculated according to 'best practice' technology (for their direct emissions), to avoid the problem of simply incentivising outmoded industrial processes and behavior. The scheme would recognise existing and new investments differently, namely free permits allocated:
 - to *existing* investments in EITEs equivalent to the carbon costs flowing from their direct (industrial process) and indirect (energy and embodied production inputs) post-tax costs; and
 - for *new* investments in EITEs to offset direct emissions at world's best practice low-emissions technology, and provided free permits equivalent to the post-tax costs of their *actual* indirect emissions. Prime Ministerial Task Group on Emissions Trading. 2007. *Report of the Task Group on Emissions Trading*. Canberra .

The AWU's Position

The AWU hosted a Round Table with major trade exposed industries on 23 July 2008.^{ix} There was unanimity in ensuring an effective ETS that accounted fully for the interests of the EITE industries and that supported the Federal Government measuring reforms directly by success internationally in achieving an effective global emissions framework. (In recommending targets and trajectories, Garnaut's supplementary draft report adopts this practical approach^x). The consensus view was the green paper pays insufficient attention to the trade exposure of certain critical Australian manufacturing industries, as a fundamental driver of future domestic jobs and investment growth under a carbon-regulated system.

These themes are also relevant to the review of the Kyoto Protocol by the Standing Committee on Treaties chaired by Kelvin Thomson MP.^{xi} Relevant issues include progress which Australia is making in meeting its Kyoto commitments compared to many other Annex B countries which are failing to do so (e.g. Canada); the importance of a full economic benefit approach to the value of our intensive metals manufactures including steel, aluminum and manganese in the post-Kyoto Framework as a more accurate reflection of the carbon intensity of the Australian economy and the contribution being made to international abatement given the sustainable properties of these materials; and the value of sectoral agreements in transition to a global ETS.

The AWU has two key concerns which the remainder of this submission addresses with reference to our industries and workers.

- 1) *Clarity on which industries will be covered, how they will be covered and by how much.* In the green paper certain industries miss out on free permits including LNG, petrochemicals, aviation, plastics and parts of paper. Others receive either a 60 per cent (ceramic product, alumina, parts of oil and gas, some basic chemicals manufacturing, some pulp and paper manufacturing, some non-ferrous metals smelting) or 90 per cent allocation (aluminum, line production, cement clinker production, integrated steel manufacturing and silicon manufacturing).

 - Under the revenue measure used to qualify for permits (emissions per million dollars of revenue), none receive recognition of efforts already made to reduce emissions (e.g. in LNG, aluminum, cement, plastics or paper). Nor do any receive an extra allocation to cover future investment. During the consultation period, the government has been taking submissions on the best means of permit allocation. The aim here is to improve incentives to remain and invest in Australia and avoid companies either leaving or heavily winding back production. Use of a financial measure has strong merit.

- 2) *Permits for EITE workers in recognition of their special place and role in the ETS.* Permits - or an equivalent instrument such as an option on an emissions permit - direct to our workers would enable our members to be participants in the ETS within their enterprises and with the union in the event the industry goes offshore.
- There would be relatively straightforward ways for permits or permit options to be held in trust and which could be used for a variety of purposes of direct benefit to affected workers and without disturbing the workability of the ETS. A property right to these workers would be factored into the operation of the market on terms to be determined by the government.

Carbon Pollution Reduction Scheme – AWU Core Principles

- 1) The AWU supports an ETS measured against global progress towards a global ETS.
- 2) A domestic ETS introduces market failure into the domestic economy in the short term in particular regarding the EITEs because they face prices and costs which cannot be passed on in the absence of a global carbon price.
- 3) Our industries and workers are in the climate change “front line” and at risk. We need to acknowledge their value and role to Australia in the economy.
 - The AWU is Australia’s principal resources and energy union. Most AWU members live and work in regional Australia and most of these regional AWU members employed in industries like alumina, cement, steel, oil and gas, bauxite and iron ore mining.
- 4) Our workers have rights and entitlements in addition to industries. A well thought out carbon reduction plan should ensure on-going job security for our members if the Federal Government supported existing corporations in their shift to the low-carbon technologies of the future. This implies using a profit measure to assess liability under the ETS.
 - Plans should include a proposal by the AWU to allocate emission permits to industries with conditions attached. The main condition is that permits revert to workers in the event the industry activity ceases or is relocated offshore. This is a form of carbon insurance as workers’ permits and different to allocating free permits because the permits are not allocated condition-free.
 - In our view there is no impediment to the Government being generous in its allocation of such conditional “workers’ permits” because they will enable unions in cooperation with affected industries to manage the transition to a competitive ETS framework.
- 5) Cooperative models work best and are more likely to maximize the benefits of the ETS and minimize costs building on existing and future abatement efforts by industry and workers.
 - Focus on financial rather than physical measures to calculate support for EITEs. Prefer conditional permits over cash. The government can therefore afford to be more generous as these permits may be different to auction permits.
 - Prior abatement activities should be recognised and future investment protected.

Demand for EITEs' output will continue to grow

Demand for EITE products will continue to grow given our population and productivity growth. This growth must be accommodated by either domestic production or imports. The strength of the Australian economy, in the face of a global slowdown in evidence of the important contribution the EITE industries are making to economic growth, reflected in exports and strong investment confirmed in the June quarter Balance of Payments which showed a narrowing of the current account deficit to \$12.8 billion in the quarter thanks to a solid export performance which assisted in achieving the first quarterly trade surplus since the March quarter 2002^{xii} and the June quarter National Accounts which indicates that business investment is continuing to support growth, rising by a strong 4.0 per cent in the quarter to be 9.9 per cent higher over the year.^{xiii}

However, it is also true that significant reductions in worldwide carbon emissions will:

- Increase pressure to lower footprint of minerals/metals production;
- increase the drive to metal and materials recycling;
- Increase desire for low weight materials for transport; and
- Drive innovation in production, design and manufacturing with metals.^{xiv}

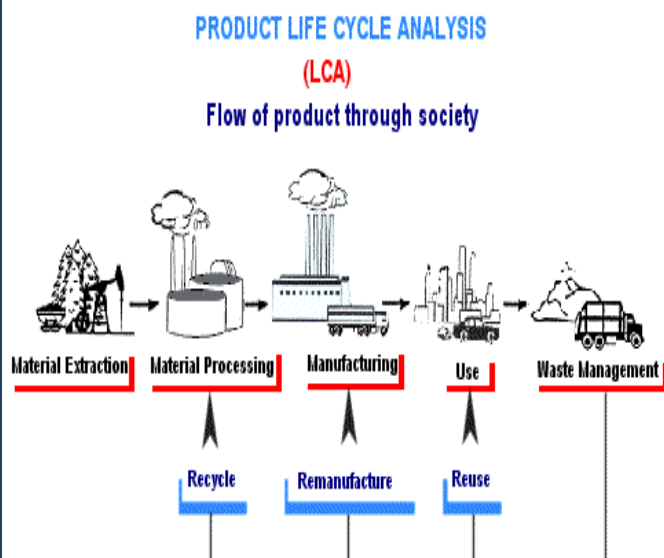
The question is how best to balance the competing demands of the economy and environment in mutually productive and sustainable ways. We must adapt existing expertise to new challenges, including new processes for aluminium, iron, titanium and magnesium and lowering greenhouse gases associated with manufacturing. Australian expertise and industry has much to offer the rest of the world.

Australian Innovation

- HiSmelt - new ironmaking technology
- Aluminium – new cell materials and geometry
- Titanium – new powder metallurgy routes
- Magnesium – new high temperature routes
- Top Submerged Lance (TSL) technology - for the recovery of non-ferrous and ferrous metals.

Source: **Sustainable Metals: The Challenge for Europe and Australia**, Professor Geoffrey Brooks, March 2008 Swinburne University of Technology

Source: telstar.ote.cmu.edu/.../embedded/LCAflch.gif



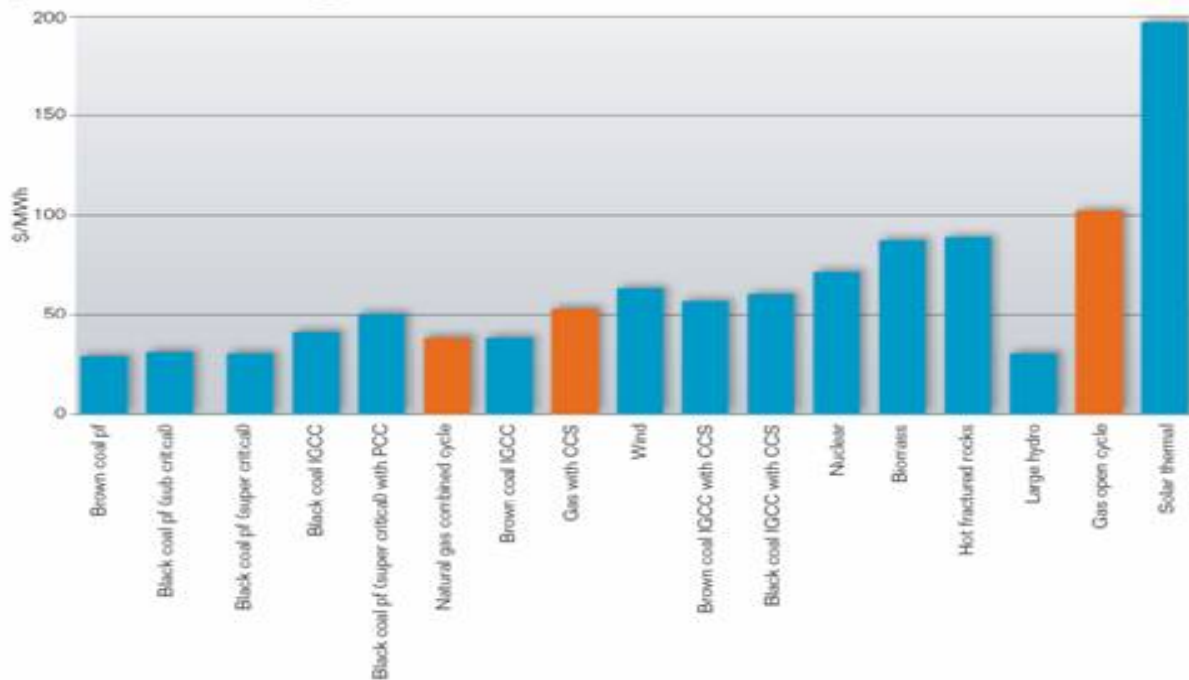
Geothermal Energy

The AWU is a strong supporter of the geothermal energy industry.

The AWU invited Tim Flannery to the National Conference in 2007 to speak on renewable energy in particular geothermal energy. Since then the first Australian geothermal power station has been completed and the Cooper Basin town of Innamincka will be powered by early 2009 saving \$15,000 in diesel per month^{xv}.

Rapid developments in geothermal energy technology include Engineered Geothermal Systems (EGS) which sequester carbon dioxide. The levelised cost (average cost) of electricity from EGS is compared against other energy sources.^{xvi xvii} It also extends the opportunity for CCS applications beyond coal.

Figure 20.8 Estimated electricity generation costs of selected electricity generation technologies, 2006

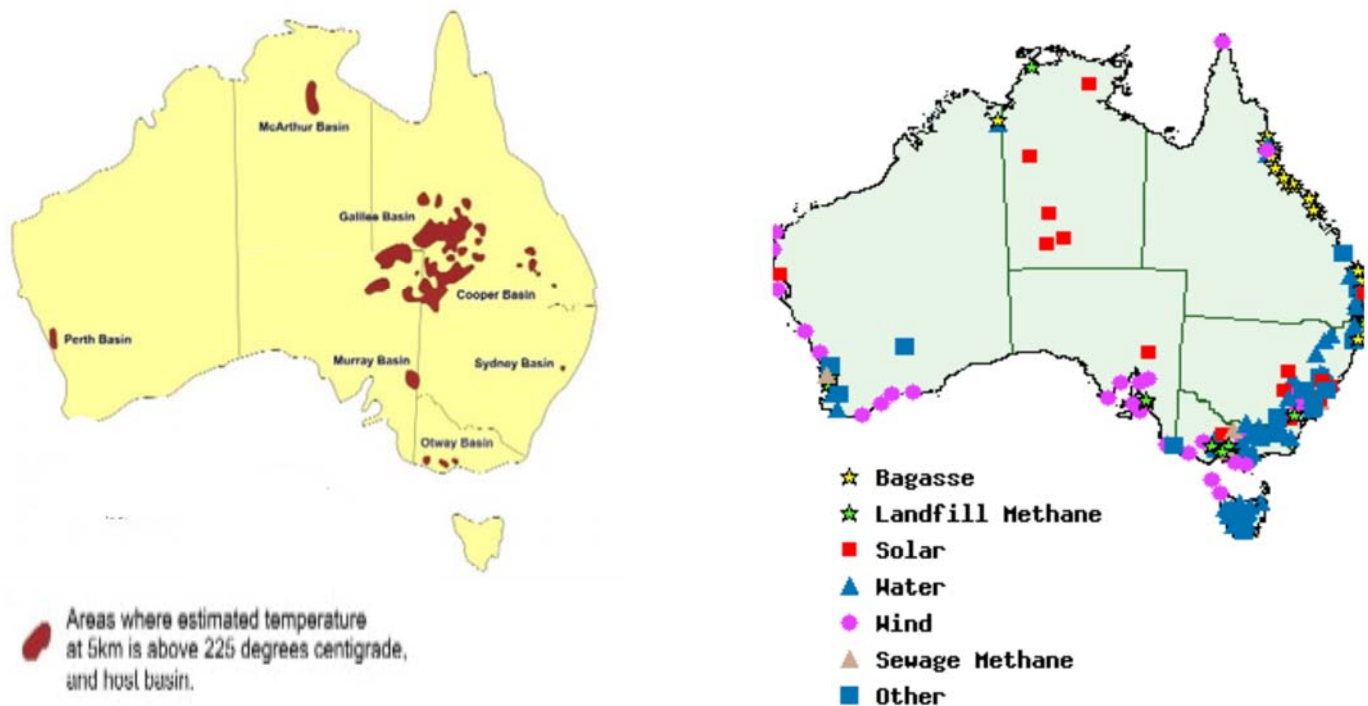


Notes: pf = pulverised fuel; IGCC = integrated gasification combined cycle; PCC = post-combustion capture; CCS = carbon capture and storage.

Source: Wright (2007).

A major impediment is the distance of our best geothermal resources from electricity users. Australia has large volumes of identified high heat producing granites within 3 to 5km from the surface that can potentially be tapped by hot fractured rock (HFR) geothermal technology.

Map of Australia's Accredited Renewable Energy Power stations



Source: Office of the Renewable Energy Regulator and Geodynamics Hot Fractured Rock in Australia

Industry super funds have provided important long term capital in renewable energy. EGS is already being targeted by a sizeable industry, including ten Australian companies listed on the stock exchange with a combined market capitalisation of over A\$700 million.

The AWU calls for government to match this industry commitment with a commitment to build underground high voltage transmission lines to the Cooper Basin. We support geothermal industry calls for a Transmission project of national significance which provides renewable energy with equal access as defined by existing power generators. A National Transmission Planner could undertake this work.

Current electricity market reforms propose the introduction of a National Transmission Planner to promote the development of a strategic and nationally coordinated transmission network.^{xviii} Garnaut notes the Council of Australian Governments and the Ministerial Council on Energy have provided some guidance on the characteristics of the new arrangements. The AWU will make a more detailed submission on these issues to Infrastructure Australia's Inquiry into Australia's Future Infrastructure Requirements.

A Global ETS

It is often said that offering more compensation to any industry, or firm, means other industries would have to shoulder more of the burden of tackling climate change. That is true on a business as usual basis. However, which industries in Australia believe that business as usual will apply under a global ETS with firm caps?

It is the expectation of a global market place for emissions trading and the inevitability of higher carbon prices over time which will assist in driving investment in lower emission technologies, and production. This will occur over time so long as the threshold is not breached which makes the industries uncompetitive in the short term through the imposition of a carbon price which is simply too high domestically during the period of transition. Measured targets and trajectories contained in the Garnaut Review Supplementary Report are a step in right direction in this regard.^{xix}

Transitional assistance compensation should actually allocate permits to EITE industries to cover the full cost increases associated with the introduction of the ETS. This will not negate emissions reducing activities. The opportunity cost of a rising permit price will incentivise (and potentially fund) emissions saving activities.

It is important for Australia to build on its international standing in ratifying the Kyoto Protocol by implementing a credible, defensible ETS. However, it is also incumbent upon the international community to ensure that where progress is being made in meeting Kyoto targets and compliance occurring with agreed commitments that that be recognised as credit in the second accounting period post 2012 just as penalties are meant to apply to countries not meeting their current targets and obligations.

As far as non-Annex B countries are concerned, there is a legitimate leadership role to be played by Australia at the same time as acknowledging the reality that much of the growth in global emissions is simply beyond our control. For example, China's reliance on coal as a primary source of energy is reflected in the fact that coal makes up 69 percent of China's total primary energy consumption, making China one of the largest consumers and producers of coal in the world. Two new coal-fired power stations are opened in China every week on average^{xx}.

As Ross Garnaut said in a recent paper:

There is no room any longer for defending the view that the “differentiation” of effort called for in the United Nations Framework on Climate Change Convention between developing and developed countries should be based on the application of binding emissions targets or policies to the latter and not the former.... Without all major emitters binding themselves to economy-wide targets or policies, given rapid emissions growth, the prospects for the global climate change mitigation effort are bleak.^{xxi}

Australia of course has a right to have a different policy position to other nations and in relation to climate change policy in particular that is a responsible position to take. And it is equally recognised that such a position is not costless in the short term. Unlike a fair and responsible wages policy, an exemplary OHS regime or best practice regulatory compliance framework - which may impose costs to business but result in immediate benefits for the economy, business and workers alike resulting from the investment in higher efficiency and productivity - in the absence of a global market place it is not possible to point to an immediate benefit of a domestic ETS in achieving the goal of contributing to lower global carbon emissions. Rather, a domestic ETS is an investment in the transition to a future global ETS marketplace and a carbon constrained domestic economy.

We simply ask that a broad view be taken of the extent of compensation to trade exposed industries in the wake of this short term market failure during the transition to a global ETS.

The AWU supports the recent communiqué from the Emission Trading Forum for the Gladstone and Surat Basin Regions which included the following statements regarding the ETS:

- *Australia should take a leading role in building support for a genuinely comprehensive global response to emissions reductions that includes not only developed countries, but also rapidly industrialising nations, such as China, India and Brazil. To achieve this, there should be:*
- *An effective Australian climate change policy framework which will deliver:*
 - a. *Long term energy security;*
 - b. *Ongoing economic growth and international competitiveness;*
 - c. *Reduction in our emissions;*
 - d. *Behavioural change not just by producers but also by consumers.*
- *A simple and equitable ETS which will promote the abatement of greenhouse gas emissions at least cost. This can be achieved by:*
 - a. *A staged approach to full auctioning*
 - b. *A flexible emission trajectory aligned with*
 - i. *Availability of low emission technology;*
 - ii. *Minimising economic shock; and*
 - iii. *International agreements/actions following the Copenhagen Conference which is scheduled for December 2009.*
- *Recognition that the Gladstone and Surat Basin Regions have a unique mix of primary and support industries, rural and mining sectors and mineral and chemical processing as its economic base and that the Central Queensland University with its Research Institute for Resource Industries and Sustainable Development in Gladstone, together with local skills sets, is well positioned to enter into a partnership with Federal Government to lead research and development of current and additional emissions reduction technologies. It is proposed that this Research be considered a priority.^{xxii}*

Use of financial measure to qualify for assistance – Earnings Before Interest and Tax (EBIT)

Profit generally is the making of gain in business activity for the benefit of the owners of the business. The word comes from Latin meaning "to make progress".

Perhaps the biggest concern that the EITEs have had with the green paper, shared by the AWU, is the use of the revenue measure in order to calculate assistance to qualifying emissions intensive industries. The question is firstly how best to include rather than exclude eligible EITE industries and secondly the best way of assisting them in a way which reduces global emissions without damaging the Australian economy though introducing competitive disadvantage and sub-optimal investment in these competitive industries.

In its place, many have suggested a value added measure which accounts for the cyclical nature of profits in the business

The AWU agrees with the findings of the EITE industries and the BCA that modifications are recommended to the current proposals set out in the green paper on the CPRS.

Findings by the BCA include:

- Compensation for many EITE businesses is not sufficient to prevent them either reducing their operations or moving them offshore in the absence of a global price on carbon;
- Companies immediately below the proposed free permit allocation threshold get no compensation while those above the threshold will get 60 per cent or 90 per cent of their permits free, producing significant distortionary impact;
- There is no allowance for growth in EITE businesses required to meet future demand; and
- There is uncertainty about how the scheme will work in practice. Overall compensation will be phased out according to uncertain criteria.
- The Government's Green Paper compensation scheme is inadequate and contains significant anomalies:
 - Businesses in industries with average margins and emission intensities of 1,000 – 2,000t per \$1m revenue generally will face significant profit declines.
 - Businesses in low margin industries with emissions over ~500t per \$1m revenue will also face significant profit declines.
 - Businesses with emissions of 1,490t per \$1m revenue receive no compensation while businesses with intensities of 1,500t per \$1m revenue receive 900t of free permits per \$1m of revenue; the former will seek to boost their emissions, the latter will not reduce theirs.
- Based on a carbon price of \$40 per tonne of CO₂ – the current price in Europe – the BCA concluded the compensation mechanism proposed in the Green Paper would likely produce the following outcomes for the 14 businesses studied in the paper:
 - Three will have to shut immediately;
 - Four will have to fundamentally review their operations to remain viable after losing between 32 per cent and 63 per cent of their pre-tax earnings;
 - The rest will have to take immediate action to reduce their costs; and
 - Many potential investments will not take place.

In the BCA's view, the Government's Green paper approach will strongly limit future EITE investment. By limiting overall EITE compensation to 20 per cent of permit revenues the level of compensation available to a business will decline over time from its original level.

Under reasonable assumptions, and with no world emissions reduction scheme, some businesses might anticipate compensation declining to such an extent that it has little material value by 2020. When considering new investment at world's best emission practice, therefore, EITE industry boards will need to make conservative assumptions that will often reduce the returns on otherwise attractive investments to unattractive levels. Workers in these industries will be exposed to the consequences of such decision making.

BCA make the point that demand for EITE products will continue to grow given our population and productivity growth. This growth must be accommodated by either domestic production or imports. The BCA recommends providing permits outside the national cap to accommodate growth in EITE in the absence of a global price, or setting a modest trajectory that maintains the sector's competitiveness and recognises that growth in these industries must occur.

The government's stated objective to maintain the proportion of EITE permits at 20 per cent of the total stock would see the number of permits made available to companies at risk of carbon leakage reducing with the overall national cap. Industry believes that the scheme should accommodate growth in EITE companies, and notes that a cap on domestic growth set against increasing demand (partly government supported) merely leads to an effective quota for imports.

Protecting future investment was included in the analysis of the Task Group on Emissions Trading in 2007. . Why we ask the government to consider elements of Shergold's report again is because it recognised and rewarded investment. The report understands that new investment will be affected by and have an influence on both direct and indirect emissions of EITEs.^{xxiii}

The report sets out a mechanism of rewarding companies that undertake new investment in cleaner technologies and processes with free permits for a defined period which can be used against 'own emissions'.

A different approach – proposals by the Business Council of Australia (BCA)

The BCA believes that alternative approaches are available which would achieve the government's objectives without such a high cost to the Australian economy. Accordingly, the BCA proposes that the CPRS should be modified to include:

- Full compensation for emissions above a threshold;
- Use a threshold based on the financial impact of carbon costs;
- The threshold of between 3 to 5 per cent of industry value-add (profits plus labour);
- Provide compensation to all businesses that meet the threshold;
- Accommodation for growth in EITE industries at world's best practice in emissions efficiency; and
- Using long term commodity prices when making this compensation calculation that will apply for many years – Having an emissions trajectory that can accommodate investment in new EITE facilities (companies will still have to assess how their investments will perform when there is a world carbon price).

The BCA recommends the government set a modest abatement target until the necessary global agreements are in place (and only these global agreements will address the greenhouse problem).

A stronger emission reduction trajectory will see Australia meet this higher target largely by exporting our emissions from EITE industries for no world environmental gain. This is because once emission prices begin to exceed, say, \$20/t CO₂-e, the 'permit arithmetic' does not work. That is, there is insufficient permit revenue to support low emissions technology, assist low income

households and provide sufficient compensation to prevent the export of Australian emissions associated with businesses that would have remained in Australia with a world carbon price. However, it is also possible in principle to retain a desired abatement target while increasing compensation to the EITE industries in order to compensate for competitive disadvantage.

This raises the issue of the best way of measuring competitiveness. And we have seen that a financial measure such as EBIT is a better way of establishing impacts and affordability. EBIT is a defined accounting measure companies can provide (and do prepare) based on audited accounts on a common basis.

Using a financial measure such as EBIT to qualify for assistance in our industries will also serve to maintain the linkage with investment as it is ultimately reflected in the company's bottom line but it can also be supplemented directly via other government policies. It is one of EBIT's positives for our industries.

AWU Views

Compensation:

- The BCA Report notes that providing compensation only for emissions above a particular threshold will avoid 'gaming' and is fairer. That is, it avoids a company at 1,400t CO₂-e/\$m revenue getting no compensation but a company with 1,500t CO₂-e/\$m revenue receiving 60% compensation, as under the Green Paper proposals. It also avoids creating an incentive for the first company to increase their emissions in order to change their eligibility for compensation, or the second company not to reduce them.
- Using a threshold based on the financial impact of carbon costs, not on tonnes of emissions intensity, is also fairer. At low carbon prices businesses may be sufficiently protected, but this will not apply as carbon prices increase.
- We would agree in the benefits of using a financial measure instead of physical. However, the value added measure (because it includes employment) means that a strictly profit based measure may be preferable because it would protect industries which are major employers otherwise captured by the value added measure.
- We also want to focus on the process not just entity in order to ensure our workers are accounted for. We would support the incentives for further investment.

Compensate for Scope 1 emissions using permits, and Scope 2 emissions using cash:

- BCA notes eligible EITE businesses will need to be compensated for both direct and indirect emissions. Under the ETS, businesses will pay for direct emissions by purchasing and then acquitting permits, and for indirect emissions essentially through increased electricity bills.
- BCA say it is appropriate to match the form of compensation with the type of cost incurred.
- Scope 1 emissions should be compensated using emissions permits, paid in advance. In this way, the value of permits awarded can be matched to the cost of permits acquitted. Payment in arrears risks mis-matched permit prices. Advance payment also removes the working capital impacts associated with purchasing permits prior to compensation.
- Scope 2 emissions should be compensated using cash payments, based on estimated increases in electricity prices according to BCA.
- **We agree with compensating for direct and indirect emissions but would want to also include Scope 3 emissions and prefer more permits over cash and linked to the trading price of carbon. This is important to protect workers permits and that companies which employ more people get more permits. Permits should also be acquitted for the production purpose they were given rather than sold.**

Abatement target:

- Support the relatively modest abatement target until necessary global agreements are in place.
- The BCA note the ambitions for an Australian ETS in 2010 are more akin to the ambitions of the European ETS in 2020, not as it is currently. That is, the Europeans have opted for a more 'careful' start than Australia currently appears to be aiming for.

A new model for trade exposed cyclical businesses – a simpler approach

The ultimate aim of the proposed Carbon Pollution Reduction Scheme is to reduce emissions over time. The challenge is to do this while developing a scheme that:

- Is as simple as possible;
- Is transparent
- Does not sacrifice jobs or result in carbon leakage
- Works to reduce emissions over time
- Encourages efficiency and innovation.

Any scheme should also:

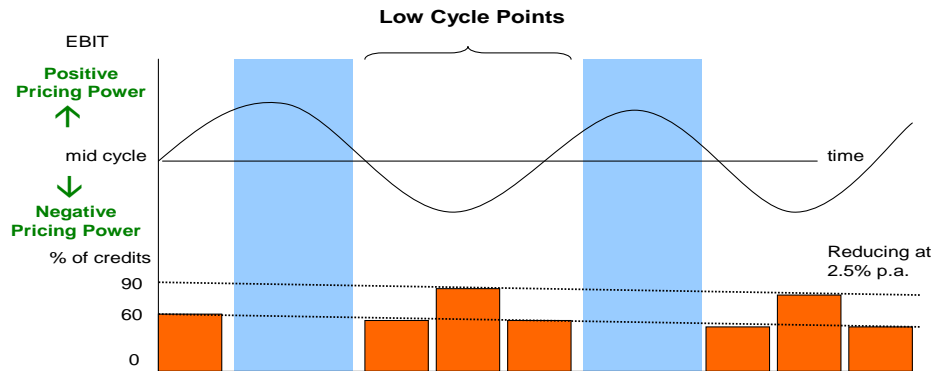
- Allow for cyclical earnings
- Not attempt to pick winners or create losers
- Reflect changing pricing power (ability to pass on / absorb costs) – related to the cyclical nature of earnings.

The current proposal in the green paper is to use a measure of energy intensity as the prime measure (or filter) for assessing whether a sector should receive free permits. This measure is based upon the level of carbon emissions divided by revenue.

Profit cycles are a reality for most trade exposed energy intensive Australian businesses. Any schedule to reduce carbon emissions needs to reflect this reality. To not do so adds an unaffordable load on these industries when they are in their down cycles, resulting in leakage of jobs and carbon emissions from industries that are positive contributors through the economic cycle.

Paperlinx has offered a novel approach to assessing eligibility for free permits based upon the changing level of profitability through the economic cycle rather than locking into one level as a way of better reflecting the realities of global commodities industries. Eligible companies would need to be both trade exposed and pass a reasonable profitability threshold per level of emissions in order to qualify for permits.

Carbon Intensity / EBIT



A simpler approach

The simple principles proposed to avoid leakage and reduce emissions are:

- Steady emissions reductions 'caps'
- 'Trade exposure' is the critical criteria for assistance
- EBIT versus emissions is the best surrogate for the degree of pricing power for trade exposed businesses through the economic cycle
- Then look at the position by process within companies or industries (accounting for direct and indirect emissions).

Paperlinx proposes a two stage filter for assessing eligibility for free permits:

- 1) The first filter is for industries/ companies to achieve a trade exposure of say 50 per cent. This relates to companies operating in a global pricing / demand cycle.
- 2) The second filter is then a value added measure such as carbon intensity / EBIT.

At different stages of the economic cycle companies and industries will either achieve or not the second filter thereby achieving relief during periods of low pricing power (and therefore low EBIT) or face the full carbon cost (during periods of high EBIT). We would support a relatively low threshold for trade-exposed industries to qualify as carbon intensive.

The model works on the basis that unless industries have profitable periods they will not have capacity to invest in reducing emissions. Second, maximum credits flow during periods of minimum profits.

The advantages of the model include smoothing the economic cycle for the ETS which acts as a countercyclical balance to movements in profitability and thereby does not accentuate the highs and lows of the cycle relative to other firms.

It does not stop new industries from qualifying for permits in the event that they pass through the trade exposure filter. It serves to protect investment in these industries and promote investment in carbon reducing technologies and processes.

Carbon insurance for workers

The AWU believes in the importance of ensuring workers have a direct stake in the ETS as participants - rather than bystanders – because they are directly affected by it. The AWU sees this as an investment in the ETS, our workers and the transition to a lower carbon economy. It means that in the event of carbon leakage, there will be mechanisms available within the context of the ETS which account for this risk to workers by way of carbon insurance. The AWU also believes that the design of such insurance arrangements could be undertaken without disturbing the operation or integrity of the ETS in any way.

The way this could occur is by insuring conditional permits as part of the compensation arrangements for industry, the particular conditions for which would only be triggered in the event of the eventuality of a contingent event, ie leakage. There may be a range of ways of doing this.

For example, the remaining unacquitted stock of permits issued to the particular facility which, in the event of leakage, would otherwise be returned to government, could, alternatively be diverted to the workers' trust fund established by the union on the workers' behalf at the commencement of the ETS with oversight by a board of trustees. Alternatively, a portion of permits could be allocated direct to the workers' trust at the commencement of the ETS with conditions attached including exercise rights and duration; in particular, permits may only be released onto the market or re-purchased by the government in the event of a leakage event during the relevant trading period to which the permit pertains.

The working model the AWU has in mind is the industry superannuation funds which have a strong track record in providing financial services - including insurance - to workers. It may be possible to administer the trust arrangements in conjunction with the superannuation industry alongside employees' superannuation entitlements.

It may also be possible to fund specific worker related arrangements from the greenhouse fund or other similar mechanism which quarantines completely the funding of the permits from the broader ETS allocation mechanisms and market. This would be as a separate policy measure the government may offer our EITE workers in recognition of their particular circumstances. The most important element is that the arrangements are linked directly to the activity or process which our workers are engaged in currently and which may be put at risk under the ETS. It recognises the reality of the risk of leakage, serves as an investment in the future of these jobs in transition and aids productivity as the economy moves to a lower carbon footprint in cooperation between workers, their unions and employers.

Workers' insurance is therefore separate to and distinct from additional structural adjustment and compensatory arrangements which may be put in place in the event of plant closures, including redundancy and retraining packages. Because, with our workers in mind, it is assistance contingent on the future rather than after the fact, it helps address moral hazard issues regarding permit issue and subsequent behavior in our industries.

The National President (Bill Ludwig) and National Secretary (Paul Howes) have been consulting extensively on the proposals including during the current national regional tour on the impacts of the ETS.^{xxiv} Feedback has been very positive. This insurance may be a catalyst for change because it directly addresses our workers' fears regarding the ETS and will assist them to engage fully in its implementation in the knowledge that their particular circumstances have been recognised by government. We will continue to argue for valid forms of carbon insurance for workers in the emissions-intensive trade-exposed industries.

What carbon insurance is worth

In Gladstone on 1 August the AWU National Secretary, Paul Howes, released preliminary estimates for the carbon insurance plan for Australian workers in the cement industry.. In the case of the more than 100 workers employed by the local cement industry this could be worth, for each worker, up to an average of \$65,000 if the activity ceased immediately upon commencement of the ETS.

The AWU economic unit's figures, are based on industry data, and the current information available about the proposed emissions trading scheme, assuming a carbon permit price of \$20 on the production of clinker (the basic input to cement production). These figures will vary from industry to industry, and activity to activity, and will need to be revised again after Treasury releases its own modeling of the scheme.

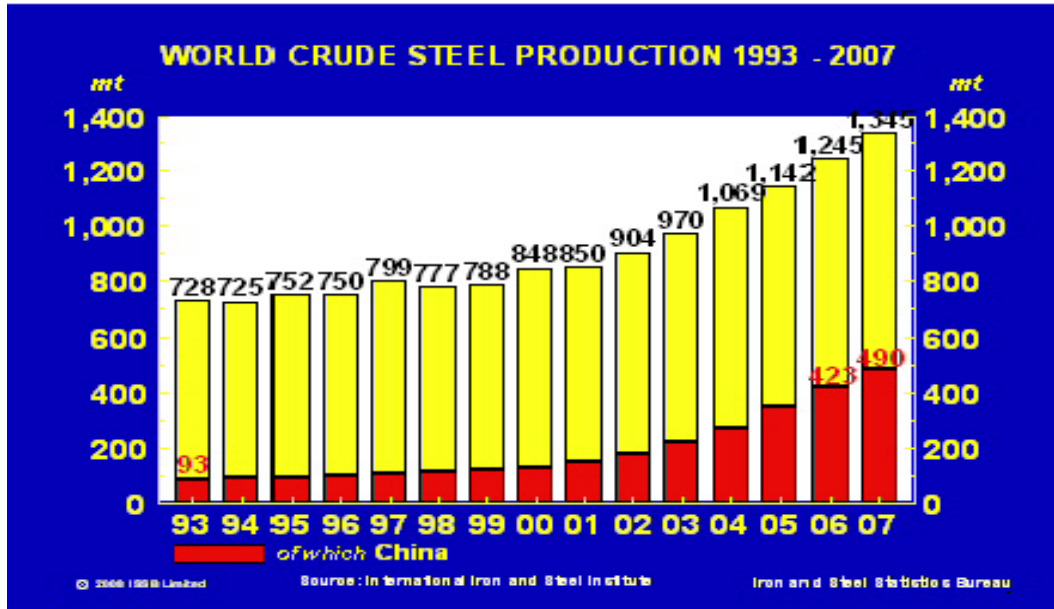
Impacts on industries

The following sections briefly cover the iron and steel and alumina and aluminium sectors and manganese sectors in addition to a more extensive coverage of cement, plastics, paper and LNG which have not received the same focus of attention on the impacts of the ETS to date but, in view of their status as EITE industries must be fully addressed.

Iron and Steel

Economic growth, population growth, and the government's own infrastructure spending will all generate growing demand for steel in Australia. This demand can either be met by Australian-made steel or by imports. And growth in demand is forecast to be substantial in the short term as a range of resources, infrastructure and nation building projects commence. In these circumstances, industry would like to be able to grow its output over time to meet demand (and to maintain economies of scale in production).

State infrastructure plans project spending of over \$320 billion over the next decade, alone, providing a massive growth opportunity to local manufacturers.^{xxv}



In May 2008 BlueScope confirmed its intentions in the first half of 2009 to reline of its No.5 Blast Furnace at Port Kembla in planning for the past 3 years at a cost of \$370 million. Number 5 Blast Furnace is one of the company's key assets and has served the company well during its current 18 year campaign. The reline project will be a comprehensive overhaul of the facility and will restore the blast furnace to peak operating condition and secure iron-making capacity for many years to come.^{xxvi}

Manganese

Manganese is one of the most widely used alloy elements in the world, essential to the manufacturing of steel. By reducing unwanted sulphur and oxygen and preventing brittleness, a stronger, longer lasting steel is produced.

Manganese is also used in the manufacture of some batteries, ceramics, agricultural chemicals, fuel, welding materials, foundry equipment and some electrical components.

In Australia. GEMCO exports the majority of its products for use in the international steel industry.^{xxvii} Steelmaking, including its iron-making component, has accounted for most manganese demand, presently in the range of 85 to 90 per cent of the total demand. Among a variety of other uses, manganese is a key component of low-cost stainless steel formulations and certain widely used aluminium alloys.

Manganese – a unique material

Manganese has no satisfactory substitute in its major applications, which are related to metallurgical alloy use. In minor applications, (e.g., manganese phosphate), zinc and sometimes vanadium are viable substitutes. The most important non-metallurgical application of manganese is in the form of manganese dioxide, which is used as a depolarizer in dry-cell batteries. Dry cell consumption in the world exceeds 20 billion units per year. In disposable battery manufacture, standard and alkaline cells using manganese will probably eventually be mostly replaced with lithium battery technology.

Over 80 per cent of the known world manganese resources are found in South Africa and Ukraine. Other important manganese deposits are in China, Australia, Brazil, Gabon, India, and Mexico.

World demand for manganese depends directly on the needs of the steel industry. There are numerous grades of steel and each requires a different amount of manganese.^{xxviii}

Although ranking far behind steel, the second most important metal in which manganese plays an important alloying role is aluminum. Some 23 million tons of aluminum are produced annually. Small amounts of manganese are found in many of these Al alloys, enhancing corrosion resistance.

Alumina and Aluminium

The Australian aluminium smelting sector performance for greenhouse emissions from the production process is world class – and energy efficiency is also better than the world average, although this latter advantage will be eroded without further investment in production capacity in future years.^{xxix}

Total direct greenhouse emissions were 3.95 million tonnes of CO₂-e in 2007, the same as for 2006 and well down on the 4.93 million tonnes (Mt) of CO₂ in 2005. This compares with the 1990 level of 6.26 Mt.

Total emissions from the seven Australian alumina refineries were 14.3 million tonnes of CO₂ in 2007, compared with 13.9 Mt of CO₂ in 2006, 13.6 Mt in 2005 and 12.9 in 2004. The 2007 result was 21 per cent lower than in 1990 on a tonne per tonne basis (emission intensity) although total industry emissions were 34 per cent higher reflecting the 70 per cent increase in production over this period. To put this in perspective – if the emissions intensity in 2007 had remained unchanged from the emissions intensity in 1990, total emissions would have been around 18 Mt CO₂ compared to 14.3 Mt. Therefore the actions taken by all Australian alumina refineries, including the addition of new and more efficient capacity, have effectively resulted in avoiding around 3.7 Mt of emissions in 2007. Australia is a world leading performer and also benefits from our higher average grade bauxite.^{xxx}

Alcoa

Alcoa has reduced direct greenhouse emissions per tonne of production:

- aluminium smelters – by 61% from 1990 levels
- alumina refineries – by 11% from 1990 levels
- aluminium rolling operations – by 16% from 1990 levels

Alcoa has reduced total greenhouse gas intensity per tonne of production:

- aluminium smelters – by 16% from 1990 levels
- alumina refineries – by 12% from 1990 levels
- aluminium rolling operations – by 21% from 1990 levels

Carbon Capture Technology

Alcoa's global Technology Delivery Group, based at Kwinana in Western Australia, has developed 'Carbon Capture' technology that uses carbon dioxide (CO₂) to treat bauxite residue. The process delivers significant greenhouse benefits by locking up CO₂ that would otherwise be released to the atmosphere, as well as other environmental benefits in the management of bauxite residue.

Alcoa's first Carbon Capture plant is currently in operation at Alcoa's Kwinana Refinery. The plant uses waste CO₂ transported by a pipeline from a nearby ammonia plant and locks up around 70,000 tonnes of waste CO₂ a year – equivalent to taking 17,500 cars off the road.

The Carbon Capture process has potential application for the global aluminium industry and we plan to install the technology at our refineries around the world, using waste CO₂ from Alcoa refinery powerhouses.

Source: http://www.alcoa.com/australia/en/info_page/climatechangewhatiscalcoadoing.asp

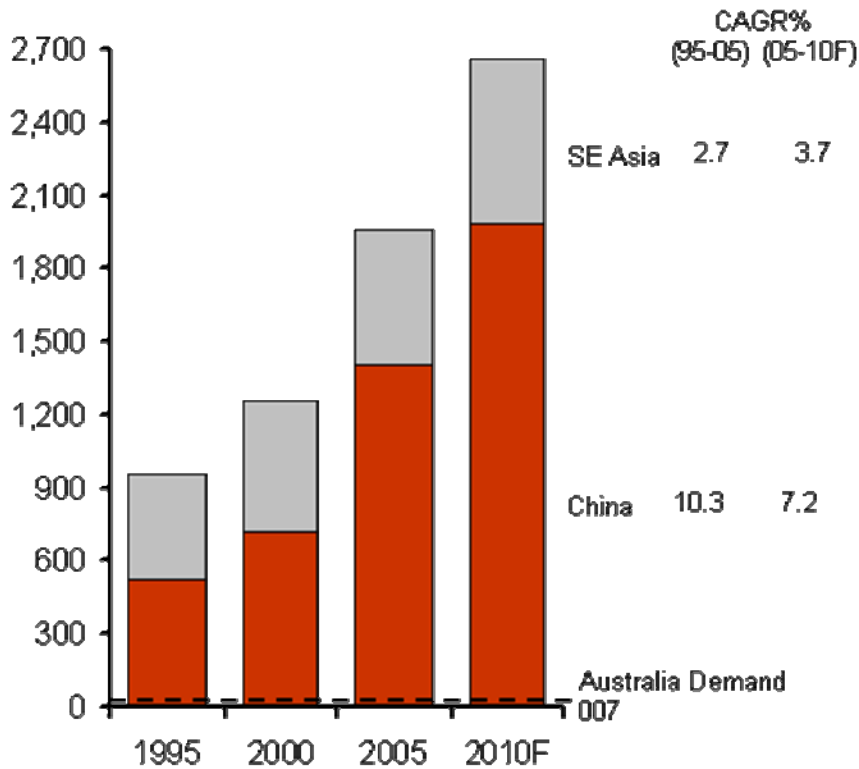
Cement

Cement is an emissions intensive industry. Cement is produced in a high temperature chemical reaction where limestone is calcined into 'clinker'. CO₂ is emitted as a product of the reaction, though the combustion of fuels and indirectly through electricity consumption. The cement industry is therefore one of the most emission intensive sectors in Australia and would incur a significant additional cost equivalent of 35-40 per cent of gross value added at a carbon price of \$35/t.

Cement is a trade exposed industry. Large volumes of cement are internationally traded and imported to Australia. Global exports of cement were close to 160 Mt worldwide in 2006 and increasing. This is equivalent to 16 times the total Australian demand. Imports by Australia have grown by 10 per cent per annum over the last 15 years and represent 18 per cent of total consumption. There is therefore a significant threat of carbon leakage as Australian demand could be easily met by the kiln capacity available in the Asia Pacific region.

Existing capacity in South East Asia including China is ~2,100Mt, with Australian kiln capacity being added every 2 to 3 weeks

Kiln Capacity in Asia Pacific (1995 – 2010F)



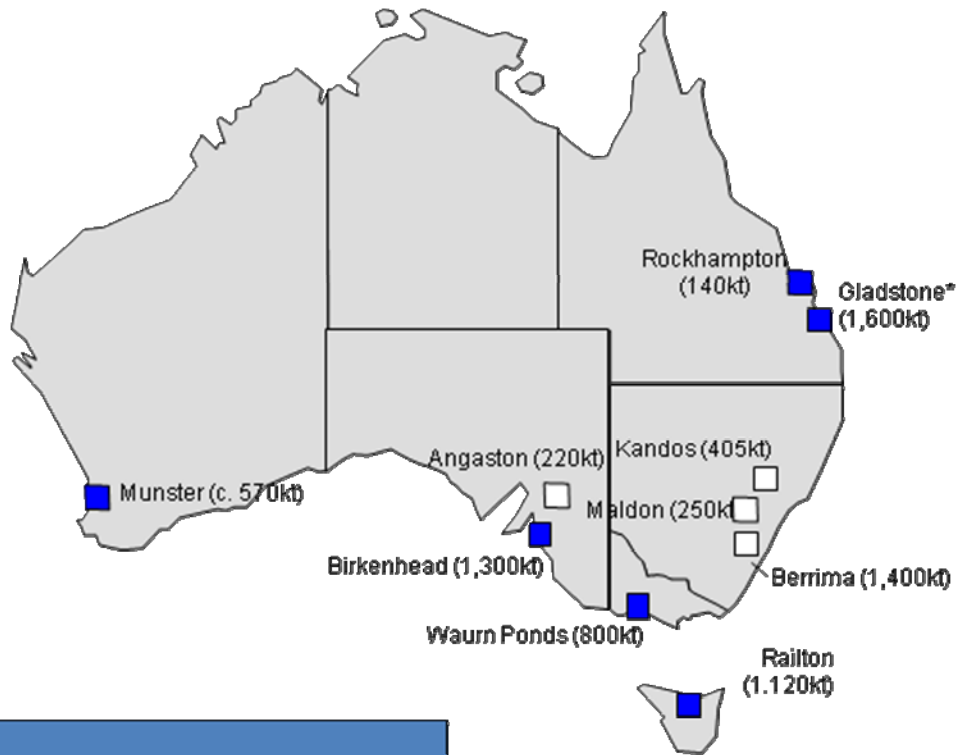
Australian Cementitious Demand in 2007 = 10.1 Mt



Source: USGS, CIF, BNP Exane Paribas, Global Cement Report

Existing cement kiln capacity in SE Asia and China is 2,100 Mt. An additional 550 Mt of capacity is planned by 2010. Capacity equivalent to Australian kiln capacity is being added every 2-3 weeks in the Asia Pacific. Imported clinker or cement would not incur and any costs for its carbon emission. Significant volumes of foreign clinker could therefore be substituted into Australia at short notice. This would result in higher emissions than Australian produced cement accounting for more efficient Australian production and emissions from shipping. The existing port facilities owned by Australian cement companies could currently import up to 5.9Mt of bulk cement and clinker - replacing two-thirds of Australian clinker manufacturing - and with the possibility for increased capacity over the next 2-3 year.

Two thirds of Australian clinker production facilities are immediately substitutable by bulk clinker and cement imports

Clinker Production* Facilities Immediately Substitutable by Imports



Legend	
	Integrated facility immediately substitutable by imports
	Integrated facility not immediately substitutable by imports

Future investment in the sector and with it job creation and technological development will therefore demand on how the cement industry's trade-exposure and emissions intensity is recognised in an ETS. Some existing plants may also close as domestic manufacturers switched to imported product. This would have a major impact on regional areas where the cement industry is the main industry and largest single source of employment. For example, a large plant such as Railton, employing 230 workers, or 10 per cent of the local workforce and indirectly employing 1,150 people or 6.5 per cent of the local labour force, benefits to local communities would be lost if the plant were to close.^{xxxii} Construction of new kiln capacity would be unlikely to provide sufficient returns to justify the investment.

Plastics - The Issue of Scope 3 – non electricity – indirect emissions

The AWU Proposal Paper noted that plastics are very much a trade exposed sector and therefore eligible for assistance.^{xxxii} However, the Government is not currently disposed to include non-electricity indirect emissions in relation to EITE assistance. In short this means that the Government only proposes to take into account the following when determining whether a company is emissions Intensive:

- A company's direct emissions, ie. the burning of fossil fuels.
- A company's electricity usage.

Australian polyethylene manufacturer Qenos therefore would fall under the limit for compensation as their emissions are at 1300 and they need to be at 1500 to at least receive 60 per cent permit allocation. The cost for them of purchasing permits will be about \$66 million – their profit in 2007-08 was \$65 million. There is the real risk that Qenos owners (ChinaChem) will close the Australian facilities. Qenos has reduced their emissions by 40 per cent since 1995 – if they had not they would have qualified for 90 per cent compensation.

The AWU understands Qenos is very concerned about the extensive proposed limitations on compensation, including:

- the proposal to cap the amount of EITE compensation (for example, limiting compensation to 20 per cent of permits or only covering 60 per cent of the carbon cost impact); and
- design features that discriminate against the chemicals sector (for example, benchmark mechanisms that assume a large number of industry participants or exclude indirect feedstock carbon costs).

In order that the EITE threshold ratio appropriately measure the materiality of impact on businesses, the emissions of Qenos' non trade exposed feedstock suppliers need to be included.

The emissions associated with the extraction and delivery of feedstocks will increase the cost impact of the ETS on Qenos by up to 40 per cent. For Qenos it could be the difference between not qualifying for any transitional assistance and qualifying for the maximum available assistance.

Summary of Feedstock Situation

Ethane, Naphtha and LPG (Feedstocks) are supplied to Qenos as feedstocks. Ethane is a natural product of gas extraction, ie you can't just leave it in the ground if you want natural gas. LPG (including propylene) is a co-product of refining.

Qenos takes the Feedstocks and sequesters up to 80 per cent of the contained carbon in products that it sells (which products are not burnt as fuel). If not for Qenos these feedstocks would be burnt, increasing Australia's overall emissions.

In not being trade exposed, the Feedstock suppliers can pass through their own carbon costs. Feedstock suppliers have carbon cost pass through clauses in their contracts and have indicated to Qenos that they will be passing through the costs associated with their own emissions, ie the extraction, pressurising and processing of the gas.

If Qenos does not get adequate assistance and its operation becomes unviable the Feedstock Suppliers will need to find an alternative use. That is most likely to result in the feedstocks being used as a fuel. If so the emissions associated with the use of the feedstocks will increase

Paper

Because Australian-produced pulp and paper sells in the global market, our producers are price-takers and must compete on price to remain in business. Spikes in cost of production cannot be easily absorbed because customers can source essentially the same commodity products from competitors. Developing countries – particularly China and in South America – are entering the global pulp and paper market aggressively, and first-world companies are increasingly looking to invest offshore to remain competitive^{xxxiii}.

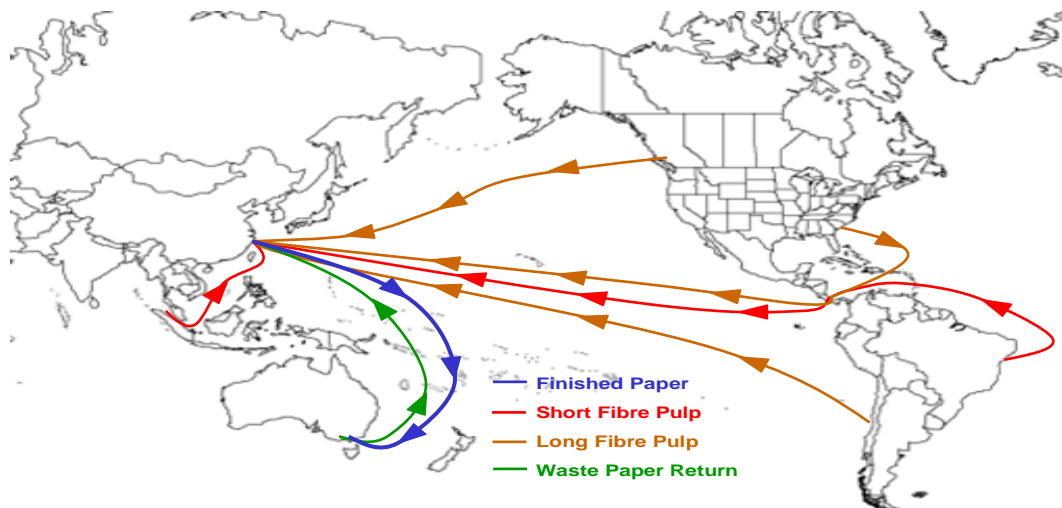
Since emissions trading began in Europe, its pulp and paper sector has highlighted the difficulty of its companies to pass on the extra costs of the EU-ETS to final consumers, because they are price-takers and cannot influence world prices.

Our market competitors are mostly in carbon-unconstrained jurisdictions

In addition to our absolute trade exposure, most of Australia's imports and all of our exports of pulp and paper products involve countries and jurisdictions not subject to CO₂(e) emission costs such as China and the United States.

Paper manufacturers are concerned that the CPRS *Green Paper* does not adequately recognise the trade exposure impact, and consequent carbon-leaking (and carbon *magnification*^{xxxv}) implications, of the scheme as currently proposed.

Without a Local Industry, Paper Travels a Long Way



A tonne of Chinese paper sold in Australia clocks up 28,000 travel kilometres

Visy recommends:

- A sufficient flow of freely allocated permits being provided to efficient EITEs, which includes the Australian pulp and paper industry, to cover their indirect and direct exposure to emissions liability. In order:
 - (a) to retain skilled manufacturing jobs, and future investment within Australia in the face of strong competition from non-ETS jurisdictions, and
 - (b) to avoid carbon leakage (and potential carbon “magnification”) to non-ETS jurisdictions
- Incentive structures and benefits associated with the NSW GGAS being retained at least until 2020 (the date expectation upon which Visy’s GGAS projects were based), and for effective transitioning of the GGAS instruments into the national CPRS on a “tonne-for-tonne” CO₂(e) basis,
- Large energy users being empowered to avoid exposure to “cost-plus” pass-through by electricity generators (achieved by those large users being able to opt-in as parties liable for the carbon emissions from their purchased power),
- Implementation of an effective materials recycling incentives program for Australia, with an emphasis on domestic remanufacture of goods within Australia from recyclables, and
- Practical acknowledgement, in policy and practice, of the importance of landfill avoidance as a greenhouse gas abatement measure, including treatment of landfill avoidance as a specific greenhouse gas abatement weapon under the CPRS. This is a major issue for Visy because:
 - 1) Science clearly shows that significant amounts of Methane (CH₄) are emitted for every tonne of waste paper that ends up in landfill. This is due to the fact that fibre/cellulose which is organic inevitably degrades to Methane over time if left in landfill. Methane has a Global Warming Potential (GWP) 21 times greater than CO₂. The National Greenhouse Accounts (NGA) Factors Workbook effectively provides that landfill emissions associated with paper are 2.12 TCO₂/Tpaper.
 - 2) The activity of Waste Paper Recycling and Paper Re-manufacture produces a useful product from waste. Paper Recycling and Re-manufacture is an energy-intensive activity. However, the process carbon emissions are significantly less than the carbon abatement that occurs due to landfill-avoided methane - that is, the activity of paper re-manufacture from waste paper is a carbon sink.
 - 3) Rising energy costs (independent of emissions trading scheme impacts) and other factors are making this activity less profitable. Since the activity is highly trade-exposed and emissions-intensive, but not necessarily eligible for adequate assistance as spelt out in the government’s Green Paper, viability of paper recycling and re-manufacture will be seriously threatened - our modeling shows that additional costs posed by the CPRS (per the Green Paper) would mean the certain closure of 2 of Visy’s mills at a carbon price of \$40/T CO₂ and the potential for closure even at a price of \$20/T CO₂.
 - 4) If the CPRS is to reflect the true science of carbon emissions and abatement, it should credit significant and genuine carbon sink activities such as waste paper recycling. Without this and appropriate assistance in recognition of the fact that the activity is emissions-intensive and highly trade-exposed, currently recycled paper may find its way to landfill with a looming time-bomb of massive amounts of landfill methane generation in future years.
 - 5) At best some paper will be exported to countries whose paper recycling activities are more emissions-intensive than our own and many such countries are not subject to a carbon-constraint. In reality, much of the waste paper used by Visy is of poor quality (Visy consumes a much larger portion of “Common Waste” and a much smaller portion of good quality OCC (Old Corrugated Containers) waste than many recyclers around the world) and much of this waste paper would not be saleable to export markets.
 - 6) Without appropriate credit, further investment in waste paper recycling will also not occur and the country will miss the opportunity to gain ground on an already strong waste paper recycling position and to harness significant carbon abatement potential.

Australia has two producing LNG ventures and a third, Woodside's AUD12bn Pluto project, under construction, while at least 12 more have been proposed to meet rising demand in Asia. The nation may become the world's third largest LNG supplier by 2017, the national oil and gas industry association said in early April.^{xxxvi}

Production in WA could increase threefold over the next 10 to 15 years. That state could host no less than four major LNG production developments. These include the Gorgon LNG plant being pursued by Chevron, ExxonMobil and Shell; INPEX's Ichthys project; Woodside Petroleum's Browse LNG project; and BHP Billiton's Pilbara plan in the Scarborough and Jupiter fields.

Woodside, operator of the AUD20 billion North West Shelf venture is planning ventures in the Sunrise and Browse fields off northern and north-western Australia. US based Chevron and Japan's Inpex are among companies also planning LNG projects in WA.

There is currently approximately \$40 billion in new LNG related projects. With the global demand for gas continuing, most of these projects will move to the construction phase within the next 5 years. Construction will be both off and onshore, with process facilities such as trains for LNG and domestic gas requirements. The value of each of the projects is estimated as follows:

Pluto	\$6-10 billion
Gorgon	\$11-14 billion
Inpex	\$6-10 billion
Scarborough	\$6-10 billion
Browse	\$6-10 billion.

It is commonly stated that for each project there is to be around 6000 direct and indirect jobs with around 1700 to 2000 exclusively in the state where the project is located. That equates to a total of at least around 30,000 jobs.

LNG - Keeping up with demand

Business Monitor International (BMI) long term forecasts suggest that Australia is capable of producing up to 86 billion cubic meters (bcm) of gas by 2017, but would have just 51bcm available for export as LNG, providing some 37million tonnes per annum (tpa) – against the estimated 13.5million tpa shipped in 2007.

The pace of development of new LNG projects in Australia has been “too slow” given the size of the gas resources and rising demand for the fuel, consultants Wood Mackenzie has said. Its expectations are receding rather than growing in terms of the 2017 LNG target being met thanks to capacity constraints, industry skills shortages and delays in project approvals. The firm sees 2020 as a more realistic goal for tripling supply.

Australia’s leading independent oil and gas producer, Woodside Petroleum, has warned that the country cannot meet its target of tripling liquefied natural gas (LNG) supplies in 10 years.

The country’s existing LNG capacity of 15.4 mn tpa, set to rise to 19.8 mn tpa by the end of 2008, has taken 25 years to establish and the 2017 target would require about 40mn tpa projects to be approved within the next 42 months, involving the construction of about eight LNG production units at once.

Woodside has claimed Australia’s proposed emissions-trading system, may harm its LNG growth because of the potential reduction in competitiveness of export-oriented industries. Woodside has warned that Australia’s competitors in the LNG market are countries such as Qatar, Nigeria, Trinidad, Indonesia and Malaysia that do not have a price on carbon.

Achieving this exciting future will require an ETS design that recognises the contribution the LNG sector is making to the economy through growing national income and employment.^{xxxvii} Supplying domestic growth in China and India is serving as vital countercyclical ballast to the effects of the downturn being experienced in developed economies as a consequence of slower US growth.

Australia’s future ETS must therefore promote production, exports and future investment in LNG. The sector needs clarity on whether, and if so, how, the support measures proposed in the Green Paper (or others) might be applied to the LNG industry, given both industry characteristics and the positive aspects of the energy source itself. The pricing structure of LNG makes it a special case for assistance - locked into long term essentially fixed price contracts in Asia Pacific market, with very few spot sales. LNG is also a product that cannot be stockpiled or easily stored and there is a necessity to meet delivery deadlines with precision.

And LNG has a vital role as a transition fuel to a lower carbon economy. Australian producers, at best practice, are exemplars to global LNG suppliers. Australian producers have been working in cooperation with the MUA-AWU Offshore Alliance^{xxxviii} to reduce the emissions intensity of domestic LNG production also relevant to non-Annex B LNG producers. To the union Alliance therefore it seems self-evident to recognize investment made by the LNG sector if we are to be able to cater for growing demand in cleaner burning gas as a transition fuel under a global ETS.

While Australia has abundant reserves of natural gas, value adding LNG projects take years to develop requiring significant investment. Certainty is needed that investments will not be undercut by decisions which make the sector less competitive compared to overseas suppliers; potentially stranding Australian resources of this vital transition fuel.

There is a finite period in which to secure Australia's place as a dominant, reliable LNG supplier to the rest of the world. There is a major risk of carbon leakage of investment and jobs from the domestic LNG sector to foreign jurisdictions concerned with maximizing production and exports rather than environmental goals. The risk of leakage is tangible.

A Floating Production, Storage and Offloading vessel (FPSO) is a type of floating tank system used by the offshore oil and gas industry and designed to pump product through a riser system attached to FPSO from wells direct from seabed, take on board, process store and then discharge to tankers. They may also take oil and gas from nearby platforms to be processed, stored and discharged in the same way.

The main common characteristic of FPSOs is that they are vessels capable of weighing anchor and moving to foreign waters, including to non-Annex B producers. While Australia shares 6 per cent of world production and exports of LNG, Annex B countries are responsible for 93 per cent of global LNG exports and production. And much of it is in our near neighbourhood in SE Asia. FPSOs are also in short supply globally.

The MUA-AWU Offshore Alliance supports greater assistance for our industry and workers as we move along the pathway to a global ETS. In the interim, it is vital we recognise the ETS introduces a burden on the LNG sector by imposing a carbon price which does not currently apply in a globally competitive industry which takes the world price for its outputs.

Generally, we agree with the MUA that there is a second important condition that we want attached to the issue of free permits to the LNG industry, and that is that it makes binding commitments to much higher levels of Australian participation across all aspects of exploration, construction, production and transportation. This requirement is included in ALP Platform.

There may be other compensatory mechanisms which could be targeted directly at protecting workers' interests as distinct from the broader community and which focus on retaining rather than restructuring these jobs.

Agriculture – Credits and Offsets

We are keen to pursue the merit of exploiting carbon offset and credit opportunities in agriculture particularly in horticulture and sugar cane and other viable crops and urge the Government to consider how these opportunities may also serve abatement opportunities and regional opportunities under the ETS.

Conclusion

The AWU has been at the front of this debate because we want to ensure that Australia retains industries such as aluminium smelting and alumina refining under a global ETS. Australia and the rest of the world will continue to demand these materials - in particular from China and India - and the demand will be met by local production or by someone else. It makes sense to us that Australian industry, using best practice methods of production employing Australian workers, supporting other Australian industries in particular in the manufacturing sector and sustaining Australian families and communities in particular in regional Australia is what the AWU stands for. We believe it is also what the Rudd Labor Government stands for. In this way, the ETS proposals may be both good for the economy and better for the environment. There is a future for our industries under the ETS.

The AWU will continue to work closely with our industries and the government as we move to the next stage in the consideration of the government's white paper and exposure draft legislation. We request the direct interest of EITE workers be acknowledged in the white paper through support and insurance arrangements including through the application of conditional workers' permits as outlined in this paper. The AWU stands ready to assist the government in the transition to the ETS and commends the work being undertaken in particular by the Minister for Climate Change and Water, Senator the Hon Penny Wong to this end.

Endnotes

ⁱ Green Paper on Carbon Pollution Reduction Scheme, 16 July 2008

ⁱⁱ AWU Position Paper July 2008, The National Emissions Trading Scheme

<http://awu.net.au/national/news/files/Emissions%20Trading%20Scheme%20A1%2022%20July%202008.pdf>

ⁱⁱⁱ At a ground-breaking conference of industry leaders, hosted by the AWU, we underlined a strongly held view that a well thought out carbon reduction plan should ensure on-going job security for our members if the Federal Government supported existing corporations in their shift to the low-carbon technologies of the future

^{iv} Refer to Chapter 14 of the Garnaut Climate Change Review Draft Report, June 2008 and Chapter 9 of the Green Paper, July 2008

^v AWU Position Paper July 2008, The National Emissions Trading Scheme

^{vi} Cement Industry Federation, June 2008

^{vii} Australian Aluminium Council, Sustainability Report 2007

^{viii} Australian Paper and the Australian Government – Working Together, presentation to Government

^{ix} Paul Howes, National Secretary, AWU wants emissions permits for workers, not just corporations, 23 July 2008, http://www.awu.net.au/national/news/1216726886_21490.html

^x Garnaut Climate Change Review, Targets and Trajectories, Supplementary Draft Report, September 2008

^{xi} Joint Standing Committee on Treaties - Review of the Kyoto Protocol and Beyond

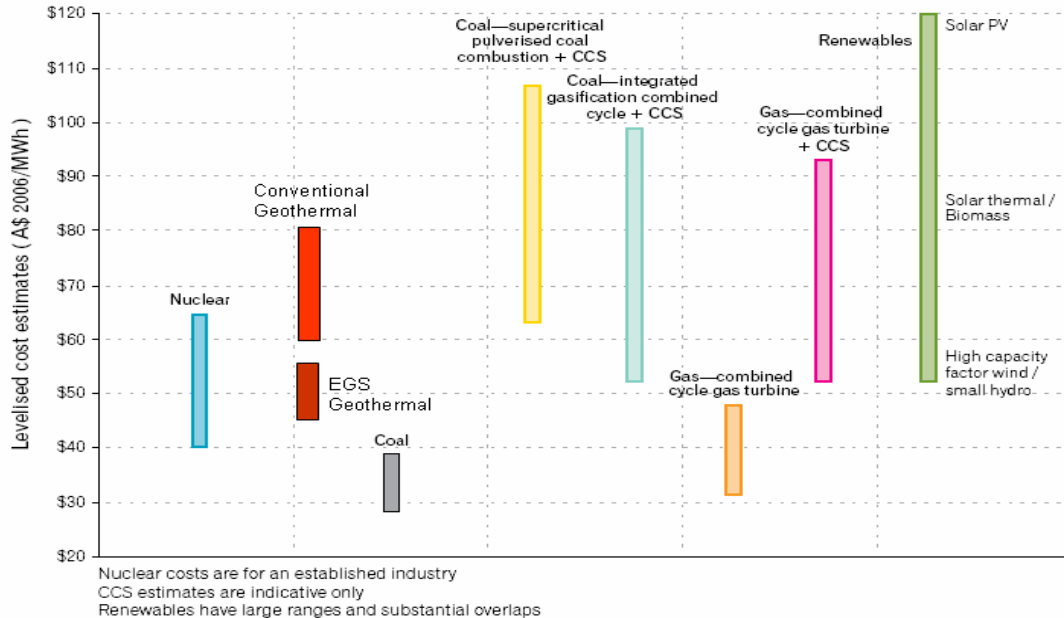
^{xii} <http://www.alp.org.au/media/0908/mstres010.php>

^{xiii} <http://www.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2008/098.htm&pageID=003&min=wms&Year=&DocType=>

^{xiv} **Sustainable Metals: The Challenge for Europe and Australia**, Professor Geoffrey Brooks, March 2008, Swinburne University of Technology

^{xv} Geodynamics 22-Aug-2008 Presentation by CEO to Australian Geothermal Energy Conference.

^{xvi} Relative costs from Switkowski, with the conventional geothermal energy cost adapted from Somerville (1994)¹ using an annual rate of increase of 7% and the hot rocks geothermal (EGS) cost estimates from Geodynamics Ltd.



Source: Submission by EGS to the Garnaut Review

^{xvii} Garnaut Review Submission : Issues Paper 4 – R&D: Low Emissions Energy Technologies

Electricity Generation from an Engineered Geothermal System using a Supercritical CO₂ Geothermal Siphon Hal Gurgenci, Victor Rudolph, Tapan Saha, Peter Jacobs, Joe Dong, Max Lu

^{xviii} Garnaut Climate Change Review, Draft Report 2008, Chapter 17 Network Infrastructure, Market Failures

^{xix} Garnaut Climate Change Review, Targets and Trajectories, Supplementary Draft Report, September 2008

^{xx} US Energy Information Administration, 2007a

^{xxi} Emissions in the Platinum Age: The Implications of Rapid Development for Climate Change Mitigation, Ross Garnaut, Stephen Howes, Frank Jottzo and Peter Sheehan, May 2008

^{xxii} In partnership with Peter Coates of Xstrata and Gladstone Area Promotion & Development Ltd, Everald Compton organised an Emissions Trading Forum for the Surat Basin Coal Basin & Gladstone Region which was attended by fifty delegates from Coal and Gas companies plus local governments and primary industries, etc that are located in Central Queensland.

^{xxiii} **Task Group Report on Emissions Trading (The Shergold Report)**

Protecting and encouraging new investment in EITE industries:

- The Shergold report outlines how new investment can be protected and encouraged under an ETS framework under a system of free permits. It is discussed in the body of the report in section 7.4.2 (p116) and in Appendix L.
- The report includes an important insight in that it understands that new investment will be affected by and have an influence on both direct and indirect emissions of EITEs.
- The report sets out a mechanism of rewarding companies that undertake new investment in cleaner technologies and processes with free permits for a defined period which can be used against 'own emissions'.

- These permits would be in addition to the allocation of permits to which the EITEs would be entitled to receive at the start of the ETS as a consequence of the risk of leakage based upon historical averages. But these initial permits would cease after a defined period unless the industry was meeting best practice benchmarks so the emphasis is achieving more permits through new investment.
- New investment would also be protected from the costs of indirect emissions through an allocation of permits based on economy wide modeling on the increase in input costs as a consequence of these indirect emissions or a more sector specific approach which would aim to calculate the increase in energy costs to the industry or activity.
- New investment is explicitly factored into the manner in which permit entitlements are calculated for EITEs.
- Part of the concern of the EITEs is the manner in which the Government's plans based on a simple emissions against revenue measure penalises companies which have already taken steps to reduce emissions based on new investment and who are looking to do so in the future.
- The ETS provides incentives to reduce emissions in the event that the flow of permits for own emissions is reduced, but it does not reward new investment directly with an allocation of permits which would allow industry to factor into their decision making aimed at maintaining competitiveness.
- The other notable feature of the Shergold approach is the focus on protecting competitiveness by assessing the net position of EITE's in post tax terms. In other words, the permits would cover the costs of both direct and indirect emissions in post tax terms.
- The approach adopted in the Shergold report is much closer to the position of the EITEs in a number of ways and accounts for trade exposure more directly, new investment and competitiveness impacts in the absence of a global carbon constraint.

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^{xxiv} Saving regional jobs : AWU leaders talk lower-carbon standards, 1 August 2008,
http://awu.net.au/national/news/1217636355_29306.html

^{xxv} PPPs and Traditional Procurement in Australia, **Report to Infrastructure Partnerships Australia**
Allen Consulting, November 2007

^{xxvi} BlueScope Steel has two blast furnaces – No5 Blast Furnace Built in 1972 and No6 Blast Furnace built in 1996. Both are located at the Port Kembla Steelworks in NSW, Australia.

No5 Blast Furnace currently produces approximately 2.6 million tonnes of hot metal (iron) per year. It was last relined in 1991. Every blast furnace needs to be relined periodically; typically every 15-20 years. Media Release, 29 May 2008 BlueScope Steel Announces Formal Approval For \$370m Blast Furnace Reline Project

^{xxvii} <http://www.gemco.com.au/content/view/24/57/>

BHP Billiton, GEMCO's majority shareholder, is the largest diversified resource company in the world, accounting for more than 15% of the world's high-grade manganese ore production. GEMCO exports approximately 70% of its product to steelmakers around the globe. We are committed to being the supplier of choice for **high quality manganese** products. GEMCO's operations encompass activities of exploration, mining, haulage, processing and shipping of manganese ore and associated services. We are committed to sustainable development and continuous improvement, and aspire to Zero Harm to people and the environment.

^{xxviii} **Manganese ore production**

Due to stockpiles of excess ore accumulating in the second half of 2005 global manganese ore production decreased by 3% to 33.7 million mt in 2006 (11.8 million mt in manganese content).

China was the largest producer at 11.0 million mt (2.3 million mt of manganese content), followed by South Africa with 5.3 million mt (2.3 million mt in manganese content), Australia, Gabon and Brazil producing 4.3 million mt, 2.9 million mt and 2.5 million mt, respectively (1.9, 1.3 and 1.1 million mt in manganese content).

International Manganese Institute, <http://www.manganese.org/production.php>

^{xxix} Australian Aluminium Council Sustainability Report, 2007

^{xxx} As above

^{xxxi} Cement Industry Federation The Status of the Cement Industry in the Future ETS, June 2008

^{xxxii} AWU Position Paper July 2008, The National Emissions Trading Scheme, p11

^{xxxiii} Note, for example, the recent trend for companies such as Stora Enso, Botnia and International Paper, to investigate investing in South America. "...with high costs and other constraints in traditional Northern Hemisphere producing regions, and with a fibre shortage expected to continue in Asia, more of the largest pulp and paper companies should consider investing in pulp production in South America to remain competitive...." (PWC 2007 Report - *Risks and Rewards: Forest, paper and packaging in South America*, cited in www.newswire.ca/en/releases/archive/July2007/05/c3844.html - accessed 9 June 2008)

^{xxxiv} Data for 2006 (source: Jaakko Pöyry)

^{xxxv} "Carbon magnification" refers to the potential for industries in non-regulated jurisdictions to emit *more* carbon than Australian industries for the *equivalent unit of production*. Thus, as well as leakage of manufacturing jobs and investments, the net impact on global emissions may be higher than had the industries remain in Australia

^{xxxvi} Asia Pacific Oil and Gas, Insight June 2008, Issue 26 Business Monitor International.

^{xxxvii} Most projects move through the following stages:

- Development of wells through drilling campaigns;
- Connection of subsea trees and manifolds;
- Pipeline structures- a connection hub to flowlines;
- Flowlines connections to termination structures;
- Control systems, communication infrastructure (fibre optic cables) to monitor subsea equipment; and
- Gas processing facilities, onshore on with trains for LNG.

With most projects the value of the projects are in:

- Initial investment;
- Taxes and royalties;
- Additional export income from a value added product;
- Direct and indirect employment;
- Further employment growth;
- Expansion of existing services and industry;
- New technology, innovations and skills;
- Development of skills; and
- Attraction of new industry.

Most of this is related to the LNG project structured around the production or delivery of the product. Project coverage includes:

- Maritime support and services;
- Training;
- Security;
- Supply- construction infrastructure human resources and housing etc;
- Maintenance; and
- Service companies.

^{xxxviii} Giving a voice to Rig Workers – the Offshore Alliance, http://www.awu.net.au/wa/news/1212975145_3674.html