



10 September 2008

Carbon Pollution Reduction Scheme Green Paper Submission  
Department of Climate Change  
GPO Box 854  
Canberra Act 2601

Dear Secretary

The Investor Group on Climate Change Australia/New Zealand ('IGCC') would like to thank you for the opportunity to provide comment on the Carbon Pollution Reduction Scheme Green Paper ('Green Paper').

### **Background to the Investor Group on Climate Change**

IGCC represents Australian investors, with total funds under management of over **\$500 billion**, and other key participants in the investment community. IGCC believe that climate change is one of the most significant issues facing our industry, our economy and our society.

IGCC, support early and strong action by the Australian Government in tackling climate change. As universal investors in listed and unlisted companies and assets across all sectors of the Australian economy and with a focus on long as well as short-term returns, it is important to members of IGCC that the long-term costs to the economy of taking action to tackle climate change are minimised. We are firmly of the view that the costs of early and strong action will be less than the costs of delayed or insufficient action.

More information on the IGCC can be found at [www.igcc.org.au](http://www.igcc.org.au).

### **What is IGCC's Interest in the Green Paper**

IGCC represents a range of interests in the investment community, including superannuation funds, large multi-asset managers and single asset managers. Therefore, the members of IGCC are investors in both publicly listed and private companies, across all sectors of the Australian economy and direct investors in property and infrastructure assets. In the course of their activities individual member organisations of IGCC seek to obtain, or provide to others, advice on gaining acceptable risk adjusted returns for their investments. The size and mandate of IGCC members means the focus is on long-term as well as short-term returns.

**IGCC strongly supports the introduction of the Carbon Pollution Reduction Scheme ('CPRS') which is one of a number of appropriate government policy mechanisms urgently needed to address the economic, environmental and social risks of climate change.**

As IGCC members invest across the economy, IGCC is concerned with the impact on both specific sectors, including emissions intensive, and the broader Australian economy in the short-term and how the Australian economy adjusts to the new reality of a greenhouse gas emission constraint in the mid to long term. IGCC members believe that the adjustments to the Australian, and other economies, may be significant and, while there may be political uncertainty at the international level, it is in the long-term interest of the broader Australian economy and investors that actions are undertaken with certainty sooner rather than later, so a smoother transition can be made.

IGCC members also invest in (or stand ready to invest in) companies and industries which will have opportunities to be winners by providing abatement solutions once an emissions constrained market is established. So as investors IGCC members view climate change as not only a risk but also an opportunity.

As investors across the whole economy, IGCC members are concerned with both distributional issues as well as total economic impact of the CPRS. IGCC members have an interest in ensuring the proposed CPRS is both efficient and equitable.

### **Overview of IGCC's comments on the Green Paper**

IGCC agree that Australia must act urgently with respect to climate change and support urgent and strong action by the Australian Government. IGCC is firmly of the view that the costs to the economy and society of action on climate change will be less than the costs of delayed or insufficient action. On this basis, **IGCC strongly support the introduction of the CPRS and the government's timeline for the introduction of the scheme in 2010.** IGCC is firmly of the view that compromises and delays will result in greater costs and considerable uncertainty for the whole economy going forward. In order for the scheme to be effective, **IGCC strongly support a meaningful carbon price and therefore the immediate setting of both an ambitious and realistic mid-term emissions reduction target based on science.**

A key issue for long-term investors remains how to transition the Australian economy to the reality of a carbon constraint given the:

- Existing reliance by some sectors, which are energy intensive, on low cost, high greenhouse gas intensive fossil fuels;
- Common, but differentiated, response to climate change by countries, particularly trading competitors in energy intensive goods;
- Uncertainty in the timing and cost of potential emission abatement technologies that will be required to meet proposed emission reduction targets; and
- Cost to the Australian economy of delaying a response to climate change will be greater than well considered early response and reductions.

IGCC agree that a well designed emissions trading scheme will play an important role in transitioning the Australian economy and achieving the desired environmental outcomes. IGCC is in complete agreement with the 3 policy pillars outlined on page 9 of the Green Paper as well as the desired outcomes outlined on page 84 and the assessment criteria listed on page 85.

IGCC agrees with most of the preferred positions in the Green Paper. However, the IGCC can see areas for significant improvement. In particular, IGCC disagrees with the following design features:

- Permit allocation approach;
- Compensation to the non trade exposed sector;
- Reduction in fuel tax excise to offset transportation.

IGCC also submits more detail is required on how the CPRS will interact with voluntary abatement and offset activities.

IGCC support the following design features for the CPRS which are discussed in greater detail in Part B of this submission. In Appendix A of this submission an alternative permit allocation approach is outlined as a number of IGCC members believe achieves the same emissions reduction more efficiently at a significantly reduced overall economic cost.

Design Feature	Positions IGCC support
Coverage	<p>All 6 Kyoto gases should be included.</p> <p>All different categories of emissions (combustion, industrial process, synthetic, fugitive etc) should be included.</p> <p>Sector coverage should be as broad as possible.</p> <p>Transportation should be included.</p> <p>Point of liability and thresholds, as outlined in the Green Paper, including the option for large transport fuel users (ie &gt;25 kT/yr) to assume scheme obligations.</p> <p>Agriculture should be included as rapidly as practically possible.</p> <p>Prior to its inclusion in the CPRS, offsets from agriculture should be allowed.</p> <p>Forestry should be allowed to opt-in to the scheme.</p> <p>The Green Paper needs to clarify when and how waste emissions will be recognised.</p> <p>The Green Paper needs to clarify methodology and procedure for inclusion of non-CCS sequestration so as to ensure only long term sequestration is recognised.</p>
Price discovery	<p><b>The scheme regulator should provide information on: quantities and prices of permits auctioned; quantity of free permits received by each entity; total shortfalls in permits surrendered by liable entities; and the extent and nature of non-compliance.</b></p>
Inter-temporality	<p>Banking of permits should be allowed.</p> <p><b>Borrowing of permits should only be allowed if limited by time (1 year) and quantity (5%).</b></p>
Price controls	<p><b>Given the ability to bank and borrow permits, there should be no price controls or penalties that act as a proxy price cap. Penalties should be set to encourage compliance and be coupled with make good provisions.</b></p>
Emission targets, scheme caps	<p><b>Emission reduction targets need to be ambitious, realistic and based on science.</b></p> <p><b>IGCC prefer at least 10 years of firm scheme caps to provide investment certainty</b>, while recognising that until international negotiations with regard to Australia's international commitments are finalised, 5 year scheme caps may be appropriate.</p> <p>Scheme caps should be extended in accordance with future commitment periods.</p> <p>Scheme caps should be rolled forward by 1 year each year.</p>
Gateways	<p>An indicative gateway of at least 10 years beyond the scheme cap is required.</p> <p>Gateways should be rolled forward by 1 year every year to maximise the period of investor certainty.</p>
Trajectory	<p><b>The trajectory should be set such that the emissions reduction effort increases over the commitment period</b>, ie convex trajectory. A convex trajectory is likely to help manage the transition of the CPRS; take full advantage of technological developments when they arise; and result in an overall reduced economic cost.</p>

Design Feature	Positions IGCC support
Reporting and Compliance	<p><b>Investors require the disclosure of facility level information</b> in order to calculate equity ownership of greenhouse liability under the CPRS.</p> <p>Penalties should be set as to encourage compliance and combined with make good provisions.</p>
International linkages	<p>The CPRS should be linked with other international systems, with similar rigour, however waiting for other systems should not delay the introduction of the CPRS.</p> <p>There should be no long term limits on the import of international permits.</p> <p>There should be no long term limits on the export of Australian permits.</p> <p><b>The Green Paper needs to clarify how it will interact with voluntary offset regimes.</b></p>
Permit allocation approach	<p><b>Permit allocation approach should be as efficient and as equitable as possible.</b></p> <p><b>Auction should be open for participation by all sectors.</b></p>
Assistance and Compensation	<p>The level of assistance and compensation under the proposed CPRS is excessive and will significantly increase the cost of the scheme to the rest of the economy.</p> <p><b>There should be no reduction in fuel excise to offset the CPRS</b>, rather the impact on low income families should be dealt with the same as the electricity price rises (ie all fuel users should be subject to a carbon price).</p> <p>There is a need to compensate EITE industries to avoid carbon leakage.</p> <p>Compensation should only be transitional in nature.</p> <p>Compensation should decline over time to ensure the EITE industries proportion of overall compensation does not grow.</p> <p><b>There is no general case for compensating strongly affected industries that are not trade exposed.</b></p> <p>There may be a limited argument for compensation for loss in asset value for long life electricity generator assets purchased pre 1997 only.</p>
Complementary measures	<p>Additional measures and funding are needed to encourage low emissions processes and energy efficiency.</p>
Tax and accounting	<p>All permits, whether purchased internationally or domestically, should be tax deductible except those held on capital account.</p> <p>There should be no GST on carbon emission reduction.</p> <p>Further consideration is required on revenue recognition principles.</p>
Independent authority	<p>An independent authority is required to determine compensatory issues.</p> <p>Independent authority should have a scientific as well as an economic purview.</p>

## **Part B**

### **Coverage**

As investors across the whole economy, IGCC is concerned with both the distributional and total economic impact of the CPRS. IGCC has an interest in ensuring the proposed CPRS is as efficient and equitable as possible to reduce arbitrary wealth transfers in the economy. As a result IGCC agrees that the sector coverage should be as broad as possible.

#### *Gases*

In order to reduce overall economic costs of the scheme, IGCC agrees that all greenhouse gases included under the Kyoto Protocol should be covered from scheme commencement. IGCC also agrees that all different categories of emissions including combustion, industrial process, synthetic greenhouse gas emissions and fugitive emissions should be included in the scheme from its commencement.

#### *Transportation*

So that the burden of the emissions reductions is shared as evenly as possible across the economy, IGCC agree with the inclusion of transportation in the scheme from scheme commencement. IGCC also agree with applying scheme obligations to upstream fuel suppliers for practicality and efficiency reasons. IGCC's view on the subsequent offsetting of increased fuel costs through reduced fuel excise is discussed below.

#### *Agriculture*

IGCC recognise the measurement issues concerning coverage and offsets detailed in the Green Paper however believes these issues are not necessarily sufficient to preclude the introduction of agriculture before 2015. IGCC agree with setting an indicative timetable for the inclusion of agriculture but submit that it should be included as soon as practicable and possibly prior to 2015. IGCC notes New Zealand's commitment to include agriculture in 2013. Inclusion of agriculture into the CPRS as soon as possible results in substantial economic benefits across the economy.

Prior to its inclusion in the CPRS, offsets for the agricultural sector need to be recognised in order to encourage abatement activity.

#### *Forestry*

IGCC agrees with the Green Paper's preferred position that allows reforestation (as defined for the first commitment period of the Kyoto Protocol) to be included, on a voluntary basis, from scheme commencement in 2010. IGCC supports deforestation being included in the scheme as rapidly as possible. IGCC also supports any additional measures introduced to reverse the incentive, perceived or otherwise, to log native old growth forests.

#### *Waste*

IGCC agrees that waste should be included in the CPRS. Unfortunately, it is not clear in the Green Paper at what point in the waste cycle emissions resulting from waste will be recognised in the proposed scheme. For example, will the emissions be recognised when the waste is deposited in landfill or when the emission occurs? If it is when the emission occurs, an issue of who becomes the liable party when the landfill is closed or subsequently sold.

### *Non-CCS sequestration*

Similarly the Green Paper does not make clear how non carbon capture and storage (CCS) will be dealt with under the proposed scheme, for example storing CO<sub>2</sub> into alumina refinery waste. With respect to this issue, IGCC support a position which recognises long term sequestration performance only.

For example, IGCC would argue that CO<sub>2</sub> used in making urea is not a valid sequestration as the CO<sub>2</sub> is subsequently released when urea is used in fertiliser. , Accepting CO<sub>2</sub> sequestration in urea manufacture would cause some perverse incentives. IGCC submits that there needs to be a rigorous methodology and procedure developed for demonstrating long-term sequestration performance. Moreover, these views are consistent with the proposed approach to measuring agricultural emissions.

### ***IGCC's recommended position***

All 6 Kyoto gases should be included.

All different categories of emissions (combustion, industrial process, synthetic, fugitive etc) should be included.

Sector coverage should be as broad as possible.

Transportation should be included.

Agriculture should be included as rapidly as practically possible.

Prior to its inclusion in the CPRS, offsets from agriculture should be allowed.

Forestry should be allowed to opt-in to the scheme.

Clarify when and how emissions from waste will be recognised.

Clarify methodology and procedure for the inclusion of non CCS sequestration so as to ensure only long term sequestration is recognised.

### **Price discovery**

IGCC agrees that 'the Government can promote efficient price discovery by providing price-relevant information to the market in a timely manner, and ensuring that the information is available to the whole market' and that 'if information is provided to only some market participants, those market 'insiders' would enjoy an informational advantage over other participants.'

Accordingly, and to enable the efficient permit market and appropriate assessment by investors, the scheme regulator needs to provide information on:

- Quantities and prices of permits auctioned;
- Quantity of free permits received by each entity;
- Total shortfalls in permits surrendered by liable entities;
- Extent and nature of non-compliance.

Without this information investors will not be in a position to make prudent investment decisions.

### ***IGCC's recommended position***

Government needs to provide information on:

- Quantities and prices of permits auctioned;
- Quantity of free permits received by each entity;
- Total shortfalls in permits surrendered by liable entities;
- Extent and nature of non-compliance.

### **Intertemporality**

IGCC is generally in favour of intertemporal flexibility which allows entities to shift the timing of their emissions and abatement activities to reduce the overall economic costs of the national emissions reduction and minimise disruptive price volatility. As such IGCC support the Green Paper's preferred position of allowing banking of permits and supports limited short term borrowing only.

IGCC recognise the concerns that excessive speculative purchasing and banking of permits may result in insufficient permits being available for liable entities. However, it would seem more appropriate to contain speculative purchasing of permits rather than to restrict banking to address this concern.

IGCC strongly submits that borrowing should only be allowed if it is limited to borrowing from the next year only and that liable entities should not be able to discharge more than 5% of their obligations by surrendering carbon pollution permits dated from the following year. These limitations by time and quantity are necessary in order for the emissions reduction targets and scheme caps to remain credible. IGCC support the above limits on short term borrowing which allow business flexibility in rolling out large scale abatement activities.

### ***IGCC's recommended position***

IGCC supports Green Paper's preferred position of allowing banking of permits and limited short term borrowing only. Borrowing should be limited to the following year's vintage of permits and 5% of obligations.

### **Price Controls**

Given the ability to bank and borrow permits, the IGCC does not support the imposition of price controls as such controls are inefficient. It is not clear why a price cap is needed or indeed that it would work because presumably it could only apply to public auctions and not the secondary market. The introduction of a price cap would give rise to a range of issues such as whether the price cap would be different for different vintages, who would set the cap and how often it would be reviewed etc. It is also not clear why a reserve price would be required if auctions are competitive and scheme caps are set appropriately.

IGCC supports the Green Paper position that the price cap is used as a penalty for non-compliance, such that it has a very low probability of use.

Any penalties need to be coupled with a make good provision.

### ***IGCC's recommended position***

IGCC does not support price controls.

All administrative penalties need to be coupled with make good provisions so as not to act as a proxy price cap.

## **Emissions targets scheme caps and trajectory**

IGCC supports the setting of an ambitious and realistic mid term and long term emissions reduction target. IGCC recognise the ultimate purpose of the CPRS is to reduce emissions to avoid dangerous levels of climate change. IGCC supports targets and scheme caps that are based on science not other considerations such as revenue raising. IGCC urges the Government to set an ambitious and realistic mid term emissions reduction target as soon as possible to enable market certainty.

In accordance with the Green Paper IGCC submits that the difference between scheme cap and notional target needs to be explicitly reconciled through a notional allocation for emissions not covered by the scheme. This provision will help send a signal to the market of the potential demand supply changes that may occur when the other sectors are included into the scheme. Furthermore and over time, the percentage changes in notional allocation should be the same as the percentage change in scheme cap.

### ***Scheme Caps and Gateways***

IGCC's preference is for at least 10 year scheme caps, however, until international negotiations with regard to Australia's international commitments are finalised we appreciate that 5 year scheme caps may be appropriate. Once Australia's international commitments are finalised the scheme caps should be extended to the end of the commitment period, which may be greater than 10 years.

Scheme caps ought to be extended by 1 year on an annual basis in order to maximise investment certainty.

IGCC also agrees that the government should also set gateways to provide increased investor certainty.

IGCC supports the adoption of a 10 year continuous gateway beyond firm scheme caps and for the gateway to be rolled forward by 1 year every year to maximise the period of investor certainty.

### ***IGCC's recommended position***

IGCC supports the setting of an ambitious and realistic mid-term and long term emissions reduction target based on science.

On an annual basis, the difference between scheme cap and notional target needs to be explicitly reconciled through a notional allocation for emissions not covered by the scheme.

IGCC prefer at least 10 years of firm scheme caps to provide investment certainty, recognising that until international negotiations with regard to Australia's international commitments are finalised 5 year scheme caps may be appropriate.

Scheme caps should be extended in accordance with future commitment period.

Scheme caps should be rolled forward by 1 year each year.

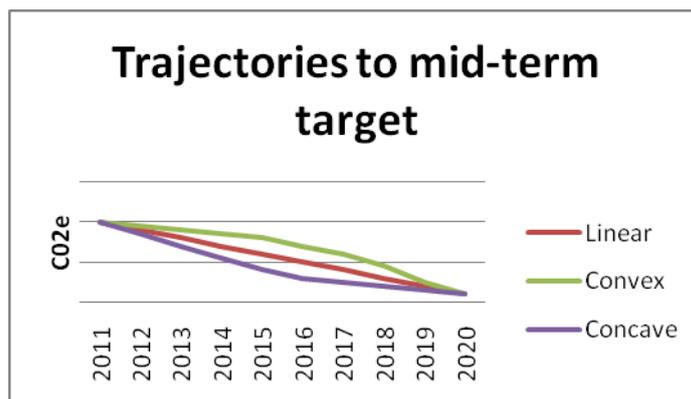
An indicative gateway of at least 10 years beyond the scheme cap is required.

Gateways should be rolled forward by 1 year every year to maximise the period of investor certainty.

## Trajectory

IGCC recognise there are any number of pathways to achieve the scheme cap. For example, trajectories could be set so that:

- i. An equal reductions are made throughout the commitment period ('linear approach');
- ii. A greater proportion of emission reductions are made later in the commitment period ('convex approach'); or
- iii. A greater proportion of emission reductions are made earlier in the commitment period ('concave approach').



IGCC is of the view that a convex trajectory is appropriate for the introduction of the CPRS. With more gradual emissions reductions at the beginning of the scheme a convex trajectory will assist with transitioning to an emissions constrained environment. It is also likely to reduce the overall cost of the emissions reduction as it is expected that additional low emissions technology will come on line during the period and as a result of a carbon price takes hold in line.

Further, it is recognised that greater emissions reduction at the beginning of the scheme is not precluded due to the ability to bank permits. The banking of permits will have the effect of flattening the trajectory.

### **IGCC's recommended position**

IGCC supports setting a trajectory with a greater proportion of emission reductions in the later part of the commitment period to reduce the overall likely cost of the emission reduction to the economy.

## Reporting and compliance

While a useful starting framework, IGCC does not believe the *National Greenhouse and Energy Reporting Act 2007* (NGER) is sufficient to support an efficient carbon market.

### **Liable entity**

While the entity with operational control may be an appropriate liable entity for reporting under the National Greenhouse and Energy Reporting System (NGERS) this definition of liable party alone is not sufficient for efficient operation of the CPRS.

IGCC support greater flexibility in relation to defining the liable entity and support a framework in which scheme obligations could fall on entities which have financial control over, or own a share in, a covered facility.

IGCC suggest that a default definition of the liable party could be maintained in line with NGERs but that mechanisms are established for alternative liable parties to be identified and registered. For example, in the case of a mine site, rather than imposing a significant financial liability (potentially millions of dollars) on the mining contractor operating the site it may be more appropriate to define the mine owner as the liable entity.

### **Reporting**

IGCC agrees that the publication of facility-level data would substantially increase the efficiency of the scheme by providing the market useful information about the structure and nature of an entities obligations under the scheme.

NGERs reliance on the operational control test means that without specific facility level data investors will not be able to determine the greenhouse liability of their investments under the CPRS. Investors are fundamentally interested in equity exposure of companies to greenhouse gas emissions and as such IGCC submits that the publicly available information should enable investors to estimate equity exposure, noting that this can be significantly different from operational exposure.

In order to estimate equity exposure investors require:

- a) Separate detailing of total Scope 1 and Scope 2 emissions;
- b) Scope 1 emissions disaggregated into category, e.g. combustion, industrial process, fugitive, etc; and type, e.g. N<sub>2</sub>O, CH<sub>4</sub>, etc. of emission;
- c) List of facilities covered by the emissions inventory; and
- d) Scope 1 and Scope 2 emissions for all facilities above the facility threshold of 25 kilotonnes CO<sub>2</sub>-e, along with the details outlined in point (b) above.

IGCC recognise the need for national greenhouse and energy reporting which is flexible and transparent and which allows companies to streamline the reporting of this information consistent with mandatory and voluntary initiatives in Australia, and with international initiatives such as the Global Framework for Climate Risk Disclosure and Carbon Disclosure Project (CDP). The information listed above is consistent with the disclosure requirements of the CDP and is currently provided by over 3000 of the world's largest companies. Contrary to some claims, this would indicate that such information is not commercially sensitive in the majority of cases. This fact is also reinforced by the emissions disclosure requirements in other jurisdictions, for example, Canada.

IGCC submits that it is only under exceptional circumstances that the additional information listed above is commercially sensitive. The IGCC submits that such a disclosure does not cover aspects which may be reasonably expected to be commercially sensitive, notably:

- the financial arrangements with fuel or energy providers; and
- operational practices/technology that leads to the emissions or energy use.

Additionally, in the five years that companies have been providing this information to CDP there has been little evidence that such information has been used in unfair attacks on companies. In fact, many companies have provided laudable feedback regarding the CDP and the benefits that can be derived for participating companies.

IGCC also submits that information reported by non liable entities voluntarily should also be made publicly available as this information is useful for investors.

## **Compliance**

IGCC supports strong and certain penalties that are not tax deductible, combined with make good provisions which are tax deductible.

Make good provisions are required in order for the market to maintain integrity and ensure penalties do not act as proxy price caps. Make good provisions are consistent with widely accepted revenue law principles which require entities that have not complied with their taxation obligations to pay a fine as well as the amount of original tax outstanding. It also needs to be made clear whether the make good provision will be tax deductible.

Investors require the disclosure of facility level information in order to calculate equity ownership of greenhouse liability under the CPRS.

Penalties should be combined with make good provisions in line with current revenue law principles.

## **International linkages**

IGCC agrees that international trade in emissions units would promote a more efficient global response to climate change when linked with international systems of similar rigour. As such IGCC submits there should be no long term restriction on the import of international permits. It is noted that the New Zealand scheme does not impose quantitative restrictions on the use of Kyoto units for compliance.

IGCC agrees with indirect linking of schemes via Kyoto mechanisms initially. In particular, IGCC also agrees that Removal Units (RMU's) and Assigned Amount Units (AAUs) should be recognised for compliance purposes in the scheme period 2010-11 to 2012-13. IGCC also agrees that Emission Reduction Units (ERUs) created under the Kyoto Protocol Joint Implementation mechanism and Certified Emission Reductions (CERs) generated under the Kyoto Protocol Clean Development Mechanism should be accepted for the period 2010-2011 to 2012-2013. Furthermore IGCC believes all long term and temporary CERs from afforestation and reforestation activities should be allowed to reduce overall economic costs of the scheme.

IGCC submits that the only possible limitation on the importation of international permits should be on 'hot air' AAUs in the period 2010-11 to 2012-13.

IGCC submits that outside of transition no limitation should be placed on the export of Australian permits.

IGCC further submits that the acquisition of international permit to meet Australian obligations should be tax deductible.

IGCC submits there needs to be more clarity on how the CPRS and its rules will interact with international voluntary carbon trading markets. IGCC does not hold a position on whether such offsets should be recognised, or how the rules should interact only that the relationship be clarified so investors can make more efficient investment decisions going forward.

### ***IGCC's recommended position***

The CPRS should be linked with other international systems, with similar rigour, however waiting for other systems should not delay the introduction of the CPRS.

IGCC supports the unlimited import of 'greened' AAU's within the 2010-2011 to 2012-2013 period and in the long term.

IGCC supports the unlimited import of RMU's within the 2010-2011 to 2012-2013 period and in the long term.

IGCC supports the unlimited import of ERU's within the 2010-2011 to 2012-2013 period and in the long term.

IGCC supports the unlimited import of CERs within the 2010-2011 to 2012-2013 period, including CERs generated from afforestation and reforestation activities in the long term.

IGCC submits that outside of transition no limitation should be placed on the export of Australian permits.

The acquisition of international permits to meet Australian obligations should be tax deductible.

Rules for the interaction with voluntary carbon trading markets need to be clarified.

### **Permit allocation approach**

Many members of the IGCC believe that there is a fundamental problem with the proposed permit allocation approach and the use of auction revenue and that the proposed permit allocation approach does not achieve allocative efficiency when compared to alternative permit allocation approaches such as for example the output based allocation approach discussed in greater detail in Appendix A of this submission. Indeed the allocative approach currently preferred by Government costs approximately 8 times more than the actual cost of emissions reductions and recycling this revenue through the economy is inefficient. The perceived problems with the proposed permit allocation approach and revenue are as follows.

#### *Doesn't address Market Failure of Split Incentive*

Analysis by McKinsey & Co and others highlight the significant potential for emissions reduction through energy efficiency in the Australian property sector, particularly commercial property, that could be undertaken with negative abatement costs, i.e. cost savings. It is argued that potential cost saving and emission reduction, estimated to be of the order of 20 million tonnes in 2020, already exists.

As many authors and key people in the property sector have concluded, the reason for the energy efficiency options are not being undertaken is a combination of market failures, primarily split incentives (agency costs) and bounded rationality.

Increasing the price of electricity alone will not address this market failure. Unfortunately the Green Paper does not deal with this issue in any substantive way, there have been no proposals put forward to date to address the split incentive issue.

#### *Inefficiency of revenue recycling*

The proposed recycling of permit revenue through the economy is very inefficient, with the amount recycled likely to be greater than 8 times the cost of the actual emissions reduction. IGCC notes that emission reduction is the objective of the CPRS and revenue raising was explicitly stated as NOT an objective.

One of the key rationales for auctioning is to send a price signal to encourage energy efficiency, which at least in relation to the property sector, as noted in Appendix A, will achieve, at best, modest emission reductions.

A second rationale for auctioning is that some of the revenue can be used to offset the cost impact of the scheme. This highlights the inefficiency of the auctioning approach in that the majority of revenue raised from the approach will be used to compensate households, businesses and industry. IGCC is concerned with rent seeking behaviour around the need for compensation and the potentially costly disincentives the distribution may generate on the economy as a whole.

Other proposed uses of auction revenue include assistance to regions or industries specifically impacted and provide finance to assist in the research and development of new technologies. While, these uses are considered reasonable from an equity and future low carbon innovation and development perspective, that does not justify full auctioning of permits on the basis proposed.

### *Governance Issues*

The statement in the Green Paper that all money raised will be used to help Australians and invest in clean energy options is somewhat vague and the commitment needs to be more clearly defined. The commitment can equally be used to justify tax cuts and may be used for other actions which may be politically motivated e.g. the fuel tax rebate scheme, and/or subject to rent seeking from various interest groups. This only defeats the rationale of auctioning. Finally, as yet there is little or no accountability around the proposed use of auction revenue. For example, there are no specific targets or commitments only opaque political statements.

There is significant upside for the government as a result of auctioning revenue. For example, the increase in the predicted permit price by Frontier Economics is approximately 9% CAGR. Revenue in 2020 would be \$22.5bn in real terms (@\$45/tonne CO<sub>2</sub>-e), assuming other sectors such as agriculture are covered by the scheme. It will increasingly become a major revenue source for the government and highlights the increasing likelihood that the revenue will be used for other purposes that what has been initially proposed.

IGCC does not discount the fact that at some stage revenue from auctioning could be part of a broader tax review but as a matter of prudent policy development, the tax options need to be reviewed and individually assessed before committing to a significant redistribution of wealth which is open to politicisation. The ability to use any auction revenue as part of broader tax changes will in part depend on international climate change developments. For example, some support for EITEs may be required for some time.

### *Risk of Lowering Reduction Target*

The government is under growing pressure to have a slow start to the emission reduction, so the permit price is low. This comes from a concern on permit price volatility, particularly in the early stages of the CPRS and the step change in energy prices, notably electricity prices, which occur under the proposed allocative method.

From an investor's perspective, both are reasonable concerns, but responding to the problem by decreasing the abatement task is not a good solution from an investor's perspective. The solution should be to design the scheme to minimise the problem.

### *Non-residential property sector*

IGCC is disappointed with the lack of discussion of the property sector which is recognised as a significant source of low cost abatement if structural barriers can be overcome in Australia. In relation to energy efficiency, an output based approach can assist (discussed in more detail in Appendix A) in overcoming this structural barrier. Many members of IGCC believe such an allocation approach can help the government address the position put by others, such as the Property Council of Australia who

suggest the use of a voluntary mechanism (opt-in) to fast track abatement initiatives. The proposed output based approach also addresses other key concerns in the property sector, namely:

- enables fungibility of 'credits' generated from abatement that occurs through property initiatives;
- compliance costs associated with the registration of projects and their audit need to be streamlined (multiple buildings in multiple states) as single building scale abatement is not cost effective.; and
- should address issues associated with the rights of tenant and landlord in tenancy law to provide certainty to landlords as to their ownership rights of projects they have funded under the CPRS.

These considerations are essential to overcome the tenant/landlord split incentives and also 3rd party agency issues which were not dealt with in sufficient detail in the Green Paper.

### ***Auction participation***

IGCC submits that regardless of the permit allocation all sectors (not just liable parties) should be able to participate in the auction. Allowing all sectors to participate, including the financial services sector will enable greater market efficiency.

The finance sectors involvement will be critical for the effective development of the secondary market and the development of financial risk products for liable parties.

### **Assistance under the CPRS**

IGCC is of the view that the level of assistance and compensation proposed under the CPRS is unnecessary and inefficient. Assistance and compensation to some sectors will significantly increase the cost of the scheme to the rest of the economy, create inefficiencies and distortions, lead to wealth transfers and defy the notion of equity of treatment within the economy. It will also dampen any price signal for emissions reduction in those sectors where there is greater elasticity of demand to energy prices.

IGCC agrees that low socioeconomic groups should be assisted to address the potential financial impact of the scheme and to encourage energy efficiency. However, IGCC does not believe that auctioning permits and recycling revenue will efficiently or effectively address the issue.

Many of those in the low socio-economic group rely on rental accommodation, where again there is a split incentive to undertake energy efficiency actions.

### **Transportation**

IGCC strongly disagrees with the governments' proposal to cut fuel excise within the first three years of the scheme's commencement to offset the price impact of fuel. Offsetting the price impact of fuel will dampen the incentive effects of changing patterns of fuel use and accordingly reduce the overall efficiency of the CPRS.

In addition the IGCC does not agree that heavy road users should be insulated from the CPRS. Compensating heavy vehicle road users directly disadvantages other less greenhouse intensive transport sectors such as rail freight.

IGCC believes that it is appropriate to assist low income families from increases in fuel costs but that this should be dealt with in the same way as electricity price rises.

### **Emissions-Intensive trade-exposed ('EITE') industries**

IGCC agrees that there is a need for transition assistance for EITE industries to avoid carbon leakage. This transitional assistance should decline over time to ensure the EITE industries proportion of compensation does not increase.

There are a number of problems with the transitional assistance approach proposed.

While the proposed criteria for obtaining, and the level of, assistance are transparent they do lead to some perverse incentives, such as encouraging companies to emit more if they are just below the threshold and a disincentive to reduce emissions if above the threshold. The arbitrary nature of the cut-offs will also lead to rent seeking behaviour to change the criteria so a particular industry is given assistance. This arbitrariness seriously impacts both the integrity and equity of the CPRS.

In addition, there are important boundary issues around the definition of “activity” that may not be possible to overcome efficiently. The definition of ‘activity’ is likely to lead to debate and lobbying especially within the chemicals and I&S sector.

IGCC notes that other means of providing transitional assistance to EITIs have been suggested to overcome the problems identified above. IGCC have serious concerns about any method that limits emission costs as a percent of revenue of value add, as they do not overcome the arbitrary nature of the threshold decision or the definitional issues. However, more fundamentally, they disconnect carbon costs from actual emissions, which undermines the key principle behind a trading scheme. This kind of assistance suggested means that there is a zero marginal cost for carbon emissions once a facility is above the threshold and means other abatement, which will be at higher cost, will be needed if the emission cap is to be met. This will not be least cost abatement.

As a result many members of IGCC believe that the output based allocation approach (discussed in Appendix A) which allocates permits on the basis of a sector emissions intensity and production at individual facilities should be considered for the whole economy not just identified EITEs. This would overcome the problem trying to define an EITE and address a number of other key issues.

#### ***IGCC’s recommended position***

There should be no reduction in fuel excise to offset the CPRS, rather the impact on low income families should be dealt with the same as the electricity price rises.

There is a need to provide transitional assistance to EITE industries to avoid carbon leakage.

Assistance should only be transitional in nature.

Assistance should decline over time to ensure the EITE industries proportion of overall compensation does not grow.

Further consideration be given to a broad-based output based permit allocation approach

#### **Non trade exposed emissions intensive industries (‘strongly affected industries’)**

IGCC submits there is only a weak case for compensating strongly affected industries that are not trade exposed. IGCC submits there may be a limited argument for compensation for loss in asset value for long life electricity generator assets purchased pre 1997 only which are less than 30 years old.

IGCC recognises that the introduction of a cost on carbon will significantly impact emissions intensive companies and assets. In particular, IGCC recognises the potential for significant coal-fired generation assets in New South Wales and Victoria to face accelerated depreciation or early retirement. However, IGCC is of the view that providing compensation to existing coal-fired generation assets does:

- not change the risk for future investments in the industry;
- distorts the broader investment environment, thereby creating inefficiencies; and
- disadvantages the remainder of the economy including those that have taken early investment action on climate change.

In addition, providing compensation to existing assets will not change the possibility that investors would assess the risk of future regulatory changes more pessimistically. In any case, IGCC submit that the basis for assessing compensation is highly subjective.

Climate change risk including a potential cost on carbon is not a new risk to investors. This is evidenced by the fact that:

- the United Nations Framework Convention on Climate Change was signed in 1992;
- the use of emissions trading was specifically identified by the Kyoto Protocol in 1997;
- emissions trading was discussed extensively by the Australian Greenhouse Office as a possible policy approach as early as 1999-2000; and
- climate change risk has been specifically raised by institutional investors in various forms since 2001.

Therefore, climate change risk including a cost on carbon should have been incorporated into investment decisions since the mid 1990s.

*“Companies should have been doing something about climate change since the 1990’s...by compensating one group you disadvantage other groups that have taken early action. We know that many companies in seriously exposed industries have been factoring in climate change risks”* Ian Woods, AMP Senior Analyst and Deputy Chair, IGCC

It should also be noted that privatised Victorian and other State generators did not receive compensation for impacts resulting from the introduction of the National Energy Market and broader electricity market competition, arguably a more fundamental change to the electricity market than the introduction of the CPRS.

Representing institutional investors with investments in companies and assets across the whole of the economy, IGCC is acutely aware that compensation for coal-fired generation assets will be paid for by the rest of the economy. In other words, compensating one sector in the economy will cause distortions, lead to wealth transfers and defy the notion of equity of treatment within the economy.

The Government’s Green Paper outlines compensation for existing coal-fired generation assets ‘to ameliorate the risk of adversely affecting the investment environment’. However, there is no prima facie justification for providing compensation to electricity generators given that they should have considered climate change risk in their investment decisions, that the precedent for not compensating generators for changes to the electricity market has been established, and that ultimately others in the market will have to bear the cost of the compensation.

### ***IGCC’s recommended position***

There is no general case for specifically compensating strongly affected industries that are not trade exposed.
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### **Tax and accounting**

IGCC agrees with the preferred positions stated in Chapter 10 of the Green Paper however submits there are at least four issues that need to be considered with respect to the tax implications of the CPRS.

Firstly, IGCC submits that the Green Paper needs to provide additional clarity on the tax deductibility of purchasing permits. IGCC’s position is that all permits except those held on capital account should be tax deductible.

IGCC submits that there should not be any GST on carbon reduction permits. In IGCC's view making carbon reductions should not be included as a taxable supply and should not be further taxed. Further taxing emission reductions will act as a disincentive to companies making emission cuts and lead to large amounts of revenue being transferred to the government.

The tax law implications of the make good provisions enshrined within the CPRS also need to be made more explicit. IGCC submits that the penalties for non-compliance should remain non-deductible in accordance with basic income tax deduction principles and make good activities should be tax deductible.

More consideration is also required regarding the international tax implications, for example whether the acquisition or sale of an emissions reduction permit constitutes a financial arrangement and the associated implications under the recently amended *Taxation of Financial Arrangements Act* ('TOFA') and its regulations.

More consideration will also be required regarding the tax implications of the CPRS regarding the Australian income tax consolidation regime.

### ***IGCC's recommended position***

All permits, whether purchased internationally or domestically, should be tax deductible except those held on capital account.

There should be no GST on carbon emissions reduction.

Further consideration is required on revenue recognition principles, tax deductibility of make good provisions, TOFA and the Australian tax consolidation regime.

### **Transitional measures**

IGCC supports additional complementary policy measures to encourage low emissions processes and energy efficiency. IGCC fully supports the introduction of mandatory energy efficiency standards. IGCC disagrees that the means of funding complementary measures should be through the current permit allocation approach and revenue use commitments currently outlined. IGCC raises the need for a more efficient permit allocation approach based on an output based and emissions intensity permit allocation approach (see Appendix A) alongside a fossil fuel related production levy also based on emissions intensity.

### ***IGCC's recommended position***

Additional measures and funding are needed to encourage low emissions processes and energy efficiency.

### **Independent Authority**

IGCC recognise that elected representatives may need to remain in control of setting the target so as to be able to effectively negotiate an international post 2012 climate change agreement. IGCC however supports the establishment of an independent authority that has a scientific as well as an economic purview so as to avoid politicisation of the CPRS.

A reserve bank type independent authority should be established to make decisions about compensation both in transition and after transition as well as other post transition issues including trajectory and gateway setting after the mid term target has been negotiated. IGCC submits this approach will promote more confidence that decisions are based solely on the relevant legislative criteria as the independent authority will not be subject to political lobbying and short term election pressure.

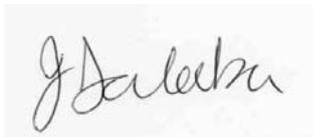
***IGCC's recommended position***

An independent authority is required to set national emissions trajectory and determine the level of compensation for EITEs.

Independent authority should have a scientific as well as an economic purview.

IGCC would be happy to further discuss the issues raised in this submission. Please do not hesitate to contact me on (03) 9018 2215, 0422 101 715 or by email [secretariat@igcc.org.au](mailto:secretariat@igcc.org.au) if you would like any more information on any of the issues raised.

Yours sincerely

A handwritten signature in black ink, appearing to read 'J Saleeba', is centered on a light gray rectangular background.

Joanne Saleeba  
Executive Director  
Investor Group on Climate Change Australia/New Zealand

## **Appendix A**

As discussed, IGCC fully supports the introduction of the CPRS and its introduction in 2010. Many members of IGCC submit that the Government should consider the merits of adopting an alternative output based allocation approach on the basis that such a consideration may lead to a solution which achieves the same environmental benefit at less cost with greater economic efficiency and distributional fairness from an economy wide perspective. With the addition of a small fossil fuel production carbon tax, the proposed allocation approach is cost neutral to the government.

The Green Paper accepts an output based allocation as an efficient way of providing assistance to transition the economy. This is indicated by using the approach as the basis for assisting EITE activities, which equates to about 30% of the permit liability. The IGCC submits that it would be prudent for the Government to consider allocating nearly all (95%) of permits in accordance with the same approach. This approach which allows the whole economy to transition while still growing and may lead to less cost and greater efficiency and equity.

### **Output based Permit Allocation.**

#### **Overview of the Permit Allocation Approach Methodology for Allocation**

The proposed approach auctions 5% of permits and uses an output based allocation to distribute the remaining 95% of permits to liable entities.

The proposed allocation approach is similar to that proposed in the Green Paper to assist EITE, ie allocates permits in proportion to the output or production from the activity that causes the emission. As noted in the Green Paper, this form of allocation maintains the investment incentive for emission abatement that occurs under an allocation approach which auctions all permits.

The main difference with the proposed allocation approach with that outlined in the CPRS is that all entities covered by the CPRS are allocated permits on an output basis, not just EITEs. In addition, as electricity generators will also be provided with permits, there is no requirement to allocate permits for indirect emissions.

The proposed approach will not lead to the significant increases in electricity (and petrol) price, thereby alleviating the need for specific financial assistance to low socioeconomic groups.

The proposed approach also enables demand side abatement to be eligible for permits, thereby providing the same incentive that higher electricity prices under auctioning provide for energy efficiency projects. In addition, it partially overcomes the split incentive barrier to the implementation of energy efficiency projects in the property sector.

#### **How permits are allocated**

It is proposed that 5% of permits are auctioned in the same manner as proposed in the Green Paper, though there is less need to auction future year permits. The principal reason for this are:

- Help establish permit price, especially in the early stages of the scheme;
- Allow some flexibility for the government, for example to include a new industry in Australia, which has an industrial process emission, that might not be covered by the scheme initially;
- Provide revenue for government to assist regional areas or industries, which are particularly adversely impacted by the scheme;
- Provide revenue to the government to fund complimentary measures, such as, energy efficiency awareness programs; and

- Supplement the funding for the research and development and commercialisation emission abatement technology.

The quantum of revenue available for the last three points is given in more detail below.

The direct allocation of permits to entities based on output encourages the secondary market for permits as those who have emissions above the baseline will be required to buy permits and those below the intensity baseline would realise the value of the permit by selling them. In addition, it assists those liable entities to manage working capital requirements, which some parties have noted is an issue for some entities.

For any given year, the number of permits to be allocated to each sector covered by the CPRS (i.e. electricity generation, other stationary energy, industrial, fugitive emissions etc) is determined by the sector's emissions in the baseline year, the percentage reduction to be achieved in the overall national emissions cap and the percentage of the emission permits to be allocated.

Note: the allocation approach does not propose to set individual sector emission caps, but decreases the freely allocated emission permits to each sector, in a way consistent with the decrease in the national emissions cap. Environmental integrity of the scheme is maintained as the total number of permits allocated is 5% less than the cap for that year.

It is proposed that it may be appropriate to allocate on the basis of some emission sub-sectors, e.g iron and steel process emissions, cement process emissions, nitric acid plant process emissions and aluminium process emissions. It is also proposed to have emission sub sectors for fugitive emissions, e.g coal mining emissions, oil and gas emissions and venting and flaring.

Therefore, the number of permits allocated to a sector (or sub sector) in given year is given by:

*Base number of Permits Allocated to Sector =*

*Sector emissions in Baseline year x*

*Percent reduction in national emissions cap (given by reduction pathway) x*

*Percent of emissions to be directly allocated*

The benchmark emissions intensity for the sector for a given year is based on the quantity of emission permits calculated to be allocated and the expected production or activity for each sector for that given year (or other agreed time period). Therefore the allocated emissions intensity for a given sector is:

*Allocated Sector Emission Intensity = Number of permits allocated / **estimated** annual sector production or activity data*

If a sector's actual production or activity for a given period is different from that initially estimated, permits for emissions associated with the under or over estimation of production or activity, can be carried forward to following year (or time period) and incorporated into determining the new allocation emission intensity for the sector.

Therefore, the revised allocated emission intensity

*Revised number of permits allocated = Base number of Permits Allocated to Sector +/-*

*Under/over allocation of permits to sector from previous year, based on the difference between **actual and estimated** sector production or activity data and Allocated Sector Emission intensity of previous year*

This is equivalent to the banking or borrowing of permits by the sector and will assist participants in the sector to manage permit liability.

For most sectors covered by the CPRS, changes in the emission intensity allocation as a result of under or over estimation of production or activity are not expected to lead to significant changes in the expected emission intensity allocation for the subsequent period as the allocation can be based on **short-term estimates of sector production or activity**. For example, if growth in a sector was 2% per year rather than the initial estimate of 1% per year, the required change in the sector emission intensity allocation for the subsequent 1 year period would be less than 1% in the early years of the CPRS. Expressed in other terms, if the actual growth rate is twice as high as initially estimated (e.g. 2.2% rather than 1.1%) when determining the emission intensity allocation, actual production in the sector, assuming constant production all year round, would reach the estimated production on the 28<sup>th</sup> or 29<sup>th</sup> December rather than 31<sup>st</sup> December.

Permits are distributed to liable entities at agreed regular intervals post production and **based on actual and current production or activity records**. The process of distributing permits is an area of the CPRS administration that will require further consideration but could be linked with emission reporting timeframes. There is likely to be a number of ways in which administrative costs associated with permit distribution can be minimised and yet maintain integrity of the allocation process.

### Production metrics and Consideration of Transport and Combustion Emission Sectors

The production metrics for the basis of allocation are relatively straight forward for a number of sector and sub-sectors, e.g. MW-hrs for electricity generation. While further consultation would be required, the most likely metrics for other sectors are those used in the national emission inventory. In some cases, it may be worth grouping together some industrial process emissions, such as lime and cement manufacture. For example:

Sector or Sub-sector	Production Metric
Iron and steel industrial process emissions	Tonne of steel produced
Cement (and lime) industrial process emissions	Tonne of calcium carbonate reduced
Nitric Acid plant industrial process emissions	Tonne of nitric acid produced
Fugitive emissions from coal mine	Tonne of coal mined
Fugitive emissions from oil and gas	PJ of energy produced
Fugitive emissions from venting and flaring	PJ of energy produced
Waste	Tonne of waste

For the transport and non-electricity stationary combustion emissions, an input based permit based allocation approach, based tonne CO<sub>2</sub>/GJ, may be administrative simpler, as it would alleviate the need to develop baselines for all companies or industries. Requirements under EEO and NGER will help companies with this.

This input based approach for these two emission sources would maintain the investment incentive for fuel switching but reduce the investment incentive to reduce emissions through improved energy efficiency. This can be overcome by enabling an option for companies to develop a mutually agreed energy based output metric (ie GJ/unit of output) with the regulator as the basis for allocation. The allocation would decline at the same rate as input based permit allocation.

For example, an alumina refinery has identified an energy efficiency project(s). Based on past energy and production data, the regulator agrees to an energy intensity GJ/tonne of alumina produced for a particular entity. This energy intensity allocation would be used for an agreed time, such as 10 years, so as to provide an appropriate payback time for energy efficiency project(s). Permit allocation to the alumina refinery for the next ten years would be based on the agreed facility specific energy intensity (GJ/tonne alumina) and non-electricity combustion allocation intensity baseline (tonnes CO<sub>2</sub>/GJ).

For facilities accepted by the regulator, the amount of GJ saved each year needs to be estimated. To ensure that permits are not over allocated, the “total energy use” used in developing the baseline intensity allocation needs to be adjusted by adding the total amount of energy saved from the facilities that have been accepted by the regulator. It is important to note that it is only the facility and the output metric that needs to be agreed with the regulator - individual energy efficiency projects do not.

The allocation of permits for the transport sector using this approach mitigates the need to provide the fuel excise offset proposed in the Green Paper.

### Changes and Uncertainties with Allocation over Time

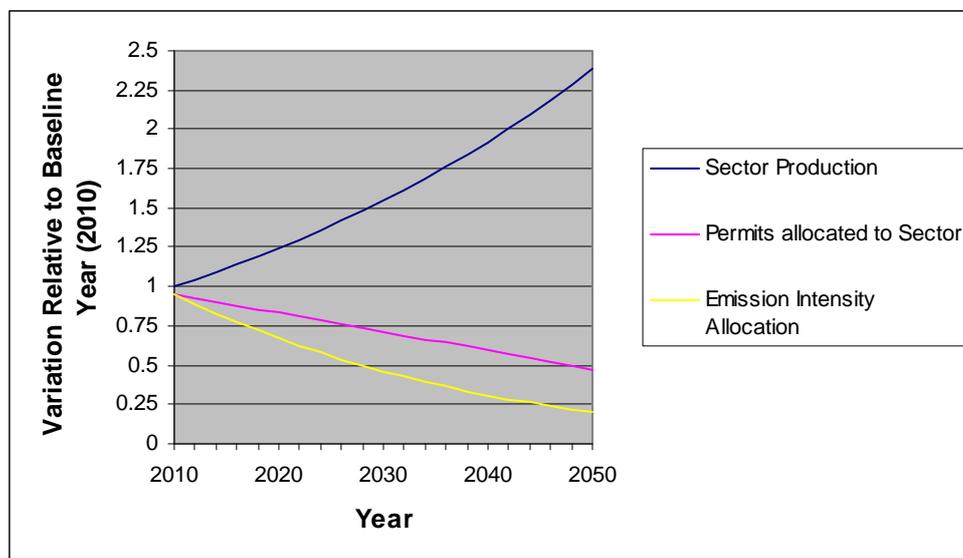
There are three main issues associated with this permit allocation approach, namely:

- What percentage of the potential greenhouse gas liability is likely to be covered by the output based allocation approach and how this would change with time?
- How much long-term certainty do companies within a sector have of the likely output based allocation?; and
- While the approach decreases the total number of permits allocated to each sector in an equal way, does the approach lead to significant differences between sectors in the percent of the original baseline intensity as a result of different sector growth rates?

To illustrate the expected change in allocated emission intensity over time, it is assumed that the decrease in the total greenhouse gas emissions is as given in the example reduction target and transition pathway given above, i.e. reducing greenhouse gas emissions by 50% by 2050, based on a year 2010 baseline, by reducing the emission cap for the sectors covered by the ETS by 1.25% per year from 2010. Again for the purposes of illustration, it is assumed the government allocates 95% of permits and the **long-term sector growth rate** in sector production or activity is 2.2% per year, typical of the estimates of the growth in electricity demand and growth in other sectors covered by the CPRS.

Using this as an example, Figure 1 shows the change in the sectors production data, number of permits allocated to the sector and the benchmark emission intensity allocation, relative to the baseline year, in this case assumed to be 2010.

**Figure 1: Example of the Relationship between Allocated Emissions Intensity for a Sector, relative to Baseline Year, Sector Production and decreases in the Emission Cap for the market.**

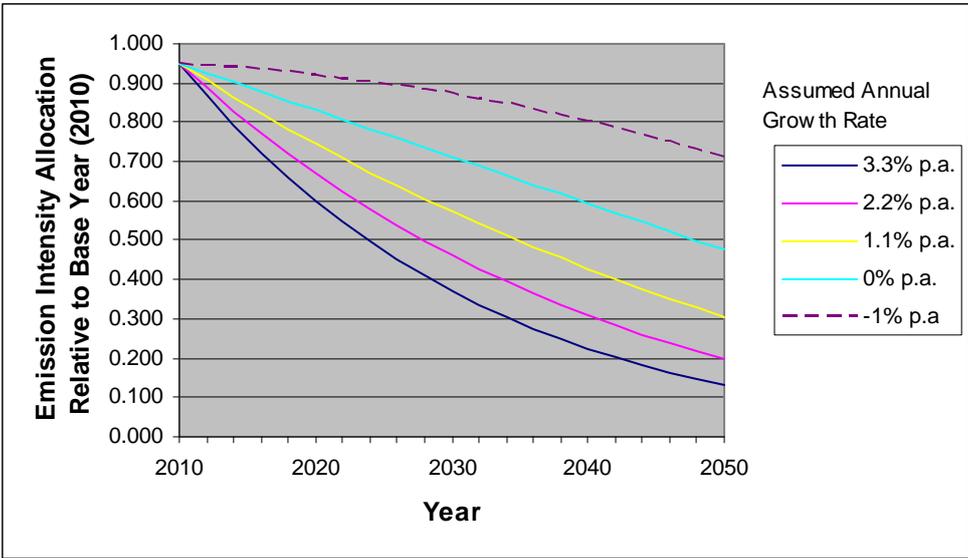


Even if the sector cannot undertake any abatement options at the permit price of the CPRS market, i.e. the average sector greenhouse gas emissions intensity remains the same over time, the figure above illustrates a number of important aspects of the permit allocation method if there is a significant percentage (in this example 95%) of the allocation cap allocated:

1. in the early years of the CPRS, the allocation is likely to cover a significant majority (in this case approximately 70-80%) of the sector emissions or expressed in another way the costs to the sector would be significantly lower (in this case approximately 20-30%) than the costs if auctioning was used for permit allocation;
2. Even after the CPRS has operated for 30 years and the emission cap reflects a significant reduction in the total greenhouse gas emissions, the cost of the CPRS using the emission intensity permit allocation method would still be significantly lower (in this case 75-85%) than the costs under a complete auctioning allocation process.

Figure 2 shows how the emissions intensity would vary with long-term sector growth rate.

**Figure 2: Example of Variation of Allocated Emission Intensity Allocation with Long-Term Sector Growth Rates**



As Figure 2 demonstrates, uncertainty in long-term sector growth leads to a relatively small uncertainty in the expected allocated emission intensity. For example, if the long-term sector growth is 50% higher or lower than the assumed growth in Figure 1, the allocated emission intensity varies by approximately 35% after the CPRS has operated for 25 years<sup>1</sup>. Thus, investors in sectors and operations have a reasonable level of assurance about the percent of the total number of permits (i.e. total greenhouse gas liability) that will be allocated over the lifetime of a given investment, once the overall emissions cap transition pathway is established.

Figure 2 also shows that even relatively high growth rate sectors (long-term growth rates of 3.3% p.a) will have a substantial number of their permits allocated, with the relative emissions intensity still approximately 33% of baseline year intensity levels after 15 years of operation of the ETS.

It should be noted that the proposed allocation system does not discriminate between existing and new facilities – permits are allocated purely on the basis of current production.

**Allocation to a particular entity**

The allocation to any given entity is the sum of the allocations based on each sector’s (or sub sector’s) emission intensity. For example, emission allocated to a cement plant would be based on the clinker production and allocated emission intensity for cement industrial process emissions and energy use and allocated emission intensity for non-electricity generation. The cement facility would not be directly assisted for indirect emissions associated with electricity use.

**Consideration of Electricity Generation Sector**

Under the proposed allocation approach all producers of electricity would be allocated permits. Renewable energy generators would also be given permits so as to ensure the investment incentive for renewables generation is the same as under a scheme which auctions permits.

<sup>1</sup> While investors may misjudge short-term growth rates, such significant misjudgement in long-term growth is considered unlikely

IGCC, IFSA and ASIC commissioned a report<sup>2</sup> by Frontier Economics (the Frontier Report) that reviewed different types of permit allocation approaches and considered the impact of each on the wholesale electricity prices in the NEM. Two of the allocation methods considered were auctioning and out-put based allocation. An example of the results is given below.

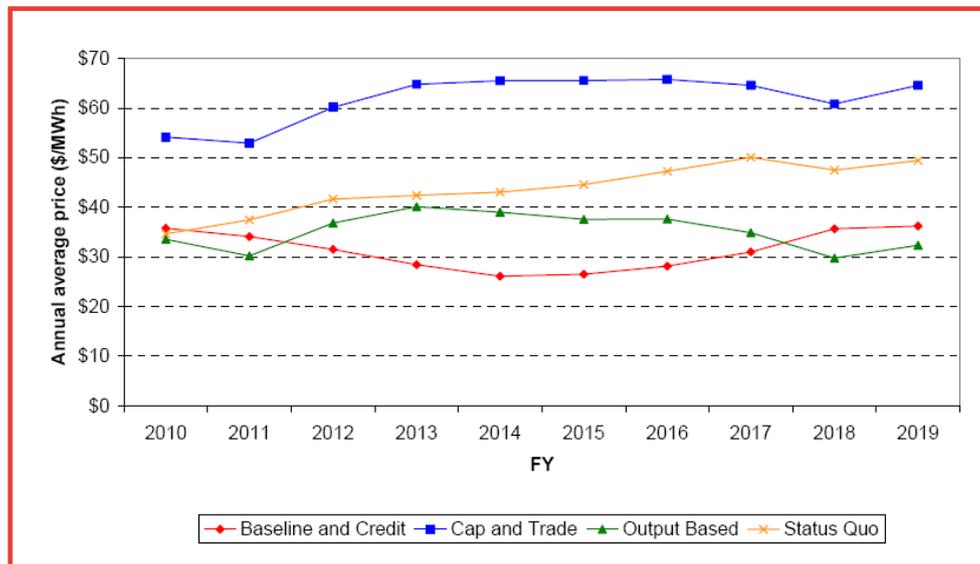


Figure 8 Annual average pool prices in Victoria, 2010 –2019, under status quo and alternative schemes

The report demonstrated that the benefit associated with allocating permits to electricity generators based on their output is passed through to electricity consumers in the form of lower wholesale electricity prices. This should also be reflected in retail electricity prices. As expected, the abatement incentive in the electricity sector is the same under auctioning and out-put based allocation.

As the retail electricity price does not increase significantly and does so slowly, reflecting the increasing amount of emission reduction, this alleviates the need for additional compensation to low socio-economic groups. The compensation of low socio-economic groups is one of the main uses of permit revenue under the scheme proposed in the Green Paper.

### Consideration of EITEs

The proposed allocation approach would provide a greater level of assistance to EITE industries for the liability associated with direct emissions. Based on the results from the Frontier Report, those companies with indirect exposure through the NEM wholesale electricity price would also be better off than under the proposed scheme. The position of those companies with contracts with power generators will depend on both the emission intensity of the power station and the negotiations between the generator and the trade exposed company.

Initial financial analysis by an IGCC member indicates that the impact on the majority EITI's (approximately 30 companies considered) would be <5% EBITDA in 2020, assuming \$40/tonne CO<sub>2</sub>-e, 10% decrease in emissions based on 200 baseline and expected industry growth rates. The analysis was undertaken at a company, divisional and, where possible, facility level basis, based on the financial performance over at least 3 years, thereby covering a range of commodity and foreign

<sup>2</sup> "Emissions trading in Australia: scheme design and investment effects". A Report Prepared For The Investor Group On Climate Change, Frontier Economics, June 2008

exchange rates. With the exception of industrial process emissions from nitric acid plants<sup>3</sup>, no emission abatement was considered.

### Emission Reduction through Demand Response to Carbon price

One of the arguments for auctioning is that it allows the cost of carbon emission to be reflected in the cost of goods and services in the market and as a result consumers will include this in their buying decision and reduce their demand for higher greenhouse intensive products or services.

However under the CPRS, the price of many goods consumed will not reflect the majority of the emissions associated with manufacture as a) they are made in countries not covered by the CPRS, e.g. plastic vs. stainless steel kettle made in China or b) Australian inputs are EITI and price will reflect international prices. In either case there is no emission reduction.

In addition, while the price of some goods made in Australia may partly reflect greenhouse gas (GHG) costs, the potential substitution by same/similar products which aren't subject to GHG costs, means that increase costs are absorbed by Australian manufacturer and, as a result, the buyer doesn't see price increase. For example, while steel used to make an Australian car may be the same price as car made in developing country due to the assistance to the steel industry, the GHG emissions associated with energy associated with making car, which are also quite significant, will increase costs for Australian manufacturer. Competition from cars made in developing country, whose energy costs do not go up to reflect GHG emissions, will limit the ability for Australian manufacturer to increase price and therefore buyer does see increase in price. Again no demand response led reduction in emissions – only outcome here is decrease in profit for Australian manufacturer and decrease return for investors.

Increases in electricity prices as a result of auctioning would expect to lead to a decrease in demand of electricity and other fuels. Electricity demand is typically inelastic, with estimates of long-term price residential electricity demand elasticity of 0.25<sup>4</sup>. Applying the increase in electricity price in Frontier Report, under auctioning scenario, this would lead to approximately 5% decrease in residential electricity demand or 2.5 million tonnes CO<sub>2</sub>-e abated (or 0.4% of BAU GHG emissions) in 2020 as a result of the residential sectors demand side response. The total amount abated may be less than this as people change to other forms of heating, notable gas.

There are few estimates of the commercial sector's electricity price elasticity but it would appear the same or less than that for residential sector. This suggests that a potential for demand side abatement is less than 1.5 million tonnes CO<sub>2</sub>-e.

The short-run and long-run price elasticity of petrol is estimated to be -0.15 and -0.60<sup>5</sup>. Short-run elasticity's for other fuels, e.g. diesel and aviation fuel are similar to petrol but are lower for long-run elasticity's.

Auctioning of permits at \$30/tonne CO<sub>2</sub>-e would result in a price increase of approximately 6.8 cents/litre or a 4.5% increase in petrol price @\$1.50/litre. This would lead to a demand side response from increased petrol prices of approximately 1.3 million tonnes CO<sub>2</sub>-e/yr and for transport as a whole of the order of 2 million tonnes CO<sub>2</sub>-e/yr.<sup>6</sup>

**It would appear that the demand response from potential increase in prices as a result of the CPRS are relatively modest (approximately 1% of Australia's GHG emissions in 2020), when**

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<sup>3</sup> There are some low cost abatement options for nitric acid plants and these have been assumed – this significantly decreases the expected growth in nitric acid plant industrial process emissions.

<sup>4</sup> "Domestic electricity demand elasticities, Issues for the Victorian Energy Market", Maree Langmore and Gavin Dufty, June, 2004

<sup>5</sup> "Transportation Elasticities, How Prices and Other Factors Affect Travel Behavior", [http://www.vtpi.org/tm/tm11.htm#\\_Toc161022574](http://www.vtpi.org/tm/tm11.htm#_Toc161022574)

<sup>6</sup> "Transportation Elasticities, How Prices and Other Factors Affect Travel Behavior", [http://www.vtpi.org/tm/tm11.htm#\\_Toc161022574](http://www.vtpi.org/tm/tm11.htm#_Toc161022574)

compared to the total reduction (approx. 20%) to be achieved if emissions in 2020 are to be 15% less than 1990 levels by 2020.

**Achieving this reduction through CPRS requires a significant redistribution of wealth through the economy to maintain equity for low socio economic groups. The redistribution causes disincentives and is subject to rent seeking behaviour which is inefficient and unnecessarily costly. The output based approach generates the same emissions reduction at substantially reduced economic cost as the same level of recycling and compensation through the economy is not required.**

### **Demand Side Abatement Potential**

An output based approach can provide the same incentive for demand side abatement through the provision of permits to specific energy saving initiatives. For example, if output based allocation for generators is, say, 0.8 tonnes MW-hr, then those who undertake demand side abatement also receive 0.8 tonnes/MW-hr of electricity saved. These permits can be sold into the market, thus providing the same investment incentive as if the electricity price increased as a result of auctioning. Permits can be guaranteed (assuming energy efficiency is maintained), for, say, 10 years to encourage energy savings that have long payback periods. Emission cap integrity can be maintained by adjusting the total amount of electricity, used to calculate the output based allocation, to include energy saved from registered demand side actions.

**The approach would be similar to, but administratively simpler, to that used under the NSW NGAC system and can incorporate the demand side abatement under the NSW scheme.**

**The other advantage of this approach is that the financial benefit is given to the party that undertakes the emission reduction action and so this overcomes the split incentive market failure that has been a major impediment to much of the energy savings actions in the commercial and residential property sector.**

### **Alternative Financing options**

There are number of alternatives to financially assist industries and regions and for supporting new technology.

As noted above, an output based permit allocation can be used in conjunction with auctioning to ensure permit market liquidity. Auctioning 5% would raise approximately \$600m/yr (@\$30/tonne CO<sub>2</sub>-e). This is likely to be sufficient for any specific regional or industry restructuring assistance required. By way of comparison with the cost of other restructuring schemes, the sugar industry restructure assistance was \$444m over 5 years, the car industry (automotive competitiveness and Investment scheme) is \$480m/yr, for 10 years, and \$80m was used to restructure Victorian native forest industry.

The IGCC recognises that one of the uses of auction revenue is to allow the government to support the research and development and commercialisation of new technologies and that the 5% of auction revenue may not be sufficient for the government to adequately fund to this initiative. An additional revenue opportunity to assist new technology development and commercialisation in Australia, is a small levy on the production of fossil fuels in Australia. This would be relatively simple to administer through existing excise or royalty schemes.

For example, placing a levy based on the equivalent to \$0.75/tonne CO<sub>2</sub>-e emitted from the combustion of fossil fuels would raise approximately \$750m/yr in 2006/7 and \$1bn/yr in 2014/15.

It would increase cost of black coal approximately \$1.50/tonne, price of gas \$0.04/GJ and petrol 0.2c/L.

This use of 2006/7 revenue for new technologies would be double what is currently spent to assist new technologies. This revenue each year is equivalent to all the capital costs for 200MW geothermal or CCS plant and 300 MW of wind turbines.

Initial financial analysis indicates that for most fossil fuel produces, the financial impact of this tax and the out-put based allocation based trading scheme would be less than that under the scheme proposed in the Green Paper.