



**AUSTRALIAN
INDUSTRY
GREENHOUSE
NETWORK**

Australian Industry Greenhouse Network

Submission to the Prime Minister's Task Group

March 2007

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1 INTRODUCTION

The Australian Industry Greenhouse Network (AIGN) welcomes the opportunity to respond to the Issues Paper released in February 2007 by the Prime Minister's Task Group on Emissions Trading.

AIGN is a network of Australian industry associations and businesses that have a serious interest in climate change issues and policies. A list of AIGN member associations and corporations is at Attachment A.

All of AIGN's corporate members measure and report their emissions of the key greenhouse gases (GHG) in Australia and overseas, and are taking action to curtail them. AIGN's association members also regularly report on emissions by their members and on abatement actions being taken.

Many, being multinational industries and corporations, are directly involved in emissions trading in Europe, or in various offsets programs around the world (and most have exposure to the various Federal and State emissions abatement schemes already imposed in Australia). AIGN has been associated with the Greenhouse Challenge program since its inception and members are active participants in Greenhouse Challenge Plus, which, amongst other things, is one of the ways by which GHG emissions are reported.

AIGN's members have a range of views on greenhouse policy, and on emissions trading in particular. This response accords with the views of AIGN members in general, though it differs in particulars, relating to both principle and detail, from the positions of some individual member associations and companies. Most have prepared submissions of their own, and this AIGN response should be read in conjunction with those submissions.¹

In addition to AIGN members, the NSW Minerals Council and the Queensland Resources Council have participated in discussions with AIGN about the Task Group's Issues Paper and wish to be associated with this response.

AIGN policy principles

AIGN has been an active participant in international and

domestic deliberations on climate change policies since the early 1990s. Drawing on that experience, AIGN established in 2002 a set of climate change policy principles, which it uses to assess the merits of policy proposals.

These principles, set out in Box 1, have been accepted by all AIGN members and have stood the test of time.

Box 1: AIGN Climate Change Policy Principles

Australian Industry Greenhouse Network's position on climate change is informed by the following principles:

Australia should make an equitable contribution, in accordance with its differentiated responsibilities and respective capability, to global action to reduce greenhouse gas emissions and to adapt to impacts of climate change.

Australia should engage the international community to pursue global action to reduce greenhouse gas emissions leading to identified and beneficial environmental outcomes which:

- allow for differentiated national approaches;
- promote international cooperation;
- minimise the costs and distribute the burden equitably across the international community;
- are comprehensive in its coverage of countries, greenhouse gases, sources and sinks;
- recognise the economic and social circumstances and aspirations of all societies; and
- are underpinned by streamlined, efficient and effective administrative reporting and compliance arrangements.

In this global context, Australia should develop a strategic national approach to responding to climate change which:

- is consistent with the principles of sustainable development;
- is consistent with other national policies including on economic growth, population growth, international trade, energy supply and demand, and environmental and social responsibility;
- takes a long term perspective;
- maintains the competitiveness of Australian export and import competing industries;
- distributes the cost burden equitably across the community;
- adopts a consultative approach to the development of new policies; and
- is consistent and effectively co-ordinated across all jurisdictions throughout Australia.

Australia's future greenhouse policy measures should:

- be consistent with this strategic national approach;
- be trade and investment neutral, in a way that does not expose Australian industry to costs its competitors do not face;
- not discriminate against new entrants to Australian industry nor disadvantage "early movers" in Australian industry who have previously implemented greenhouse gas abatement measures;
- take account of the differing sectoral circumstances;
- be based as far as is practicable on market measures;
- address all greenhouse gases;
- address all emission sources and sinks; and
- balance, in a cost-effective way, abatement and adaptation strategies, both of which should be based on sound science and risk management

¹ Mitsui & Co (Australia) Ltd have chosen to absent themselves from this submission

AIGN notes that the stakes for our members on climate change are very high and it is critical for us to be engaged in this work. The impacts of policy measures on industry competitiveness are particularly sensitive and, given the ‘engine room’ status of the industries most exposed, the implications are important also for the national economy.

A key request to government policy makers is that any ongoing process be transparent, considered, cautious and inclusive and that interim decision points are clearly flagged along the way.

This submission is structured as follows:

- the body of the submission highlights the key points AIGN wishes to make about emissions trading and its role relative to other policy measures, some key elements of a global scheme and some key elements of a national scheme within a global framework; and
- Attachment B provides AIGN’s responses to the specific questions raised in the Issues Paper.

2 EMISSIONS TRADING

AIGN recognises that an efficient response to the challenge of mitigating global warming by reducing emissions of human induced greenhouse gases to the atmosphere (and sequestering carbon from the atmosphere) must involve pricing emissions (and offsets) in a coherent way. **AIGN is disposed to utilising the discovery power of markets to ensure that costs are minimised and predictable, and investments are rationally allocated.**

Over the longer-term, a carefully designed emissions trading scheme has the potential to meet these requirements more economically efficiently and equitably than other pricing instruments such as taxes, grants and other financial incentives, although such instruments may have a role as part of an overall policy response.

With respect to an emissions tax, it is often claimed that it too could also have the efficiency benefits of a trading scheme. Indeed, many economists prefer a tax to a tradable permit scheme on efficiency grounds. Carefully designed, a broadly based tax could be integrated into existing tax systems making them administratively simple, relatively speaking, and would provide near-term price certainty. However, the asserted price certainty of a tax is

likely to be illusory, given that rates could be expected to change through time as governments re-assess mitigation imperatives. Of course, quantitative emissions or price targets (caps) could also be expected to change over time in an emissions trading scheme however, unlike a tax, a trading scheme can incorporate design features that allow markets to assist in that longer-term price discovery and, importantly, provide financial instruments to help manage the inevitable emissions price uncertainty.

Further, an emissions trading scheme provides a great deal of flexibility in the way in which equity issues might be dealt with. For example, ‘free’ administrative permit allocations can be used to compensate businesses for asset value losses, and this compensation need not be re-visited as the price of permits changes over time.

However, as alluded to above, in both the global and domestic contexts, emissions trading alone is unlikely to be a sufficient policy response to tackle the array of national, sectoral and technology circumstances and challenges. In particular:

- **Time period of abatement** – it seems very likely that any sensible pathway to future emission reduction targets will imply imposing on the economy a relatively low emission penalty initially, then rising steadily and predictably (although not with certainty) over time. **This price pathway, while inducing the adoption of innovative technologies when they are commercial at the expected emissions price, will not induce early demonstration and adoption of these technologies much before that time.** Yet, there will very probably be new projects across the economy that, if provided with a financial incentive, would be prepared to take on the additional risk of frontier technologies earlier than is commercially dictated by the emissions price expectation. **Governments will need to address this opportunity with financial incentives;**
- **Availability of alternate technologies** – similarly, a policy prescription is demanded that is effective in stimulating future technology R,D&D without imposing inefficiently high costs in the near term. There is evidence that existing trading schemes have not demonstrated a capability for this (see for example Montgomery and Smith²). **AIGN suggests**

² Montgomery, David W. and Smith, Anne E. 2005, “Price, Quantity and Technology Strategies for Climate Change Policy”, CRA International. Available from: www.crai.com.

that a significantly expanded, public funded R&D effort will be required;

- **The point of application – there may be circumstances, in some sectors, where an emissions trading approach may involve higher transactions cost than an emissions tax.** One such example may be the case of emissions associated with road transport fuels. While it would be the case that emissions trading could be efficient and equitable for the emissions associated with petroleum refineries, it is not evident that this is the case for the emissions associated with burning the fuels produced. In particular, saddling refineries with the liability for those downstream emissions does no more than add to the risks and working capital requirements of those businesses with no scope for reducing those emissions. Further, there is an existing mechanism in the form of fuel excise, with low transactions cost, that might readily be adapted to encompass an additional charge equivalent to the emission prices that would be struck in the emissions trading market;
- **Increasing energy prices – there is still work to be done by governments to reform energy markets,** including addressing related regulatory and taxation policies that inefficiently influence those markets. In addition, unless all consumers are exposed fully to the energy cost ramifications of their activities, then the economic efficiency and environmental effectiveness of adding to those costs through an emissions trading scheme could be severely compromised. **Governments should resolve these issues before implementing an emissions trading scheme;** and
- **Other measures** – there remain market barriers to energy efficiency, and associated emissions reduction, that may not be solved simply by price. **There is a role for regulatory measures such as performance standards and labelling in selected areas.**

3 GLOBAL EMISSIONS TRADING

Until there emerges some form of international framework that progresses the national commitments under the United Nations Framework Convention on Climate Change (UNFCCC), no truly global trading scheme is likely. Further, it would seem improbable that an international emissions trading scheme that encompasses the majority of emissions in the majority of

countries will emerge soon. Nor is there likely to be agreement in the near future about the size of the global emissions abatement task that needs to be addressed, let alone how that task is equitably shared among nations.

On the other hand, it seems likely that the EU will continue its scheme beyond 2012 and it is possible that individual countries, or groups of like-minded countries, could implement emissions trading schemes. While this is not the only possible outcome, the result will most likely be a ‘constellation’ or ‘patchwork’ of different national and regional schemes, with hopefully an open-door policy for new countries and regions to ‘opt-in’.

If this assessment is realistic, **the chance of a single, global emission price emerging anytime in the next investment cycle is very remote.** It is not unlike the probability of all global trade barriers being removed in the next 20 years, that is, AIGN expects any global scheme to have competitiveness distortions.

This assessment should by no means be taken to be a pessimistic view. Rather it is reached with full recognition of the need to accommodate the genuine aspirations of all nations, not least those of developing countries, to meet their social and economic objectives; and the cause for optimism is that many countries are likely to adopt their own ‘targets’ in the absence of an international agreement.

In these circumstances, Australia needs to continue its work through the UNFCCC, regional fora and technology fora, including the Asia-Pacific Partnership on Clean Development and Climate.

Australia will also need to consider what ‘target’, whether based on quantity of emissions or price of emissions, it might set itself post-2012. Until this debate is canvassed in the community, then many of the issues associated with the linkages between Australia and the ‘patchwork’ may not be able to be fully appreciated.

4 NATIONAL EMISSIONS TRADING

The reality of an imperfect global response to GHG emissions abatement dictates that a key issue for the Task Group and AIGN members is whether a national emissions trading scheme can be designed

to preserve the major competitive advantages Australia enjoys ‘through the possession of large reserves of fossil fuels and uranium’³.

The principal conundrum for Australia is the fact that overseas competitors for many of the resources, resource processing and other energy intensive industries, which have been the drivers of Australian prosperity and growth for over two decades, are located predominantly in countries that will not impose an equivalent greenhouse gas emissions penalty in the foreseeable future. Key competitors are in the Middle East, in Asia, in South America and in southern Africa. To impose any significant penalty on Australian industries, whether import competing or exporting, when competitors remain exempt would encourage the diversion of investment to offshore jurisdictions for no environmental benefit.

The requirement to preserve competitiveness is therefore potentially long-lived, and must address both existing operations and new investment. In the time available to address the Issues Paper, the AIGN has not been able to devote resources to researching whether the Prime Minister’s objective is achievable either under an emissions trading scheme or other instruments at the Government’s disposal (for example, border taxes on imports and cost rebates on exports). However, AIGN has identified some key characteristics of a successful mechanism:

- **Business will require certainty that the mechanism does not create new sovereign risks.** In particular, any scheme must not be vulnerable to challenge under World Trade Organisation rules or by domestic political or legal action, without full compensation;
- **The rules of the mechanism and the institutional arrangements need to be credible, transparent and predictable,** and not subject to political influence;
- **The mechanism should be available to all trade exposed activities;**
- **The mechanism should not disturb the competitive balance between imports and domestic production** of affected industries that would have existed without a globally coherent GHG emissions penalty; and

- **The rules for termination of elements specific to certain industries or projects will need to be linked to the commitments made by competitor nations** to impose equivalent emissions penalties on similar industries and projects.

Other key elements of the design of a national emissions trading scheme include:

- **The target** – aside from the quantum of the target by say 2050 (whether expressed in terms of the quantity of emissions, emission reduction or emission price), **an evaluation is needed on the most efficient pathway or trajectory toward the long-term objective. This undoubtedly means designing for growth in the absolute levels of emissions before reductions will be economically and technically sensible.** As implied by the use of the term ‘pathway’, the target would not need to be a single number, but could best encompass an envelope within which it is predictable that the final outcome will fall at least for investment periods of 20 years. Of course, even a pathway would leave open the possibility that new scientific evidence and the commitments of other nations could dictate amendments to the extensions of the pathway over time.
- **Coverage** – the AIGN strongly recommends the **widest possible coverage of sectors, gases and sequestration (bio, geo and chemical) sinks from the very beginning of the scheme so that the price of emissions is uniform across the economy. Where coverage is not possible or sensible, then alternative equivalent measures need to be implemented.** Economic efficiency, equity and environmental effectiveness require this outcome, not least because the greater the amount of emissions not included within the trading scheme the more problematic the decisions are about how to ‘allocate’ whatever national pathway target may have been chosen.
- **Property rights** – ultimately, the value of the risk management benefits to investors, and associated economic efficiency benefits to the nation, that might be available under an emissions trading scheme will be determined by the quality of the property rights offered under the scheme. **The value of permits (and offset credits) issued by the Government need to be fully underwritten by the ‘just terms’ compensation provisions of the Constitution.** It is sometimes argued by policy makers that structuring

³ Task Group terms of reference.

permits as property rights shifts the risk of over-allocation of permits to taxpayers, and that governments must therefore act with a high level of caution in allocating permits and setting future emissions caps. This is a highly contestable proposition viewed from the AIGN's point of view: under-allocation to adversely affected industries, firms and households prejudices their equitable treatment vis-à-vis taxpayers at large. If caps do need to be tightened in the future, over-compensation is an unlikely outcome since the higher permit prices would be accompanied by higher compliance costs. In any case, the so-called 'risk' of having to tighten (or relax) caps is one that is entirely in the hands of governments (and ultimately taxpayers). **AIGN encourages governments to err on the side of title security rather than caution in order to maximise the long term incentive effect of the proposed scheme.**

- **Allocation** – AIGN supports the proposition that allocation should be economically efficient and equitable. There are, of course, numerous ways in which long and short term permits can be allocated to meet these criteria. These include:
 - **'free' allocation to compensate for the loss in asset values that many firms will instantly suffer from the introduction of the scheme.** These allocations would be for the remaining life of the asset that was expected before the trading scheme was implemented and the holder would be free to sell these permits even if the asset were closed down before that time;
 - **'free' allocation for new investment for as long as is needed by trade exposed, energy/emissions intensive industry** to retain its competitive position where there is no universal global scheme;
 - **'free' allocation linked to past emissions** (known as 'grandfathering'), or in the case of a baseline-and-credit scheme, the allocation of benchmarks; and
 - **auctioning of the remainder, with revenues used to stimulate R&D into, and demonstration of, low emissions technologies, reduce inefficient business taxation and increase income support for the poor.** Revenues, which have been generated from the sale of permits, may also be needed later if it is determined that government should buy back permits auctioned earlier in order to

tighten the pathway. AIGN sees no need for governments to hold back permits, as this will simply reduce liquidity, with associated consequences.

AIGN also recommends that the tax treatment of allocated permits be defined, not only before scheme commencement, but also before estimating equitable allocations for compensation. Very little attention has been given to the taxation issues that would arise, including complex interactions with international tax agreements and treatment by other countries.

- **Business certainty** – the AIGN does not seek 'certainty' about the future price of emissions. Rather it seeks uniformity across the economy and a reasonably bounded pathway within which price risk can be predicted and managed. AIGN does, however, seek certainty about the allocation processes and rights, and about the property rights attached to those permits.
- **Remove other schemes** – the AIGN recommends that existing mandatory Federal and State schemes that overlap with and duplicate the national emissions trading scheme should be abolished or phased out. Only those able to definitively demonstrate their 'value' under a rigorous cost-benefit analysis should be considered for retention. Streamlining emissions abatement policies and programs will be essential if compliance costs are to be minimised, and it will be important for the Australian Government to put in place arrangements that will induce States to abolish schemes and penalise States that attempt to introduce new schemes. The property rights that would be extinguished where existing schemes are no longer of value should be fully compensated.
- **Measurement and data** – the AIGN fully supports the development of the mandatory national emissions and energy reporting scheme by COAG. This will be of invaluable assistance for the design and implementation of a national emissions trading scheme. However, an emissions trading scheme will of course require reporting for all covered sectors, and will require additional verification and accuracy protocols.

ATTACHMENT A: AIGN MEMBERSHIP

Industry Association Members

Australasian (Iron and Steel) Slag Association
Australian Aluminium Council
Australian Coal Association
Australian Institute of Petroleum
Australian Petroleum Production and Exploration Association
Australian Plantation Products and Paper Industry Council
Cement Industry Federation
Federal Chamber of Automotive Industries
Minerals Council of Australia
National Generator's Forum
Plastics and Chemicals Industries Association

Individual Business Members

Alcoa of Australia Limited
BHP Billiton
BP Australia Limited
Caltex Australia
Chevron Australia Pty Ltd
CSR Limited
ExxonMobil
Hydro Aluminium Kurri Kurri
Mitsui and Co. (Australia) Limited
Origin Energy Limited
Rio Tinto Australia Limited
Santos Limited
Shell Australia Limited
Wesfarmers Limited
Woodside Petroleum Limited
Xstrata Coal Australia Pty Ltd

ATTACHMENT B: RESPONSE TO ISSUES

Attribution of Views Expressed in this Response

As indicated previously, several AIGN members have, or intend to, make their own submissions in response to the Issues Paper. None shares entirely the views expressed in this attachment and several disagree on particular points, or fundamentally⁴. Their own submissions will highlight these points of difference.

Context setting

1. What are the implications for Australia of a carbon constrained future?

It should be recognised that there is an array of Federal and State policies that, at least in the electricity sector, impose a ‘carbon constraint’ and the implications are felt in higher electricity prices. Beyond this, the implications for Australia will depend on whether the constraint is global (as opposed to be confined to a minority of global emissions) and how quickly the constraint is imposed relative to the cost of technologies that are available to meet the task.

If global, AIGN would expect the Australian economy to be more exposed to larger negative economic impacts relative to most other nations. This because the structure of the Australian economy is more emissions intensive, and its trade exposure is more emissions intensive, than other countries likely to take on similar emissions reduction commitments.

If unilateral, the economic implications for the Australian economy could be severe depending on the level of emissions reduction and whether Australia could successfully shield trade exposed industry from loss of competitiveness until a global framework is implemented.

The economic implications for Australia, and for other nations for that matter, are also more severe the more the task is misaligned to the availability of lowest cost technology.

⁴ Refer especially to the submission by BP Australia

There has been a great deal of relevant modelling from ABARE, NGF, the National Emissions Trading Task Force, the Australian Business Roundtable on Climate Change and others. However, the divergence of scenarios, modelling approaches and assumptions, particularly about the costs and availability of technologies and fuels, suggest that further, and detailed regional and sectoral, modelling will be needed before there is sufficient information for government and industry to have a good understanding of the economy-wide and sectoral implications of different courses of action.

2. What are the elements likely to affect the cost of reducing emissions over time and how might these develop?

Global economic costs will be higher:

- the larger and faster the required reductions because of earlier retirement of existing assets, the greater the adoption of sub-optimal reduction technologies and reduced economic activity;
- the greater the limitations to finding least-cost savings globally; and
- the lower the amount of public and private resources devoted to RD&D.

The extent of the implications of the first two points is largely governed by how quickly, and in what form, a post-2012 global framework emerges. The amount of resources, both public and private, devoted to RD&D is entirely in the hands of governments. While Australia will no doubt find its niche in innovation in this area, it is the case that the majority of the array of new technologies across all sectors will be developed in the countries with the greatest economic resources.

3. To what extent is Australian industry currently factoring a carbon price into investment decisions? How can longer term investment certainty be improved?

Energy/emissions intensive industry has been using carbon price sensitivity analysis on projects for many years. However, AIGN is not aware of any companies that have underwritten projects based on scenarios with a carbon price, other than projects associated with schemes such as GGAP, MRET, NSW benchmarks scheme and Qld gas scheme.

AIGN acknowledges that many of the current greenhouse gas policies in Australia impose a form of carbon price signal (albeit an incomplete and inefficient signal).

AIGN supports the objective of improving longer term investment certainty through measures that provide greater capability for investors to manage emission price risk (as sharply distinct from having governments providing certainty). The aim would be met by governments if they promulgated reliable and sustainable policy frameworks, and defined realistic long-term environmental objectives, perhaps involving long-term aspirational goals if those were to be embraced by the world community generally. Useful and durable goals could describe necessary events, as in a 'technology roadmap', rather than rigid quantitative emissions reduction deadlines.

Should governments adopt emissions trading as a primary instrument of this challenge, the objective of providing greater certainty for investors, and the community as a whole, can only be met if:

- The price path is uniform across the nation, and is predictable and not volatile;
- the permits to be traded provide secure property rights; and
- there are sufficient permits to trade (or create options over) with future dates that align with the long investment horizons associated with adopting emissions reducing technologies. AIGN suggests a market framework that has at least a 40 year horizon.

A workable global emissions trading scheme

1. What would constitute a workable global emissions trading scheme from Australia's perspective? It would be useful if respondents could reflect on the key principles, design elements and objectives underlying such a scheme:
 - (a) how to best protect Australia's economic competitiveness?
 - (b) how encompassing? What constitutes an effective definition of "global" (ie does this include all countries, major emitters only, Australia's major trading partners or competitors in key sectors)?
 - (c) what scope? which greenhouse gases should be included and which sectors (or industries) covered?

- (d) how should permits be issued or allocated and offset creation be administered?
- (e) how to ensure market transparency through registry and information systems, monitoring and compliance?
- (f) what financial market support structures need to be established? and
- (g) what other key design elements are required?

AIGN recognises that an efficient response to the challenge of mitigating global warming by reducing emissions of greenhouse gases to the atmosphere (and sequestering carbon from the atmosphere) must involve pricing emissions (and offsets) in a coherent way. AIGN is also disposed to utilising the discovery power of markets to ensure that costs are minimised and predictable, and investments are rationally allocated.

The key principles and design elements of a global scheme are identified in the introduction of this submission (see Box 1).

However, until there emerges some form of international framework that progresses the national commitments under the United Nations Framework Convention on Climate Change (UNFCCC), no truly global trading scheme is likely. Further, it would seem improbable that an international emissions trading scheme that encompasses the majority of emissions in the majority of countries will emerge soon. Nor is there likely to be agreement in the near future about the size of the global emissions abatement task that needs to be addressed, let alone how that task is equitably shared among nations.

On the other hand, it seems likely that the EU will continue its scheme beyond 2012 and it is possible that individual countries, or groups of like-minded countries, could implement emissions trading schemes. While not the only possible outcome, the result will most likely be a 'constellation' or 'patchwork' of different national and regional schemes, with hopefully an open-door policy for new countries and regions to 'opt-in'.

If this assessment is realistic, the chance of a single, global emission price emerging anytime in the next investment cycle is very remote. It is not unlike the probability of all global trade barriers being removed in the next 20 years.

This assessment should by no means be taken to be a pessimistic view. Rather it is reached with full recognition of the need to accommodate the genuine aspirations of all

nations, not least those of developing countries, to meet their social and economic objectives, and the cause for optimism is that many countries are likely to adopt their own ‘targets’ in the absence of an international agreement.

In these circumstances, Australia needs to continue its work through the UNFCCC, regional fora and technology fora, including AP6.

Australia will also need to consider what ‘target’, whether based on quantity of emissions or price of emissions, it might set itself post-2012. Until this debate is canvassed in the community, then many of the issues associated with the linkages between Australia and the ‘patchwork’ may not be able to be fully appreciated.

2. How have existing emissions trading schemes delivered against key desirable design elements? What problems have emerged?

The EU ETS is the only multi-nation trading scheme in existence, and it should be thoroughly studied for its positive and negative features. The EU scheme is in its infancy and there are significant lessons that can be learned from its implementation and its development.

- The price volatility experienced in the first three years of the scheme is evidence of poor design and the very poor information available to the market at the time of development. It is the case that no matter how good the design of a market, it will not deliver efficient outcomes unless buyers and sellers have the best information about the present and the future;
- Permit property rights are too short (just three years) and uncertain, precluding investment in emissions abatement technologies that are capable of making any serious impact on emissions;
- The coverage of sectors is too narrow representing less than 35% of EU emissions;
- As a result of poor data quality, permit allocation was flawed in terms of all the necessary criteria of environmental effectiveness, economic efficiency and equity
 - it seems more permits were issued than was necessary to cover business-as-usual emissions
 - it was impossible for those that were allocated permits not to assume that their allocation post-2007 would not also be based on past

emissions, negating any incentive to reduce emission in the period to 2007

- too many permits were issued to businesses that could in any case pass-through the price of permits (or the opportunity cost of the permits) to consumers or to suppliers of emission intensive fuels; and
- The industry exemptions to protect competitiveness were ineffective because they failed to understand that the allocation of permits for ‘free’ does not mean that the price of electricity will be unaffected. If there had ever been any doubt, the EU scheme has demonstrated the power of opportunity cost as a driver of markets.

The Australian Government’s Mandatory Renewable Energy Target (MRET) scheme also has features that should not be repeated in a national emissions trading scheme:

- The scheme attempts to ‘pick technology winners’ with undesirable economic efficiency and equity implications;
- The emission savings are expensive (at least \$35/tCO₂ in terms of costs to electricity consumers) and modest (according to AGO projections, about 6.6mtCO₂ per annum by 2012);
- The creation of benchmarks for existing renewables generators left open the probability that additional electricity produced by these generators was not genuinely above business-as-usual, with associated concerns about the environmental effectiveness and equity of the scheme; and
- It is possible that the large and bankable creation of RECs by a small number of eligible generators allowed manipulation of the market to drive up the price of RECs in the early years of the scheme.

Finally, the NSW/ACT benchmark scheme also has features that should be avoided:

- Even with extension of the scheme to 2020, the investment horizon is too short and uncertain for major investment in low emissions technologies;
- As with the EU scheme, the coverage is too narrow, being restricted to the electricity sector and, worse still, to one State;
- As with the MRET scheme, the creation of benchmarks for many generators below business-as-usual brings into question the environmental effectiveness of the scheme;

- The extensive overlaps with existing schemes has unnecessarily increased compliance costs with no additional environmental benefit; and
- The net emissions savings are modest and are at high cost. Although the scheme claims it will save more than 20mtCO₂ per annum by 2012, when the overlaps are removed the savings will be more like 5.5mtCO₂ per annum (AGO projections estimate) at a cost to electricity consumers of around \$30/t.

3. Does the inclusion and design of a global emissions trading scheme have implications for the broader international climate change framework?

In AIGN's view, it is the coverage of an international climate change framework, and the speed with which that framework might emerge that will influence design and participation in any global emissions trading scheme. While it is not yet possible to define all the elements of the international framework that will undoubtedly emerge, it is probable that emissions trading in some nations and regions will be in the mix.

Recognising this means that there will not be a uniform international price of emissions, the task is to identify design features of a national scheme that suit Australia, and have some prospect of linking into the 'patchwork' of regional and other schemes that will emerge from an international framework for meeting the global climate change challenge.

4. What would be the best way to design a workable global scheme to encourage maximum participation at the outset? In particular, would an accession mechanism, an incentive, or flexibility in the form of commitments, be needed to allow additional countries to be brought into the system more fully over time? If yes, what are the key design elements?

It may be instructive to note the assessment of many in AIGN – and many other observers worldwide – that a global scheme to regulate GHG emissions is unlikely to be attainable if promoters persist with a paradigm involving centralised rulemaking, monitoring and enforcement, with inadequate flexibility to accommodate differing national circumstances and continual (and often surprising) change. A conceivable global scheme is a completely decentralised one: a 'constellation' of (more than likely) different national or regional schemes linked progressively by unilateral decisions to 'import' particular

overseas permits or credits as alternative ways to acquit local emissions. These links can be accomplished by commercial contracts and need not require any involvement by the second party government. In effect, overseas permit or credit prices can be imported (as price 'safety valves') and might be accorded differing 'exchange rates' in different countries. This decentralised model is a less organised version of the 'opt in' approach, and has some prospect of achieving truly global participation.

There is no reason why an Australian scheme could not fit easily, and at any time, into an emerging constellation of global commitments. There is every reason why Australians should want the scheme to be linked extensively to widely differing schemes overseas. This would offer real prospect of curtailing growth of GHG emissions worldwide and ultimately reducing them.

5. What are the possible advantages and disadvantages to Australia of being positioned within the first-wave of countries to adopt emissions trading as a step towards a workable global scheme?

Australia has not been among the first wave of Kyoto Protocol countries to adopt an emissions trading scheme and, to date, Australia's domestic schemes (GGAP, MRET, NSW benchmark, Qld scheme) have been modest (see discussion of the problems with existing schemes above).

AIGN does not assess that early adoption of an Australian scheme will have a significant impact on how other nations and regions design their schemes. Nevertheless, Australia needs to continue to participate in all the international fora that are debating the pros and cons of different schemes, and take from that the elements that best suit Australia's circumstances.

From a business compliance perspective, the advantages for adopting a domestic scheme relate mainly to whether it is possible to abolish/phase out existing duplicative and partial schemes, and stop governments (Australian and State) from overlaying any trading scheme with other duplicating measures into the future.

The other main advantage would be being able to access low cost emissions abatement in other countries to meet domestic liabilities. However, AIGN would not want a system whereby Australia was forced to 'import' a

high/volatile global price that has emerged from flawed regional and other national schemes.

Domestic action to prepare for a workable global scheme

1. How is Australia positioned to respond to or influence any emerging workable global scheme? Respondents could reflect on whether:
 - (a) the appropriate systems are available for greenhouse reporting and measurement?
 - (b) financial markets are able to provide relevant instruments for trading? and
 - (c) other relevant issues?

AIGN members have long recognised the need for a rigorous, transparent, nationally consistent (harmonised) energy and greenhouse reporting system underpinned by national legislation and intergovernmental agreement that;

- clearly defines the data set,
- clearly distinguishes what data submitted in the reporting system can be accessed by which classes of government agencies,
- clearly specifies rules under which certain data can be publicly disclosed, and
- has a mechanism to enforce those rules and assure confidentiality when warranted.

In line with this, AIGN has supported the Council of Australian Government (COAG) process to develop a single streamlined, national, purpose-built legislation system for greenhouse gas emissions and energy reporting. This work is ongoing and there is no reason to believe that it will not meet the objectives that have been set by COAG.

The national database will be of invaluable assistance for the design and implementation of a national emissions trading scheme. However, an emissions trading scheme will of course require reporting for all covered sectors, and will require additional verification and accuracy protocols.

It is not clear that there is anything in the design of an emissions trading scheme that AIGN would prefer that would require the creation of instruments that financial community is not already familiar with. However, this is not to say that those instruments would be available at the start of the scheme. It will be important for business and

the financial community to be given lead time to develop such tools.

Australia needs to continue work on design features in a steady, cautious and collaborative manner in order that, should a scheme be adopted in the future, the markets for permits and their derivatives are ready to begin in an informed and efficient manner.

2. What are the pros and cons of Australia adopting a domestic emissions trading scheme in the absence of a universal, fully-developed international scheme? It would be useful if respondents could reflect on:
 - (a) the impact on global abatement efforts;
 - (b) the implications for Australia's international competitiveness;
 - (c) the implications for industry performance;
 - (d) the extent to which a domestic scheme would promote investment generally and in low emissions technologies in particular;
 - (e) whether transitional measures would be necessary to protect Australia's existing competitive advantages;
 - (f) whether the early introduction of a domestic trading scheme might promote the emergence of future competitive advantages for Australia;
 - (g) the efficacy of a domestic emissions trading scheme in achieving policy objectives relative to alternative or complementary measures; and
 - (h) the opportunity for Australia to design a flexible scheme which would allow the country to calibrate its commitments in response to international developments.

An emissions trading scheme that imposes costs on industry related to their GHG emissions or energy use has direct consequences for industry competitiveness.

The most emissions intensive (often energy intensive) industries bear the initial cost, but the location of the ultimate cost burden depends on price elasticities, upstream and down (leaving aside any regulatory requirements, cross-subsidies or Community Service Obligations restricting the ability to pass on prices). Some industries can pass on additional costs readily to customers and can negotiate to share the cost burden with suppliers. Others are able to pass on and recoup only small proportions of cost increases.

In the carbon penalty context, those industries least able to pass on the additional costs are those whose competitors are not burdened to the same extent, notably competitors in overseas countries that have not imposed (and are unlikely to impose) a comparable penalty. This

highlights the problem of any emissions trading scheme or other emissions reduction regime that is not global in coverage; and the smaller the global sub-group participating in such a regime, the greater the competitiveness issue for the trade exposed industries.

Trade exposed industries include the export oriented energy intensive industries encompassing mining and minerals processing, notably aluminium and LNG, and import competing energy intensive industries including chemicals and plastics, cement, paper and petroleum refining (most of whom have already reduced their emissions significantly and have few remaining low cost options). They also include some trade exposed agricultural industries with high emission intensities such as livestock and some cropping.

The energy intensive industries, and their importance in the Australian economy (both directly and in providing the essential energy services that support the rest of the economy), have built their presence on the back of Australia's resource endowments and, in particular, the nation's advantage as a producer of low cost energy. These Australian advantages in world trade will be dissipated if carbon emissions are significantly penalised, and Australia's economic growth will be weaker with diminished investment in these industries.

Lower investment in these industries in Australia, however, is unlikely to dampen investment in those industries worldwide. All of them have a history of building new facilities in the most competitive locations — and for these industries, emissions costs, if comparable to energy costs, would be a key competitiveness driver.

An important characteristic for Australia, in respect of emissions intensive industries, is that our competitors, almost without exception, are countries in the developing world where the prospect of GHG emissions penalties being imposed is very distant.

There is, generally speaking, little or no global environmental benefit (in respect of GHG emissions) in locating these industries in the Middle East, Asia or elsewhere, rather than in Australia — so Australia's cost, in terms of reduced economic development and income, would be to little avail. This is the 'carbon leakage' problem, often downplayed in developed country circles,

which is a very real issue for Australia, given our unusual export profile relative to other developed countries.

These realities are not unfamiliar to policy makers, and industry would be obliged to interpret any decision by government to impose cost penalties like an emissions trading scheme, in the absence of a global framework, as a judgement that the environmental benefits, including the agreed need for developed countries to 'take the lead' in this matter, are of greater value than the adverse consequences for growth, employment and regional development.

Put another way, the whole purpose of implementing an emissions trading scheme or imposing a carbon tax is to effect changes not only in consumer behaviour but also in investment and in industrial structure in order to set the nation on a lower emissions trajectory. This inevitably involves a diminished role for emissions intensive industries in this country and, in consequence, an increased reliance on the international competitiveness of other sectors.

If governments do wish to maintain the competitiveness of these industries in Australia, while persisting with an emissions trading scheme or other significant carbon penalty in order to curtail emissions elsewhere in the economy, there is a range of generic policy possibilities:

- not requiring specified trade-exposed (or other) industries to acquit emissions with permits;
- rebates at the border for the competitiveness penalty on exports and tariffs on imports, or the equivalent of this approach as proposed by the States' NETT, which is to allocate permits to the value of the competitiveness penalty and is tied to continuing production; and
- payments to other countries to induce them to voluntarily restrict their exports.

If a satisfactory outcome is to be found, all these possibilities need to be researched and evaluated. AIGN's initial reactions to the possible approaches is that:

- the 'exemption' approach fails to recognise that the costs to competitiveness are likely to take the form of increased energy costs rather than permit acquittal costs;
- the rebate/tariff or permit allocation approach aims to overcome the failure of the exemption approach, however, there are fears that approaches of this type may be open to challenge under World Trade

Organisation rules. Nevertheless, research into the possibilities is warranted; and

- payments to other countries would seem entirely impractical.

3. What are the key design features (such as permit allocation, offsets and coverage) of a workable domestic scheme?

The target

Cap-and-trade

AIGN puts forward the following propositions:

- the scheme cap should be consistent with a long term reduction target extending to the middle of the century, if not longer; and it should comprehend that many current emissions-sensitive investment decisions relate to assets that may be operating beyond mid-century;
- recognising the importance of energy-intensive industries in maintaining the prosperity of all Australians, the cap must be geared to ensure a manageable transition to a lower emissions economy, avoiding prejudice to the competitive advantage Australia draws from its endowment of fossil fuel resources;
- the cap must be capable of amendment in order to respond to evolving knowledge, not only of the science of global warming and the evolution of emissions reduction technologies but also of the economic and political implications of climate policy measures adopted in Australia, in other countries and by the world community generally; and
- the cap may be in the form of an emissions quantity or a target price, or envelope of future quantities or price.

An Australian cap should not be adopted without intensive and peer reviewed economic analysis specific to its circumstances. The lower the cap (and the deeper the cut in future emissions), the greater its cost, which is likely to escalate non-linearly.

One important observation to make is that the (Australian) scheme cap, and corresponding trajectories for other countries, do not all need to envisage the same level of reductions by mid-century in order to be “consistent” with a global goal. It is universally recognised that emissions from developing countries cannot be curtailed to the same extent as those from the

wealthy industrialised world. Equally, there is a case for countries like Australia (perhaps uniquely Australia), producing more LNG, more aluminium and other light metals, and more uranium, and thereby contributing materially to reduced emissions in power generation and transport globally, to warrant higher emissions trajectories than other countries – particularly as most of these activities are energy and emissions intensive.

Initial work by AIGN members indicates that the marginal cost of abatement is non-linear and can escalate steeply. The timing and rate of escalation depends on the technical availability and social acceptability of technology such as nuclear power or carbon capture and storage. These binary issues emphasise the need for flexibility in cap setting.

In this context, the States’ NETT proposal is to be commended for embracing the ‘gateways’ approach. This additional element of flexibility promises to enhance the sustainability of the emissions trading scheme and thereby help mitigate the uncertainty that business will associate with it. Our reservation, of course, is that government may be unduly cautious, not only in defining the notional cap between the gateway bounds but particularly in defining a lower gateway. It is the lower bound of the gateways that the NETT proposes to use to define the number of permits that can be issued (freely and by auction) many years in advance and it would be unfortunate if that prospective forward market were starved of liquidity.

Consideration, therefore, needs to be given to allocating permits on the basis of the upper bound. This suggestion would have the effect of setting a minimum price with ‘up-side price risk’ upon which investment decisions can be made, rather than the more uncertain maximum price, with the ‘down-side price risk’ only, that is proposed by the NETT.

Baseline-and-credit

AIGN views about what should guide the definition of a cap apply equally to the quantification of the sum of baselines, and changes to them over time.

Baseline-and-credit schemes are usually favoured as a means of automatically building growth into a trading scheme. However, there seems no reason why growth

cannot also be accommodated by permit allocation under a cap-and-trade.

Baseline-and-credit schemes might also be favoured where the scheme is to apply to a reasonably homogeneous sector. However, when extended across all sectors, it soon becomes apparent that the administrative task of setting numerous baselines introduces significant debates about rates of technological change and equitable setting of those baselines, both within sectors and between sectors.

In general, AIGN's position on comprehensiveness (with noted exceptions) points to a cap-and-trade preference and its position on predictability suggests the cap pathway should be expressed in terms of price rather than quantity.

Coverage

"Comprehensiveness" has long been an AIGN catch-cry, any penalty regime must encompass all GHGs, all sectors and sinks as well as sources. All the efficiency, effectiveness and equity criteria demand a comprehensive scheme.

Notwithstanding the difficulties of establishing a broad and comprehensive scheme, limiting, at least initially, the initial implementation to carbon dioxide emissions from large power stations (about one third of national emissions and falling), as some have proposed, is inefficient, inequitable and arguably not as challenging as the climate change phenomena demands. Emissions from livestock and cropping, and certainly from transport fuels and waste activities, are measurable to at least the accuracy of many stationary energy and industrial process emissions, and all have substitution or volume/price alternatives that must be exploited if emissions reduction is to be achieved efficiently. Practical points of liability can be identified in each case.

This is not to say that the task is easy, far from it. However, even for sectors not suited to emissions trading, the task remains, as all sectors will need to contribute to the emission objective if that objective is to be met at least-cost.

Also, as with mandatory energy and emissions reporting, many AIGN members hold to the position that obligations should fall on the companies responsible for GHG emissions (at facilities they control) rather than at

facility level. This would encompass a more comprehensive range of emissions sources.

So, in principle, AIGN supports a wide approach to sectoral coverage of an emissions trading scheme so that maximum opportunities are available to reduce the overall cost of emissions reduction. However, several considerations need to be taken into account in determining the inclusion/exclusion of certain sectors to ensure that the emissions trading scheme creates the appropriate incentives for emission abatement action as well as ensuring that businesses are not expected to carry/manage a compliance risk (including financial risk associated with the carbon price) on behalf of other emitters. These considerations include:

- transactions cost, including monitoring, reporting and compliance costs must be kept to a minimum; and
- companies required to hold emissions allowances (permits) should be the emitter of the relevant emissions as well as the party that can initiate projects that create reductions in those emissions.

One sector which challenges this model is passenger road transport. Passenger vehicle drivers/owners will be responsible for the emissions from the use of fuels in their vehicles and will be the parties with the opportunities to reduce those emissions through options such as choice of fuel, mode of operation and choice of transport mode etc. Inclusion of all of these emitters in an emissions trading scheme will introduce very high transaction costs.

AIGN believes that other policy tools should be considered for this sector, which would aim to achieve equitable levels of emissions abatement from this sector's use of transport fuels. Various mechanisms exist which would involve complementary action by motor manufacturers, fuel suppliers, all levels of government and consumers.

Nature of permits

Property Rights

Permits should be structured so as to give their holders firm property rights. This means that the holder of a permit has a clear right to emit. It also implies that any decision by governments to take away permits (or unilaterally de-value them) should be accompanied by compensation.

The legal basis giving effect to this clear intent will be a matter of intense interest to business investors, and will be critical in determining the credibility of the scheme's long term market price signal.

It is sometimes argued by policy makers that structuring permits as property rights shifts the risk of over-allocation of permits to taxpayers, and that governments must therefore act with a high level of caution in allocating permits and setting future emissions caps. This is a highly contestable proposition viewed from 'the other side': under-allocation to adversely affected industries, firms and households prejudices their equitable treatment vis-à-vis taxpayers at large. If caps do need to be tightened in the future, over-compensation is an unlikely outcome since the higher permit prices would be accompanied by higher compliance costs. In any case, the so-called 'risk' of having to tighten (or relax) caps is one that is entirely in the hands of governments (and ultimately taxpayers).

AIGN encourages governments to err on the side of title security rather than caution in order to maximise the long term incentive effect of the proposed scheme.

AIGN suggests that the tax treatment of freely allocated permits will need to be defined, not only before scheme commencement, but also before estimating equitable allocations for compensation.

Permit tenure

Most AIGN members believe permits should be issued for many years in advance – for as long as 40 or 50 years, the expected operating life of power stations, smelters, refineries, LNG facilities and other relevant assets. Further, the longer timeframe is essential for establishing price pathways for RD&D into the step-change technologies that will be required.

An efficient investment incentive will require a hedge market and price signal extending forward (at all times) to the limit of prospective asset lifetimes.

Permit allocation

AIGN supports the proposition that allocation should be economically efficient and equitable.

There are, of course, numerous ways in which long and short term permits can be allocated to meet these criteria. These include:

- **'free' allocation** to compensate for the loss in asset values that many firms will instantly suffer from the introduction of the scheme. These allocations would be for the remaining operational life of the asset that was expected before the trading scheme was implemented, and the holder would be free to sell these permits even if the asset were closed down before that time;
- **'free' allocation** for new investment for as long as is needed by trade exposed, energy/emissions intensive industry to retain its competitive position for as long as is needed where there is no universal global scheme;
- **'free' allocation** linked to past emissions (known as 'grandfathering') or in the case of a baseline-and-credit scheme, the allocation of benchmarks; and
- **auctioning** of the remainder, with revenues used to stimulate R&D into, and demonstration of, low emissions technologies, reduce inefficient business taxation **and increase income support for the poor**. Revenues, which have been generated from the sale of permits, may also be needed later if it is determined that government should buy back permits auctioned earlier in order to tighten the pathway. AIGN sees no need for governments to hold back permits, as this will simply reduce liquidity, with associated consequences. AIGN notes that the design of any auction scheme is not necessarily straightforward, and proposed designs need to be fully and publicly assessed.

All these approaches are worthy of further investigation.

AIGN also suggests that the tax treatment of freely allocated permits will need to be defined, not only before scheme commencement, but also before estimating equitable allocations for compensation.

Transparency in trading permits will be important in transmitting the contemporary and forward price signal to prospective investors (who may not be involved in any over-the-counter trades). There may be a case, therefore, for official facilitation of a transparent permit trading exchange if commercial exchanges prove reluctant to list the permits.

International linkages

It is becoming apparent to many that achieving an internally consistent trading scheme organised on a global level is well nigh impossible, especially if it involves large

international financial transfers. Nonetheless, the efficiency objective requires that low cost abatement opportunities should be sought out wherever they exist on the planet and that priority should be given to exploiting the lowest cost opportunities as early as possible. This objective implies linkages, and they should be as extensive as possible.

However, it is not essential that linkages be agreed bilaterally. Any trading scheme can opt to accept permits or credits issued under other schemes, whether mandatory or voluntary, as an alternative or supplement to locally issued permits (unilateral linking). Obviously, national (or regional) administrators would need to be satisfied that the foreign credits would be cancelled or held indefinitely and reliably (for example, in a trust account). This could be achieved by commercial contract between the Australian Government and overseas credit holders, such as a bank or any of the many AIGN members operating businesses overseas. Or it could be achieved in other instances, not necessarily under bilateral linking (two-way recognition), by government-to-government agreement. The Australian Government should be prepared to facilitate cancellation of Australian permits if requested by permit holders (in this case, in order to acquit emissions somewhere else).

One implication of this decentralised system is that national emissions caps begin to lose meaning since the national emissions inventory will diverge from a (fully utilised) cap to the extent that overseas credits are used or that local permits are acquitted overseas. This should not be seen as a disadvantage, nor should it be seen as detracting from the integrity of the national cap. The divergence will have equal and opposite divergences elsewhere, all in order to facilitate the objective of achieving lowest cost abatement globally.

Nonetheless, it is true that while a tonne of CO₂e should be interchangeable across the planet, and while the high standard of inventory measurement and reporting should be retained, measures of the “saving” of a tonne of emissions will differ between countries and regions (and likely within regions) depending on the rigour of rulemaking, reporting, monitoring and compliance in each jurisdiction. So a national government, conscious that its policies and measures are subject to scrutiny by its international peers as well as its own constituency, may

well choose to accept only part of the face value of a particular foreign credit if it is clear that its inherent value (for example, as a consequence of different ‘make good’ provisions or verification standards) is different, or its emissions saving equivalent is below par. Amongst other things, such decisions would reinforce incentives for a stronger emissions control regime internationally, because foreign permit holders will always be interested in enhancing the value of their holdings. Industrialised countries could choose to maintain high ‘exchange rates’ in respect of the permits and credits of developing countries as a means of encouraging their participation – and the stringency of their participation - in this constellation of emissions control arrangements.

In other words, concerns about the relative stringency of the cap as between schemes, and concerns about other (inevitable) design differences, are better addressed by market evolution rather than by direct attempts to identify schemes that are up to scratch and to restrict linkages to those

An Australian regime should be linked as extensively as possible with regimes instituted elsewhere, both officially and privately (voluntary schemes). The links themselves are just as important as the integrity of the differing schemes. The links transmit price signals and can only serve to accelerate the advent of a cohesive and efficient global market in GHG emissions rights.

4. What other steps could Australia take:
 - (a) to prepare for any workable global scheme?
 - (b) to improve energy efficiency in end uses, including through better demand management and the facilitation of future technological improvements?
 - (c) to encourage the commercial deployment, in Australia and overseas, of low emissions technology?

AIGN has been associated with the Greenhouse Challenge (now Greenhouse Challenge Plus) program since its inception and members are active participants in Greenhouse Challenge Plus, which, amongst other things, is one of the ways by which energy use and GHG emissions are reported to government and reported publicly.

AIGN has also been supportive of the greenhouse-related policies and programs initiated in the Australian Government’s energy white paper, *Securing Australia’s*

Energy Future, notably the energy efficiency opportunity assessments program and particularly the low emissions technology development fund. The Australian Government's support for innovation and 'clean development', both in domestic policy and in cooperation internationally (notably AP6), is strongly commended as an appropriate response to global warming.

To the extent that further approaches are needed before any emissions trading scheme might be adopted, governments perhaps need to pay more attention to the transport, waste and agriculture sectors. The energy supply and demand sectors are already overburdened with government programs.

5. Are the proposals put forward in 4(a)-(c) best considered as complements to a domestic trading scheme or as an alternative?

They are a transition to emissions trading. If domestic emissions trading were introduced, there would no longer be a need for Greenhouse Challenge Plus in its current form or a need for a range of emissions and energy reporting and auditing schemes.

Greenhouse Challenge Plus has components that would need to be terminated and some that could be converted to support emissions trading. It is also worth recording that the scheme has developed considerable material in the form of reporting and auditing guidelines that are good starting points for the development of the systems and institutions that will be need for a trading scheme. Industry has already devoted a very substantial amount of time and effort to developing these reporting methodologies, guidelines and rules.

However, the international focus of AP6 and other fora would no doubt remain relevant as would public funding of R,D&D.

Other measures

1. Were Australia to adopt an emissions trading scheme what would be the implications for the current suite of measures to address climate change?
 - (a) would emissions trading further encourage the research and development of low emission technologies?
 - (b) would emissions trading have an impact on the commercial deployment of other low emissions technologies?

- (c) would emissions trading have an impact on the take-up of low cost abatement options such as energy efficiency measures?
- (d) would there be scope to abolish other, more costly, interventions without affecting the overall abatement effort? and
- (e) what other policies would most effectively complement a possible future emissions trading system?

Over the longer-term, a carefully designed emissions trading scheme has the potential to meet the nation's requirements more economically efficiently and equitably than other pricing instruments such as taxes, grants and other financial incentives.

However, in both the global and domestic contexts, emissions trading alone is unlikely to be a sufficient policy response to tackle the array of national, sectoral and technology circumstances and challenges. In particular:

- **Time period of abatement** – it seems very likely that any sensible pathway to future emission reduction targets will imply imposing on the economy a relatively low emission penalty initially, then rising steadily and predictably (although not with certainty) over time. This price pathway, while it will induce the adoption of innovative technologies when they are commercial at the expected emission price, will not induce early demonstration and adoption of these technologies much before that time. Yet, there will very probably be new projects across the economy that, if provided with a financial incentive, would be prepared to take on the additional risk of frontier technologies earlier than is commercially dictated by the emission price expectation. Governments will need to address this opportunity with financial incentives;
- **Availability of alternate technologies** – similarly, a policy prescription is demanded that is effective in stimulating future technology R,D&D without imposing inefficiently high costs in the near term. There is evidence that existing trading schemes have not demonstrated a capability for this. Montgomery and Smith⁵ have highlighted the key dilemma – environmentally meaningful GHG reductions cannot be mandated before research and development has been successful. AIGN suggests that a significantly expanded, public funded R&D effort will be required;
- **The point of application** – there may be circumstances, in some sectors, where an emissions

⁵ Montgomery, David W. and Smith, Anne E. 2005, "Price, Quantity and Technology Strategies for Climate Change Policy", CRA International. Available from: www.crai.com.

trading approach may involve higher transactions cost than an emissions tax. One such example may be the case of emissions associated with road transport fuels. While it would be the case that emissions trading could be efficient and equitable for the emissions associated with petroleum refineries, it is not evident that this is the case for the emissions associated with burning the fuels produced. In particular, saddling refineries with the liability for those downstream emissions does no more than add to the risks and working capital requirements of those businesses with no scope for reducing those emissions. Further, there is an existing mechanism in the form of fuel excise, with low transactions cost, that might readily be adapted to encompass an additional charge equivalent to the emission prices that would be struck in the emissions trading market;

- **Increasing energy prices** – there is still work to be done by governments to reform energy markets, including addressing related regulatory and taxation policies that inefficiently influence those markets. In addition, unless all consumers are exposed fully to the energy cost ramifications of their activities, then the economic efficiency and environmental effectiveness of adding to those costs through an emissions trading scheme could be severely compromised. Governments should resolve these issues before implementing an emissions trading scheme; and
- **Other measures** – there remain market barriers to energy efficiency, and associated emissions reduction, that may not be solved simply by price. There is a role for regulatory measures such as performance standards and labelling in selected areas.

2. What low cost abatement options are available now? How technically feasible is it that existing infrastructure, plant and equipment can be modified to reduce emissions?

This is a matter best answered by individual industries and research agencies.

3. To what extent would emissions trading facilitate such abatement or modification activities?

This is a matter best answered by individual industries and research agencies.



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